



## Newtok Housing Needs Survey **DRAFT**

Cold Climate Housing Research Center

July 2016

The Cold Climate Housing Research Center (CCHRC) conducted this housing needs assessment on behalf of the Newtok Village Council to document the housing conditions in Newtok, Alaska and to estimate the housing needs for the community's move to Mertarvik. CCHRC conducted the housing assessment via interviews of community members in May 2016. This report contains the results of the survey. It also includes the procedure used for the housing assessment, and results from past housing assessments done in Newtok.



Figure 1: The Village of Newtok, May 2016.



## Acronyms

AAHA	Alaska Association of Housing Authorities
ACS	Alaska Community Survey
AHFC	Alaska Housing Finance Corporation
ARIS	Alaska Retrofit Information System
AVCP RHA	Association of Village Council Presidents - Regional Housing Authority
BEES	Building Energy Efficiency Standard
CCHRC	Cold Climate Housing Research Center
CDP	Census Designated Place
DCRA	Alaska Division of Community and Regional Affairs
GPS	Global Positioning System
HUD	Housing and Urban Development
ONAP	Office of Native American Programs (part of the Housing and Urban Development)

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## 1. Purpose

The purpose of the housing needs assessment, stated in the Technical Assistance Grant administered by the Alaska Association of Housing Authorities (AHAA), is as follows:

“The housing needs assessment will include an assessment of overall need, as well as look into housing typologies that can address extended-family models and address overcrowded housing models. CCHRC will report the assessment results to AVCP RHA, ONAP, the Newtok Tribal Leadership, and the Newtok Planning Group.”

## 2. Newtok population

CCHRC interviewed 55 households in Newtok during the first week of May, 2016. The team estimated that there were a total of 66 households in Newtok, because there were at least 11 households that were not interviewed:

- 3 households already had a home in Mertarvik and declined the interview;
- 3 households were identified as being out of town; and
- 5 households declined to be interviewed for personal reasons.

The 55 households that were interviewed represent approximately 83% of the total of 66 households.

All 55 interviewees provided the number of people living in their homes.

**Table 1: Household population**

<b>Total number of people in the 55 households</b>	303
<b>Total number of people in the 55 households, including seasonal occupants</b>	322
<b>Average number of occupants per house</b>	5.5
<b>Average number of occupants per house, including seasonal occupants</b>	5.8
<b>Minimum number of people per house</b>	0 (represents an individual with no home)
<b>Maximum number of people per house</b>	12
<b>Number of households with someone that requires wheelchair or disability access</b>	3

Interviewers asked for information about the adults in each household. This information included questions about race, age, and income. The number of responses is indicated, as many interviewees did not know the monthly income of all adults in their household or chose not to answer those questions.



Table 2: Adult characteristics

Characteristic	Responses	Number of adults responding to question
<b>Total number of adults identified</b>	157	N/A
<b>Average age</b>	39.3 years	150
<b>Predominant race</b>	Alaska Native or American Indian - 150 Other - 1	151
<b>Corporation</b>	Calista - 125 Bristol Bay Native Corporation - 2 Cook Inlet Region Inc. - 1	128
<b>Approximate monthly personal income</b>	<b>Average</b> - \$1,313 <i>Includes 27 people reporting no income.</i>	102
<b>Household income - annual extrapolation</b>	<b>Average</b> - \$26,500 <b>Median</b> - \$18,360	54 surveys
<b>Employment</b>	<b>Full time</b> - 24 Local, state, federal government (includes school) - 21 Retail - 1 Other - 2 <b>Part-time</b> - 46 Local, state, federal government (includes school) - 27 Construction - 1 Service - 2 Retail - 3 Other - 12 Fishery/Cannery - 1 <b>Seasonal</b> - 3 Local, state, federal government (includes school) - 1 Construction - 1 Other - 1 <b>Unemployed</b> - 60 <b>Retired</b> - 16 <b>Self-employed</b> - 0 <b>Subsistence</b> - 2	151
<b>Other sources of income</b>	Dividends from state, Native Corporation - 129 Public assistance - 34 Retirement/Pension - 6 Social security - 24 Unemployment - 5 Child support - 1 Interest, estates, or trust income - 2 Violent Crime Compensation Board - 1	141



### 3. Current housing stock

The interviews addressed the homes that interviewees are currently occupying in Newtok. The purpose of these questions is to record the condition of the current housing stock and help establish the urgency of the move to Mertarvik. The interviewees documented 54 buildings (one of the 55 interviewees is homeless).

Table 3: Home characteristics

Characteristic	Responses	Number of responses
<b>Building type</b>	Single family residence - 50 Duplex - 2 Mobile home - 1 Other - 1	54
<b>Average size in square feet (residents reported approximate sizes)</b>	563 square feet	45
<b>Decade when built</b>	2010 or later - 2 2000-2010 - 9 1990 - 1999 - 13 1980 - 1989 - 14 Before 1980 - 16	54
<b>Number of separate rooms in the building</b>	1 room - 10 2 rooms - 14 3 rooms - 8 4 rooms - 10 5 rooms - 8 6 rooms - 2 7 rooms - 1	53
<b>Number of bathrooms in the building. As Newtok does not have a water/sewer system, "bathroom" in this case means a separate room to place the honey bucket or a basin for washing.</b>	0 bathrooms - 16 1 bathroom - 36 2 bathrooms - 1	53
<b>Homes where living areas other than bedrooms are used as a sleeping area at night</b>	Only bedrooms used - 22 Other areas used - 31	53
<b>Condition of the building</b>	Good condition - 7 Needs minor repairs - 9 Needs major rehabilitation - 37	53
<b>Buildings with a wheel chair ramp</b>	None	54



### 3.1 Overcrowding

In general, "overcrowding" is a subjective term based on cultural and personal values and varies widely across the globe. This assessment uses the U.S. Department of Housing and Urban Development's (HUD) definition of overcrowding. Under this definition, a housing unit is considered "overcrowded" if there is more than one person per room, and severely overcrowded if there are more than 1.5 people per room. In this case, a "room" includes any space that is separated by a partial or complete wall, including bedrooms, kitchens, living rooms, dining rooms, etc., but not including bathrooms, porches, balconies, foyers, halls, or unfinished basements.

For example, a three bedroom house with a separate kitchen, dining room, and living room would be considered "overcrowded" if it had seven occupants or more, or "severely overcrowded" if it had 10 occupants or more. This definition was based on research that determined the level of overcrowding that started to cause negative health and childhood education impacts for the occupants.<sup>1,2</sup>

Using this definition, the majority of the houses surveyed were overcrowded, with most of them qualifying as "severely overcrowded", as can be seen in Figure 1. The most overcrowded home actually had 11 occupants per room, more than 7 times the number of people that would qualify the home as severely overcrowded.

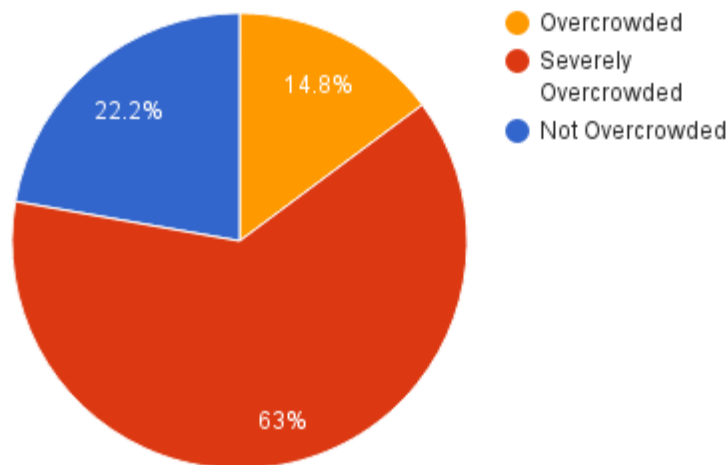


Figure 2: The majority of houses in Newtok are severely overcrowded.

<sup>1</sup> Measuring Overcrowding in Housing, prepared for US Department of Housing and Urban Development, Office of Policy Development and Research, September 2007. Prepared by: Econometrica, Inc., Blake, Kevin S., and ICF International. Available at: [http://www.huduser.org/publications/pdf/measuring\\_overcrowding\\_in\\_hsg.pdf](http://www.huduser.org/publications/pdf/measuring_overcrowding_in_hsg.pdf)

<sup>2</sup> The United Kingdom Office of the Deputy Prime Minister. "The Impact of Overcrowding on Health & Education: A Review of Evidence and Literature." Office of the Deputy Prime Minister Publications, 2004. Available at: <http://dera.ioe.ac.uk/5073/1/138631.pdf>



### 3.2 Home features

Interviewees also answered questions about the features of the homes that they lived in. As one interviewee reported being homeless the 55 surveys represent 54 homes.

Table 4: Home features

Feature	Number of homes reporting feature in the 55 surveys	Percent of the 54 homes with the feature
Electricity	52	96%
Electric stove or range	46	85%
Telephone service (include cell phones)	42	78%
Refrigerator	37	69%
Passive ventilation (fresh 80s)	25	46%
Steamhouse	12	22%
Sink with a faucet	12	22%
Mechanical ventilation (bathroom fan)	8	15%
Gas stove or range	3	6%
Bathtub or shower	2	4%
Mechanical ventilation (HRV)	1	2%
Hot and cold running water	1	2%
Flush toilet	0	0%

### 3.3 Need for repair

Thirty-seven buildings reported needing major rehabilitation, and another 9 reported needing minor repairs. The number and types of problems with the homes are reported below. As one interviewee reported being homeless, the 55 surveys represent 54 homes.

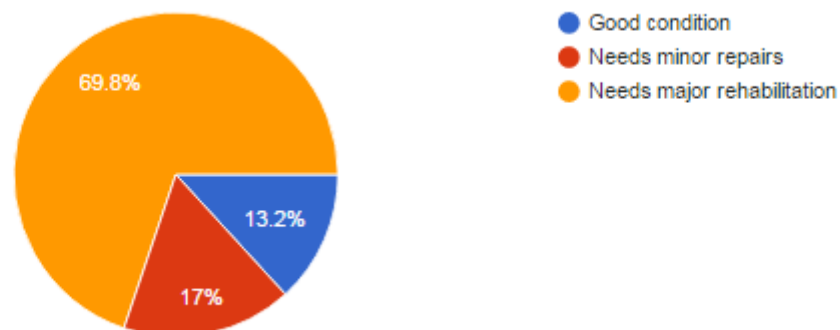


Figure 3: The majority of occupants of houses in Newtok reported that their homes were in need of major rehabilitation.





The types of problems with the homes are listed in the following table.

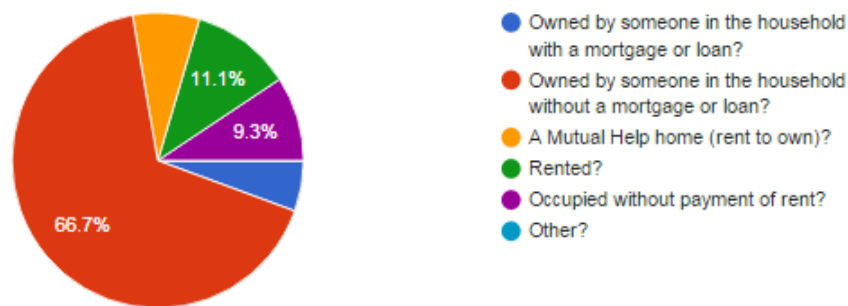
**Table 5: Need for home repairs in Newtok**

Problem	Number of homes reporting problem in the 55 surveys	Percent of the 54 homes with the problem
Windows and/or doors are broken	40	74%
Foundation is bad	39	72%
Mold on walls or rotting walls	36	67%
Insulation in the ceiling is poor or nonexistent	33	61%
Insulation in the walls is poor	32	59%
Porch and/or steps need repair	30	56%
Roof leaks and needs repair or replacement	26	48%
Electric outlets do not work	20	37%
There are holes in the floor	19	35%
Insulation in the floor is poor (floor is cold)	10	19%
Plumbing leaks in bathroom or kitchen	8	15%
Frozen pipes in winter	7	13%
There is fire/smoke damage	7	13%
Other repairs needed	7	13%

### 3.4 Home financing

The majority of homes in Newtok are owned by someone in the household without a mortgage or loan. Out of the 54 interviewees that answered questions on financing, 36 reported that the house was owned without a mortgage or loan. Three homes are owned by someone with a mortgage or loan, six homes are rented, five are occupied without payment of rent, and four homes are rent to own.

Is this building: (54 responses)



**Figure 4: Many homes in Newtok are owned by the occupants without a mortgage or loan.**



The average rent for homes that are rented or rent-to-own is \$243, with payments ranging from \$100 to \$900 per month. In all cases, the rent was paid by members of the household.

No homes, rented or owned, reported being required to pay real estate taxes or insurance on the property.

### 3.5 Utilities

All of the surveyed homes in Newtok use fuel oil or kerosene for heating. An additional 28 homes (52% of the surveyed 54 homes) also had a secondary heat source. Of those, 26 use a wood-fired appliance for a secondary heat source and the remaining 2 homes have electric back-up heat.

The majority of homes surveyed pay for heating fuel (93%) and electricity (94%). These utilities are paid separate from a mortgage or rent payment, if there is one. Only one home reported having to pay for water. A total of 34 homes reported that they had a subsidy to help pay all or a portion of their utilities.

## 4. Mertarvik housing needs

CCHRC staff asked households how many homes they would prefer to live in once the community moved to Mertarvik. The reason for this question was to identify how overcrowded households in Newtok would like to address the overcrowding. In some cases, families wanted to remain in one house but increase the number of bedrooms. In other cases, households answered that they would prefer to split up into different houses in Mertarvik.

In the 55 surveys, a total of 34 households indicated that they would like to remain in one house; 11 households prefer to split into two houses; and 10 households prefer to live in three houses. This indicates that a total of **86 houses** will be needed in Mertarvik.

However, there are two additional considerations.

First, there were a total of 11 households identified that did not or could not be surveyed. Thus, at least an additional 11 houses will be needed for those households to live in. This increases the total to **97 houses**.

Then, people who were surveyed identified an additional 8 families who would like to move back to Newtok or Mertarvik and require housing. In that case, the total would be 105 houses.



## 4.1 Home characteristics

Interviewees also identified characteristics that they desired for homes in Mertarvik. As seen in the first row in Table 6, residents all chose to live in a single family home detached from other houses. No interviewees chose the apartment-style option that was presented in the survey. Elders were offered additional options (see the questions in Appendix B) that addressed if they would like to live with a caretaker.

**Table 6: Descriptions of homes needed in Mertarvik**

<b>Type of home</b>	<p>Traditional single family home detached from other houses. This number includes some elders wishing to live in their own house. -82</p> <p>Traditional single family home for an elder living with a caretaker - 2</p> <p>Traditional single family home for an elder living with their relatives - 2</p> <p>Total 86</p>
<b>Number of bedrooms</b>	<p>1 bedroom - 6</p> <p>2 bedrooms - 21</p> <p>3 bedrooms - 25</p> <p>4 bedrooms - 33</p> <p>5 bedrooms -1</p>
<b>Number of bathrooms</b>	<p>1 bathroom - 83</p> <p>2 bathrooms - 3</p>
<b>Number of homes that would need special accommodations for disability access and movement</b>	<p>23</p> <p><i>This is 27% of the 86 needed homes from the surveys.</i></p>
<b>Preferred heating fuels</b> <i>Interviewees could select more than one, total possible for each fuel is 86</i>	<p>Fuel oil - 83</p> <p>Wood - 76</p> <p>Coal - 3</p> <p>Electricity - 1</p> <p>Wind turbine - 6</p> <p>Solar energy - 4</p>
<b>Preferred plumbing options</b> <i>Interviewees could select more than one, total possible for each fuel is 86</i>	<p>Running hot and cold water - 82</p> <p>Bathroom with toilet - 82</p> <p>Bathtub and shower - 82</p> <p>Laundry room - 79</p> <p>Steamhouse - 64</p>

## 4.2 Home financing

CCHRC employees asked interviewees how they might be able to pay for their home in Mertarvik. This question was asked in regards to each potential home in Mertarvik, thus there are more than 55 answers - families wishing to split into more than one home addressed payment for each potential home in Mertarvik. However, some interviewees declined to answer the question, or did not understand



it, so the number of responses does not exactly match the number of homes needed in Mertarvik. Loans were presented as an option, as seen in the responses in the table below. However, the CCHRC interviewers noted that many people in Newtok understood a loan to be similar to a rent-to-own program and that “yes” responses to using loans do not necessarily indicate willingness or desire to take out a traditional home loan with an interest rate.

**Table 7: Financing options**

Financing option	Responses	Percent of the 76 total responses
<b>The family has money to pay for the home upfront, or has already built the home in Mertarvik.</b>	4	5%
<b>The family PREFERS to rent the home. If this option is not available, they would consider a rent-to-own or loan program.</b>	26	34%
<b>The family wishes to pay for the home using a rent-to-own program such as Mutual Help, or through a loan.</b>	38	50%
<b>The family wishes to rent the home and does not want to consider a loan.</b>	8	11%

There is also a willingness amongst people in Newtok to participate in the construction of homes in Mertarvik. Many adults would also be willing to participate in construction training if it were available.

**Table 8: People willing to help with construction in Mertarvik**

<b>Number of adults willing to participate in home construction in Mertarvik</b>	Paid only - 9 Volunteer or paid - 112
<b>Number of adults willing to participate in construction training for building homes</b>	Paid only - 12 Volunteer or paid - 68



## 5. Past Housing Needs Assessments

A variety of previous projects included assessments of the housing in Newtok, Alaska. Their results are listed below, with the most recent studies being listed first.

### 5.1 (2015) Newtok Village Tribal Hazard Mitigation Plan Update<sup>3</sup>

This document's main goal is to describe the hazard mitigation plan for Newtok, including the planning process, the hazards and vulnerabilities in the area, and the mitigation goals. However, it also included a description of the community and documented the residences currently in Newtok. Information from the plan about Newtok is found in the table below.

**Table 9: Newtok Hazard Mitigation Plan housing information**

<b>Population</b>	450
<b>Total occupied housing units</b>	70
<b>Main employers</b>	School, health clinic, Traditional Council, Native Corporation, commercial fishing
<b>Electricity</b>	Ungusraq Power Company
<b>Water</b>	It is pumped from a nearby lake into a water treatment plant and transferred to the Village water tank. Residents then haul water from watering points in the village, collect rainwater in the summer, and thaw ice in the winter.
<b>Wastewater</b>	Honey buckets are used to dump waste along the Newtok River bank. There is no plumbing.

The Hazard Mitigation Plan Update also contains a map of the village and a list of all Newtok facilities and residences as one of its appendices. The list is accompanied by a photo of each structure alone with its GPS coordinates and an estimate of its worth. The estimates came from the occupants when asked in interviews "How much would it cost to replace the structure if it was destroyed?"

<sup>3</sup> Newtok Village Tribal Hazard Mitigation Plan Update. (October 2015). Bothell, WA: U.S. Department of Homeland Security Region X. Web link: [https://www.commerce.alaska.gov/web/Portals/4/pub/2015\\_Newtok\\_HMP.pdf](https://www.commerce.alaska.gov/web/Portals/4/pub/2015_Newtok_HMP.pdf)  
Additional details in this section provided by Romy Cadiente, Newtok Village Council Relocation Coordinator, March 8, 2016, in a telephone interview.



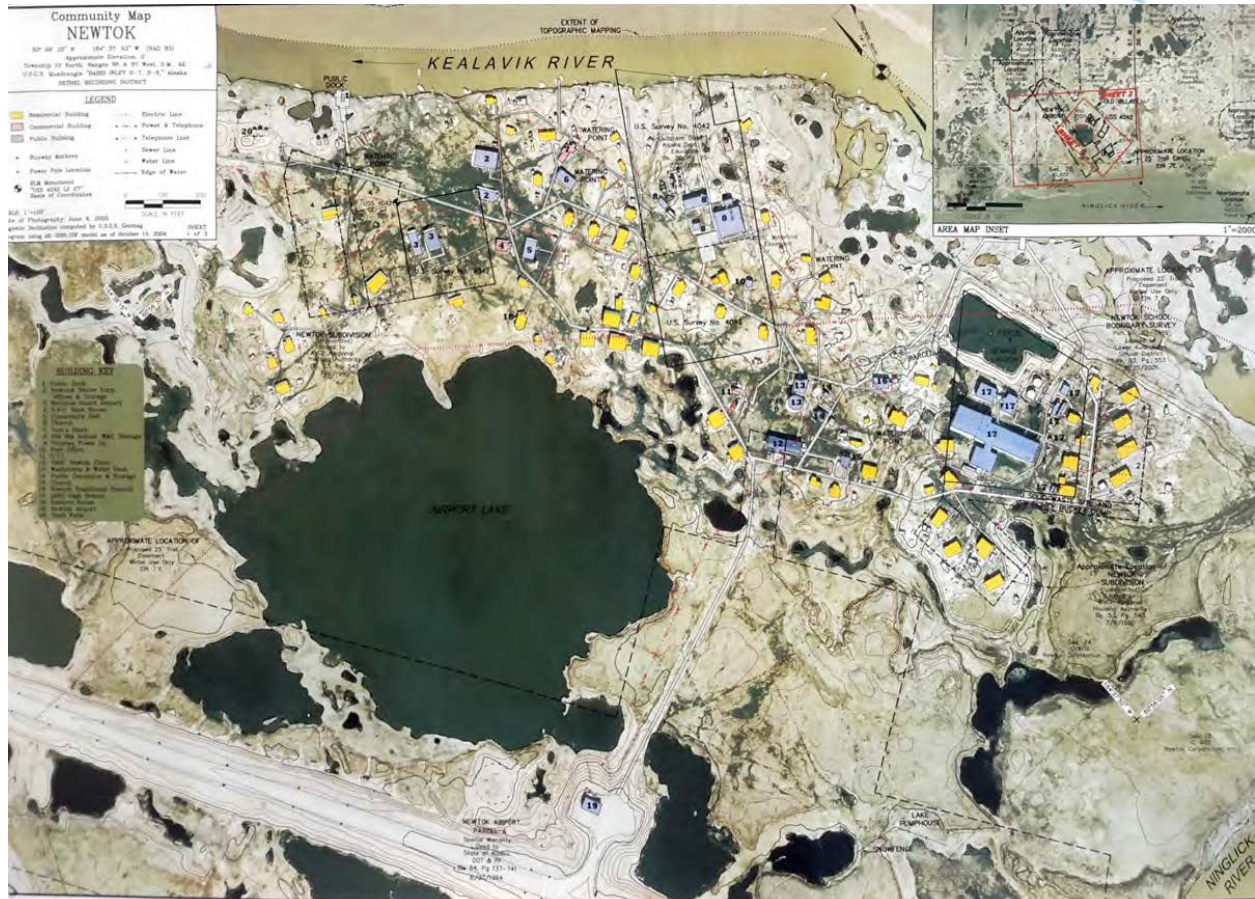


Figure 5: Aerial map of Newtok found in the 2015 Hazard Mitigation Plan update

## 5.2 (2014) 2013 Alaska Housing Assessment, Bethel Census Area<sup>4</sup>

The 2013 Alaska Housing Assessment compiled housing data by region and community. The data in the housing assessment was gathered from Alaska Community Surveys (ACS), the United State Census, and ARIS, a database of energy audits done on residences in Alaska. In the case of Newtok, there was no ARIS data available, meaning the data below primarily comes from the ACS 5 year estimates, which have relatively high margins of error in these small communities. Data on the Community Designated Place (CDP) of Newtok is listed in the table below.

<sup>4</sup> Wiltse, N., Madden, D., Valentine, B., Stevens, V. (2014). *2013 Alaska Housing Assessment*. Cold Climate Housing Research Center. Prepared for: Alaska Housing Finance Corporation.



Table 10: Information on the Newtok CDP from the 2013 Housing Assessment

<b>2010 Population (Census data)</b>	354
<b>Housing occupancy (Mix of data sources)</b>	Owner-occupied: 49 Renter-occupied: 23 Vacant, recreational: 2 Other vacant: 2 Total: 76
<b>Housing units by decade built (ACS data)</b>	1950s: 3 1960s: 4 1970s: 15 1980s: 24 1990s: 21 2000-2011: 8 Total: 75
<b>Overcrowded housing units (ACS data)</b>	Severely overcrowded: 45
<b>Note that overcrowded indicates more than 1 person per room, and severely overcrowded indicates more than 1.5 people per room.</b>	Overcrowded: 21 Occupied, not overcrowded: 15 Total: 81
<b>Housing units completing an AHFC retrofit program, such as BEES, Home Energy Rebate Program, or Weatherization</b>	None
<b>Median annual household income</b>	\$40,000

### 5.3 (2012) AVCP RHA Housing Needs Assessment<sup>5</sup>

This housing needs assessment, published in 2012, was summarized in a short document that gave general information about the community and population. It also tabulated findings from a survey of existing housing. The information was gathered from a survey distributed to households in Newtok in 2010. A local interviewer, trained by AVCP Housing, went door to door with the survey questions (M. Charlie, AVCP Housing COO, personal communication, March 9, 2016). The interviewer was able to obtain a total of 59 surveys, representing 84% of the households. The survey results appear in the tables below.

Table 11: Newtok community information

<b>2010 Population</b>	354
<b>2010 Occupied housing units</b>	70
<b>Average number of families per household</b>	2.0
<b>Average number of occupants per household</b>	5.0
<b>Average age for head of household</b>	51-60
<b>Percentage of households with a male head of household</b>	86%

<sup>5</sup> AVCP RHA. 2012. Housing Needs Assessment. Bethel, AK: AVCP Regional Housing Authority. Additional information in this section provided by Mark Charlie, AVCP Housing Chief Operating Officer, March 9, 2016, in a telephone interview.



<b>Average income per household</b>	Monthly: \$2,151 Annual: \$25,812
<b>Average income per head of household</b>	Monthly: \$1,896 Annual: \$22,752

The second table is a summary of questions asked about houses in Newtok. The survey detailed home characteristics such as size, occupancy, age, the number and type of rooms, energy use, condition, and any repair needs. From this information, AVCP Housing was able to divide homes into three main categories: homes in need of minor weatherization, homes in need of major rehabilitation, and homes that would need replaced. There were also some families identified that would prefer a unit in an apartment complex, probably due to the potential for lower rent, if that option existed (M. Charlie, AVCP Housing COO, personal communication, March 9, 2016).

**Table 12: Housing survey of existing housing in Newtok**

<b>Rehabilitation</b>	40
<b>Weatherization</b>	4
<b>New home</b>	11
<b>Multi-family triplex (1 household with 4 families)</b>	1

Since this housing survey was conducted, there have been no repairs or weatherization of homes in Newtok. Funders are reluctant to commit to financing repairs or replacement of homes that will be left behind in Newtok in the upcoming move to Mertarvik. Thus, no work has been done to date in spite of the need for repairs to existing houses.

#### **5.4 (2008) Denali Commission and Alaska DCRA Newtok Housing Analysis<sup>6</sup>**

This housing analysis was conducted in 2008 by interns from the Denali Commission and the Alaska Division of Community and Regional Affairs (DCRA). Three interns visited Newtok in July 2008 to conduct a housing survey. The survey had questions about five areas: family makeup, property, income, housing structure, and community help. To fill in the survey, the interns used a housing map from the U.S. Army Corps of Engineers and went door to door to interview the head of household or person present. There were some challenges with filling in the survey, including that the map was missing some homes and not all of the residents spoke English. In all, a total of 52 homes were interviewed. The main results of the surveys appear in the table below:

<sup>6</sup> Denali Commission & DCRA. 2008. Newtok Housing Analysis Methodology. Anchorage, AK: Denali Commission.





Table 13: Newtok housing analysis results

<b>Family makeup</b>	<ul style="list-style-type: none"> <li>• Average people per household: 5.25. The most people living in one dwelling was 12; the least was 1. Many households also have guests and/or family member stay with them during summer and/or winter seasons.</li> <li>• No household has plumbing.</li> <li>• Almost all families rely on subsistence use for food; all families spend some money each month for dry goods at the village store.</li> <li>• The average cost of food for the 45 homes answering this question was \$777/month with a range of \$80 to \$2,000.</li> </ul>
<b>Property</b>	<ul style="list-style-type: none"> <li>• The average stay in a home was 14.89 years, with a range of less than a year to 43 years.</li> <li>• Residents either owned their home, rented from AVCP (average rent of \$100), or rented from a private landlord.</li> <li>• Heat for homes is mostly from oil, electricity, and wood. Typical usage pattern was oil year-round with wood supplement during cold days in the winter. Average fuel use for the winter was 204.58 gallons, with a range of 22.5 to 1,200 gallons.</li> <li>• Other household expenses included telephone, electricity, water, cable, and internet. However, very few homes had cable and internet.</li> </ul>
<b>Income</b>	<ul style="list-style-type: none"> <li>• The majority of people are seasonal workers. Seasonal jobs in Newtok include the cannery, school teacher and aide, and construction.</li> <li>• Almost all residents received the Permanent Fund Dividend and a Calista Corporation Dividend.</li> <li>• Other income sources included food stamps; Temporary Aid for Needy Families; Women, Infant, and Children checks; social security, including disability and retirement; unemployment benefits, veteran's assistance; energy assistance from AVCP; retirement benefits; and other sources of income.</li> <li>• Average household income was \$2,439.86 per month for 26 households that responded that their incomes were between \$1,921 and \$5,125 per month.</li> </ul>
<b>Housing structure</b>	<ul style="list-style-type: none"> <li>• Almost all residents were dissatisfied with their current housing situation. Reasons for this included that homes were too small, too cold, had leaks, were drafty, did not have arctic entries, had poor ventilation, had rotting walls, no plumbing, foundation problems, and more.</li> <li>• For Mertarvik home size: 10 households would like a larger home for people to live together; 7 households would like smaller, separated homes with fewer people; and 1 liked the size of their current home.</li> <li>• Pictures of sample homes were shown to residents <ul style="list-style-type: none"> <li>○ 16 households preferred A, a white HUD home with a triadetic foundation</li> <li>○ 14 households preferred B, a blue HUD home with 2 doorways, and a lot of windows</li> <li>○ 6 households preferred C</li> <li>○ 5 household preferred D, and earthen home</li> </ul> </li> <li>• Ideal home characteristics identified by Newtok residents included having running water in the bathroom and kitchen, a few bedrooms, porches, laundry rooms, ovens and/or stoves separate steam houses, arctic entries and/or dry rooms, and two separate entrances for fire safety.</li> </ul>

**Community help**

- 34 households would like to be involved in the building of new homes (only 3 do not want to be involved in building their new home)
- Over 20 households are willing to volunteer labor and time to build their own home; 5 households would build if pay were offered; for some households the amount of time they could volunteer depends on their other work schedule.

## 6. Methodology

Two CCHRC employees conducted the housing survey from April 30 to May 4, 2016. CCHRC planned the trip in coordination with the Newtok Village Council. The dates were chosen to be during a time of year when many families are present in Newtok because of breakup.

Upon arrival in Newtok, CCHRC and the Newtok Village Council distributed a flyer to the community explaining the reason for the survey and what the results would be used for. Appendix A of this document contains a copy of the flyer. The CCHRC team conducted interviews from the school and in people's homes. Members from the Newtok Village Council helped with translation of the interview questions for citizens that preferred to answer in Yupik. To ensure that no households were missed, the CCHRC and Village Council team worked from a map of Newtok, accounting for all buildings that had been interviewed. CCHRC collected household names and addresses so that there would be no accidental duplicate surveys. The majority of the interviews, almost 70%, were conducted with the head of the household; remaining interviews were done by the spouse of the head of household, a son or daughter of the head of household, or another relative.



Figure 6: Students in Newtok helped distributed flyers about the survey.

The team interviewed a total of 55 households, or approximately 83% of the 66 households that the team estimated were in Newtok. There were at least 11 households that were not interviewed: 3 of



these already had a home in Mertarvik and declined the interview; 3 households were out of town; and 5 households declined the interview.

To write the interview questions, CCHRC began with the interview questions that were included in the 2012 housing assessment conducted by AVCP RHA, which were provided by Mark Charlie, Chief Executive Officer of AVCP RHA. Overall, CCHRC kept the questions similar to allow comparison between the results of the two surveys. However, CCHRC edited the questions to customize them for this survey:

- In some instances, questions were deleted or consolidated to shorten the survey where possible.
- In some instances, questions were added to gather more detail about a topic.
- Questions were added about the number, type, and financing of houses to be built Mertarvik.

CCHRC sent the draft survey to review from Romy Cadiente, the Relocation Coordinator for the Newtok Village Council, Colleen Dushkin, the grant administrator from AHAA, and Mark Charlie, the Chief Executive Officer of AVCP RHA. These individuals provided comments that allowed CCHRC to revise the questions to better align with the community's goals for the survey. The final survey questions appear in Appendix B.



Figure 7: A CCHRC employee and a member of the village walk from house to house conducting interviews in May 2016.





## Appendix A: Housing needs assessment flyer

# What do you want your community to look like?



## 2016 CCHRC + NEWTOK VILLAGE COUNCIL **HOUSING NEEDS ASSESSMENT**

Share your input and ideas to help shape the future of Newtok @ Metarvik

- What types of housing work for your family and your community?
- How many houses will be needed?
- How can the housing at the new site learn from, and build upon, traditional knowledge?
- What can be done to provide for our future generations?

CCHRC staff will be meeting with each household individually to talk with you about these very important topics.



COLD CLIMATE HOUSING RESEARCH CENTER  
**CCHRC**



## Appendix B: Housing needs assessment questions

Date \_\_\_\_\_

Name of household: \_\_\_\_\_

Address: \_\_\_\_\_

Interviewee  
name(s): \_\_\_\_\_

Interviewee relationship to head of household (circle one):

*Self*

*Spouse/partner*

*Elder (grandparent)*

*Child – biological*

*Child – foster*

*Grandchild*

*Sibling*

*Parent*

*Parent-in-law*

*Son or daughter-in-law*

*Other relative*

*Roomer or boarder*

*Housemate or roommate*

*Other non-relative*



## Population

Number of people living in the household year-round: \_\_\_\_\_

Number of people living in the household year-round including seasonal occupants \_\_\_\_\_

Does any permanent resident of the household have a disability that requires a wheelchair or other disability access? (Circle one)

Yes

No

DRAFT



Household resident characteristics and income – FILL IN FOR EVERY ADULT. USE ADDITIONAL SHEET IF NECESSARY.

	Adult #1	Adult #2	Adult #3	Adult #4
<b>Name</b>				
<b>Age</b>				
<b>Male/Female</b>				
<b>Relationship to head of household – circle one</b>	Self Spouse/partner Elder,grandparent Child – biological Child- adopted Child – foster Grandchild Sibling Parent Parent-in-law Child-in-law Other relative Roomer/boarder Housemate Other nonrelative	Self Spouse/partner Elder,grandparent Child – biological Child- adopted Child – foster Grandchild Sibling Parent Parent-in-law Child-in-law Other relative Roomer/boarder Housemate Other nonrelative	Self Spouse/partner Elder,grandparent Child – biological Child- adopted Child – foster Grandchild Sibling Parent Parent-in-law Child-in-law Other relative Roomer/boarder Housemate Other nonrelative	Self Spouse/partner Elder,grandparent Child – biological Child- adopted Child – foster Grandchild Sibling Parent Parent-in-law Child-in-law Other relative Roomer/boarder Housemate Other nonrelative
<b>Predominant race- circle one</b>	Alaska Native White Black Hispanic Asian Other	Alaska Native White Black Hispanic Asian Other	Alaska Native White Black Hispanic Asian Other	Alaska Native White Black Hispanic Asian Other



	Adult #1	Adult #2	Adult #3	Adult #4
<b>If Alaska Native, are you a shareholder or descendent of a shareholder for any of the following regional corporations? – Circle one</b>	Calista Bristol Bay Bering Straits Doyon NANA CIRI (Cook Inlet) ASRC (Arctic Slope Aleut Koniag AHTNA Chugach Sealaska The 13 <sup>th</sup> Regional	Calista Bristol Bay Bering Straits Doyon NANA CIRI (Cook Inlet) ASRC (Arctic Slope Aleut Koniag AHTNA Chugach Sealaska The 13 <sup>th</sup> Regional	Calista Bristol Bay Bering Straits Doyon NANA CIRI (Cook Inlet) ASRC (Arctic Slope Aleut Koniag AHTNA Chugach Sealaska The 13 <sup>th</sup> Regional	Calista Bristol Bay Bering Straits Doyon NANA CIRI (Cook Inlet) ASRC (Arctic Slope Aleut Koniag AHTNA Chugach Sealaska The 13 <sup>th</sup> Regional
<b>Monthly income in \$</b>				
<b>Employment type and sector– circle all that apply</b>	<b>Full time</b> Local/state/fed govn Construction Fishing/Cannery Retail Service Other <b>Part-time</b> Local/state/fed govn Construction Fishing/Cannery Retail Service Other <b>Seasonal</b> Local/state/fed govn Construction Fishing/Cannery Retail Service Other <b>Self-employed</b> Local/state/fed govn Construction Fishing/Cannery Retail Service Other <b>Unemployed</b> <b>Retired</b>	<b>Full time</b> Local/state/fed govn Construction Fishing/Cannery Retail Service Other <b>Part-time</b> Local/state/fed govn Construction Fishing/Cannery Retail Service Other <b>Seasonal</b> Local/state/fed govn Construction Fishing/Cannery Retail Service Other <b>Self-employed</b> Local/state/fed govn Construction Fishing/Cannery Retail Service Other <b>Unemployed</b> <b>Retired</b>	<b>Full time</b> Local/state/fed govn Construction Fishing/Cannery Retail Service Other <b>Part-time</b> Local/state/fed govn Construction Fishing/Cannery Retail Service Other <b>Seasonal</b> Local/state/fed govn Construction Fishing/Cannery Retail Service Other <b>Self-employed</b> Local/state/fed govn Construction Fishing/Cannery Retail Service Other <b>Unemployed</b> <b>Retired</b>	<b>Full time</b> Local/state/fed govn Construction Fishing/Cannery Retail Service Other <b>Part-time</b> Local/state/fed govn Construction Fishing/Cannery Retail Service Other <b>Seasonal</b> Local/state/fed govn Construction Fishing/Cannery Retail Service Other <b>Self-employed</b> Local/state/fed govn Construction Fishing/Cannery Retail Service Other <b>Unemployed</b> <b>Retired</b>





	Subsistence	Subsistence	Subsistence	Subsistence
	Adult #1	Adult #2	Adult #3	Adult #4
<b>Other sources of income (circle all that apply)</b>	Retirement	Retirement	Retirement	Retirement
	Pension	Pension	Pension	Pension
	Rental income	Rental income	Rental income	Rental income
	Interest	Interest	Interest	Interest
	Estates	Estates	Estates	Estates
	Trust income	Trust income	Trust income	Trust income
	Dividends (PFD, Native Corp, etc)	Dividends (PFD, Native Corp, etc)	Dividends (PFD, Native Corp, etc)	Dividends (PFD, Native Corp, etc)
	Unemployment	Unemployment	Unemployment	Unemployment
	Social security (includes retirement, supplemental (SSI), disability)	Social security (includes retirement, supplemental (SSI), disability)	Social security (includes retirement, supplemental (SSI), disability)	Social security (includes retirement, supplemental (SSI), disability)
	Public assistance (includes SNAP, WIC, TANF)	Public assistance (includes SNAP, WIC, TANF)	Public assistance (includes SNAP, WIC, TANF)	Public assistance (includes SNAP, WIC, TANF)
	Veterans assistance	Veterans assistance	Veterans assistance	Veterans assistance
	Foster care funds	Foster care funds	Foster care funds	Foster care funds
	Child support	Child support	Child support	Child support
	Alimony	Alimony	Alimony	Alimony
	Other	Other	Other	Other



## Newtok housing characteristics

Is this one of the 12 homes to be relocated to Mertarvik by FEMA? (Circle one)

Yes                      No

Which best describes this building? (Circle one)

*Single family residence*

*Duplex*

*Building with more than 2 apartments*

*Mobile home*

*Boat, RV, van, etc.*

*Other*

What is the approximate size of this building in square feet? \_\_\_\_\_

About when was this building built? (Circle one)

*2010 or later*

*2000-2010*

*1990-1999*

*1980-1989*

*Before 1980*

What year did the head of household move into this building? \_\_\_\_\_

How many separate rooms are in this building? Do not count bathrooms, utility rooms, halls. \_\_\_\_\_

How many bathrooms are in this building? Must be a separate room. \_\_\_\_\_

How many bedrooms are in this building? (efficiency style = 0) \_\_\_\_\_



Are there living areas other than bedrooms that are used as a sleeping area at night? (Circle one)

Yes                      No

IF YES, how many \_\_\_\_\_

Circle what the building has:

*Hot and cold running water*

*Flush toilet (flush and haul)*

*Flush toilet (piped water and sewer)*

*Bathtub or shower*

*Steamhouse*

*Electricity*

*Sink with a faucet*

*Electric stove or range*

*Gas stove or range*

*Refrigerator*

*Telephone service (include cell phones)*

*Passive ventilation (fresh 80s)*

*Mechanical ventilation (bathroom fans)*

*Mechanical ventilation (HRV)*

What is the condition of this building? (Circle one)

*Good*

*Needs minor repairs*

*Needs major rehabilitation*



Circle all problems with this house.

*No repairs needed*

*Roof leaks and needs repaired or replaced*

*Insulation in the ceiling is poor or nonexistent*

*There are holes in the floor*

*Insulation in the pipes is poor (cold floor)*

*Frozen pipes in winter*

*Porch and/or steps need repair*

*Plumbing leaks (bathroom and/or kitchen)*

*Windows and/or doors are broken (include cracks, drafty, and those that do not open)*

*Cracks in the wall or ceiling*

*Insulation in the walls is poor*

*There is fire/smoke damage to portions of the building*

*Foundation is bad*

*Mold on walls or rotting walls*

*Electrical outlets do not work*

*Other repairs needed*

Does this building have a wheel chair ramp attached to the house? (Circle one)

Yes

No



## Newtok housing financing

Is this building...? (Circle one)

*Owned by someone in the household with a mortgage or loan?*

*Owned by someone in the household without a mortgage or loan?*

*A Mutual Help home?*

*Rented?*

*Occupied without payment of rent?*

*Other?*

### IF RENTED

Who owns the building? (Circle one)

*Landlord (resident of Newtok)*

*Landlord (not a resident of Newtok)*

*Other*

What is the monthly rent? \_\_\_\_\_

Who pays the rent? (Circle one)

*Members of the household pay all the rent*

*Members of the household pay a portion of the rent and a portion is subsidized by* \_\_\_\_\_

### IF OWNED

Does any member of the household have a mortgage, deed of trust, contract to purchase, or similar debt on this property? (Circle one)

*Yes*

*No*

Do you pay all of the mortgage/loan amount? (Circle one)

*Yes*



No, a portion is paid by \_\_\_\_\_

Are you required to pay fire, hazard, flood insurance on this property? (Circle one)

Yes    No

Are you required to pay real estate taxes on this property? (Circle one)

Yes    No

### **Newtok housing utilities**

What is the primary fuel used for heating this building? (Circle one)

*Fuel oil or kerosene*

*Wood*

*Coal*

*Electricity*

*Gas*

*Wind*

*Solar*

*Other*

What is the secondary fuel used for heating this building?

*Fuel oil or kerosene*

*Wood*

*Coal*

*Electricity*

*Gas*

*Wind*

*Solar*

*Other*



Do you pay for heating fuel separate from your rent or mortgage payment? (Circle one)

Yes                      No

Do you pay for electricity separate from your rent or mortgage payment? (Circle one)

Yes                      No

Do you pay for water and sewer separate from your rent or mortgage payment? (Circle one)

Yes                      No

Do you pay all of the utilities or is there a subsidy?

Yes                      No, it is subsidized by \_\_\_\_\_

### **Mertarvik housing number and type**

Do you know any former Newtok families who are considering returning to Mertarvik and would require housing? How many? (Include names to avoid double counting)

0. No families

1. \_\_\_\_\_

2. \_\_\_\_\_

3. \_\_\_\_\_

4. \_\_\_\_\_

5. \_\_\_\_\_

6. \_\_\_\_\_

7. \_\_\_\_\_



8. \_\_\_\_\_

How many housing units in Mertarvik would the current household prefer to live in?-

\_\_\_\_\_

For each house **WITH ELDERS** answer the following:

	House #1	House #2	House #3	House #4
<b>What type of housing is preferred?</b>	Single family detached house (elder living alone or with spouse)	Single family detached house (elder living alone or with spouse)	Single family detached house (elder living alone or with spouse)	Single family detached house (elder living alone or with spouse)
	Single family detached house (with caretaker)	Single family detached house (with caretaker)	Single family detached house (with caretaker)	Single family detached house (with caretaker)
	Single family detached house (with relatives)	Single family detached house (with relatives)	Single family detached house (with relatives)	Single family detached house (with relatives)
	Apartment-style housing unit (elder living alone or with spouse)	Apartment-style housing unit (elder living alone or with spouse)	Apartment-style housing unit (elder living alone or with spouse)	Apartment-style housing unit (elder living alone or with spouse)
	Apartment-style housing unit (with caretaker)	Apartment-style housing unit (with caretaker)	Apartment-style housing unit (with caretaker)	Apartment-style housing unit (with caretaker)
	Apartment-style (with relatives)	Apartment-style (with relatives)	Apartment-style (with relatives)	Apartment-style (with relatives)
<b>How many bedrooms would the family prefer?</b>				
<b>How many bathrooms would the</b>				





family prefer?				
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<b>Would anyone require the house to be ADA compliant?</b>	<b>Yes</b> <b>No</b>	<b>Yes</b> <b>No</b>	<b>Yes</b> <b>No</b>	<b>Yes</b> <b>No</b>
<b>What fuel is preferred for heating? (Circle all that would be preferred)</b>	Fuel oil/kerosene Wood Coal Electricity Gas Wind Solar Other	Fuel oil/kerosene Wood Coal Electricity Gas Wind Solar Other	Fuel oil/kerosene Wood Coal Electricity Gas Wind Solar Other	Fuel oil/kerosene Wood Coal Electricity Gas Wind Solar Other
<b>What plumbing options are preferred? Circle all that would be preferred)</b>	Running hot and cold water  Bathroom with toilet  Bathtub and shower  Laundry room  Steam house	Running hot and cold water  Bathroom with toilet  Bathtub and shower  Laundry room  Steam house	Running hot and cold water  Bathroom with toilet  Bathtub and shower  Laundry room  Steam house	Running hot and cold water  Bathroom with toilet  Bathtub and shower  Laundry room  Steam house
<b>How would the family prefer the home to be financed? (Circle one)</b>	Own – pay for up front  Own – pay for with mortgage or loan  Rent  Other:	Own – pay for up front  Own – pay for with mortgage or loan  Rent  Other:	Own – pay for up front  Own – pay for with mortgage or loan  Rent  Other:	Own – pay for up front  Own – pay for with mortgage or loan  Rent  Other:



<b>If <span style="background-color: yellow;">RENT</span> above, would the family be willing to finance with a loan if a home with rent is not available in a timely fashion?</b>	<b>Yes</b>  <b>No</b>	<b>Yes</b>  <b>No</b>	<b>Yes</b>  <b>No</b>	<b>Yes</b>  <b>No</b>
<b>How many adults would be willing to participate in the construction of the home?</b>	Paid only? _____  Volunteer or pay? _____	Paid only? _____  Volunteer or pay? _____	Paid only? _____  Volunteer or pay? _____	Paid only? _____  Volunteer or pay? _____
<b>How many adults would be willing to participate in construction training for building homes?</b>	Paid only? _____  Volunteer or pay? _____	Paid only? _____  Volunteer or pay? _____	Paid only? _____  Volunteer or pay? _____	Paid only? _____  Volunteer or pay? _____



For each house **WITHOUT ELDERS** answer the following:

	House #1	House #2	House #3	House #4
<b>What type of housing is preferred?</b>	Single family detached house Apartment-style housing unit	Single family detached house Apartment-style housing unit	Single family detached house Apartment-style housing unit	Single family detached house Apartment-style housing unit
<b>How many bedrooms would the family prefer?</b>				
<b>How many bathrooms would the family prefer?</b>				
<b>Would anyone require the house to be ADA compliant?</b>	Yes No	Yes No	Yes No	Yes No
<b>What fuel is preferred for heating? (Circle all that would be preferred)</b>	Fuel oil/kerosene Wood Coal Electricity Gas Wind Solar Other	Fuel oil/kerosene Wood Coal Electricity Gas Wind Solar Other	Fuel oil/kerosene Wood Coal Electricity Gas Wind Solar Other	Fuel oil/kerosene Wood Coal Electricity Gas Wind Solar Other
<b>What plumbing options are preferred? Circle all that would be preferred)</b>	Running hot and cold water Bathroom with toilet Bathtub and shower Laundry room Steam house	Running hot and cold water Bathroom with toilet Bathtub and shower Laundry room Steam house	Running hot and cold water Bathroom with toilet Bathtub and shower Laundry room Steam house	Running hot and cold water Bathroom with toilet Bathtub and shower Laundry room Steam house



<b>How would the family prefer the home to be financed? (Circle one)</b>	<b>Own – pay for up front</b>  <b>Own – pay for with mortgage or loan</b>  <b>Rent</b>  <b>Other:</b>	<b>Own – pay for up front</b>  <b>Own – pay for with mortgage or loan</b>  <b>Rent</b>  <b>Other:</b>	<b>Own – pay for up front</b>  <b>Own – pay for with mortgage or loan</b>  <b>Rent</b>  <b>Other:</b>	<b>Own – pay for up front</b>  <b>Own – pay for with mortgage or loan</b>  <b>Rent</b>  <b>Other:</b>
<b>If RENT above, would the family be willing to finance with a loan if a home with rent is not available in a timely fashion?</b>	Yes  No	Yes  No	Yes  No	Yes  No
<b>How many adults would be willing to participate in the construction of the home?</b>	Paid only? _____  Volunteer or pay? _____	Paid only? _____  Volunteer or pay? _____	Paid only? _____  Volunteer or pay? _____	Paid only? _____  Volunteer or pay? _____
<b>How many adults would be willing to participate in construction training for building homes?</b>	Paid only? _____  Volunteer or pay? _____	Paid only? _____  Volunteer or pay? _____	Paid only? _____  Volunteer or pay? _____	Paid only? _____  Volunteer or pay? _____