

ARCTIC VILLAGE

Health Clinic



Alaska Rural Primary Care Facility

Code and Condition Survey Report

July 23, 2001



I. EXECUTIVE SUMMARY

Overview

The Arctic Village Clinic is located in a log building which was constructed in 1990. The building has no mechanical heating system, water, or wastewater system. Most partitions do not extend to the ceilings, and there does not appear to be any insulation in the exterior walls. The exterior walls are exposed logs inside the clinic. The toilet room, located next to the waiting area, uses a honey bucket system, and the toilet area is separated from the waiting area by partial height walls. Privacy is limited in the exam rooms because of the partial height walls. It is highly weathered due to extreme climatic conditions and heavy use. The clinic has outgrown its current space and the construction of the building makes it difficult for a new addition. The lack of adequate space for medical supplies and the lack of a trauma room prevent the staff from providing the level of care needed on a daily and emergency basis.

Renovation and Addition

The existing clinic is approximately 1310 s.f. in size and would require an addition of 690 s.f. to meet the 2000 s.f. minimum area recommended for a medium clinic by the Alaska Rural Primary Care Facility study. The floor plan layout would require the remodel of approximately 15% of the interior space. Additionally, the poor condition of the building will require extensive upgrades to improve the foundation, thermal enclosure and other building systems. The cost of required renovations and code upgrades, combined with the cost of a new addition equal 139% of the cost of a new clinic.

New Clinic

Because the cost of renovation and addition is more than 75% of the cost of new construction, a new clinic of at least 2000 s.f. should be built to replace the existing clinic. The community prefers a new location near the new school and washeteria buildings. The community indicated several possible sites which appear suitable for construction. A final site selection has not yet been made. The existing clinic site is not a preferred location.

II. GENERAL INFORMATION

A. The Purpose of the Report

ANTHC has entered into a cooperative agreement with the Denali Commission to provide management of the small clinic program under the Alaska Rural Primary Care Facility (ARPCF) assessment, planning, design, and construction. The purpose of the Code and Condition Survey Report is to validate the data provided by the community in the Alaska Rural Primary Care Facility Needs Assessment and to provide each community with a uniform standard of evaluation for comparison with other communities to determine the relative need among the communities of Alaska for funding assistance for the construction of new or remodeled clinic facilities. The information gathered will be tabulated and analyzed according to a set of fixed criteria that will yield a priority list for funding. Additionally, the relative costs of new construction vs. remodel/addition will be evaluated to determine the most practical and cost effective means to bring the clinics up to a uniform standard of program and construction quality. The information provided in this report is one component of the scoring for the small clinic RFP that the Denali Commission sent to communities in priority Groups 1 and 2.

B. The Assessment Team

The survey was conducted on May 24, 2001 by John Biggs, AIA, Architects Alaska and Ralph DeStefano, PE, RSA Engineering. Dan Williams of ANTHC and Theresa Gallagher of Tanana Chiefs Conference were the team escorts. Dan and Theresa reviewed alternative site locations with village leaders and made introductions and conducted the village briefings. Team members who assisted in the preparation of the report included Stephen Schwicht and Ian VanBlankenstein of NANA/DOWL, project managers for the survey team, and Jay Lavoie of Estimations, Inc.

C. The Site Investigation

The format adopted is similar to the “Deep Look”, a facility investigation and condition report used by both ANTHC and the Public Health Service, in maintaining an ongoing database of facilities throughout the country. Facilities are evaluated with respect to the requirements of the governing building codes and design guidelines. Building code compliance, general facility condition, and program needs have been evaluated. This written report includes a floor plan of the clinic and a site plan indicating the existing clinic site. Additional information gathered during the site investigation that is referred to in the report, which includes sketches of building construction details, a building condition checklist, and proposed plans for village utility upgrades, are not included with this report. This information is available for viewing at ANTHC’s Anchorage offices and will be held for reference.

III. CLINIC INSPECTION SUMMARY

A. Community Information

The community of Arctic Village has a current population of 152 as published in the 2000 U.S. Census. It is located 290 miles north of Fairbanks in the Barrow Recording District. Refer to the attached Alaska Community Database prepared by the Alaska Department of Community and Economic Development in Appendix C for additional community information.

B. General Clinic Information

The Arctic Village Clinic was constructed in approximately 1990 and is a small log building, with wood frame foundation and flooring, vertical log walls, log roof purlins, wood frame roof panels, and a low quality metal roof. This building is approximately 1310 s.f. in size and appears to have no exterior wall insulation. The building is laid out with a large front waiting area and a central corridor. The building has one main entry that does not meet ADA requirements and firewood blocks accessibility in the vestibule. Space is very limited and the building is in poor condition.

C. Program Deficiency Narrative

The clinic space is small, but carefully arranged. The main programmatic deficiencies pertain to overall size of the existing clinic, the lack of privacy, security, water and sewer, and the lack of handicapped access. The second exit is blocked by a panel securing batt insulation, and adequate clearance is blocked wood for the woodstove in the waiting area, the main heat source for the building. All of the interior doors are less than the required 3' wide. A related programmatic issue is sanitation. Nearly all of the interior partitions do not extend to the ceiling making privacy and sanitary conditions difficult to maintain. In general, these facility shortcomings prevent the staff from providing adequate health care to the community.

The following table illustrates a comparison between the current actual square footage (SF) and the 2000 s.f. minimum area recommended by the Alaska Rural Primary Care Facility study for a Medium Clinic:

Table 1 – ARPCF Clinic Area Comparison

Purpose/Activity	#	Existing Net SF	#	ARPCF Medium	Difference
Arctic Entry	1	45	2	2 @ 50=100	55
Wait/Recep/Closet	1	189	1	150	-39
Trauma/Telemed/Exam	1	135	1	200	65
Office/Exam	1	135	1	150	15
Admin./Records	1	135	1	110	-25
Pharmacy/Lab	1	135	1	80	-55
Portable X-ray	-	-	-	-	-
Spec. Clinic/Health Ed./Conf.	-	-	1	150	150
Patient Holding/Sleep Room	-	-	1	80	80
Storage	1	108	1	100	-8
HC toilet	1	65	2	2 @ 60=120	55
Janitorial Closet	-	-	1	30	30
Total Net Area				1270	
Mechanical Room	-	-		147	147
Morgue	-	-		30	30

The Arctic Village Clinic has a current gross area of 1310 s.f. This would require a gross building area expansion of approximately 690 s.f. in order to meet the 2000 s.f. minimum requirements for a Medium clinic.

An analysis of the existing building’s program functions follows. Please also refer to the floor plan in Section H:

- **Arctic Entries:** The main entrance has an arctic entry which is nominally 4’ x 5’ and is partially blocked by firewood. This is inadequate to accommodate a stretcher. The second exit is also blocked.
- **Waiting:** The waiting area is functional. It has visual access to the receptionist, however privacy is limited as noted above. The main heating unit, a wood stove, is located directly in the middle of the waiting area.
- **Trauma/Telemed/Exam:** None provided.

- **Office/Exam:** The exam rooms are small but functional. The exposed log walls at the exterior present an obstacle to maintaining a clean and sanitary environment.
- **Administration/Records:** The administrative/records area is separated from the clinic by partial height walls only and is therefore not secure or confidential. The office area is generally crowded with patient files and storage.
- **Pharmacy/Lab:** None provided.
- **Specialty Clinics:** Specialty clinics require the use of one of the exam rooms and the corridor space. This is a disruption to clinic activities.
- **Patient Holding/Sleep:** None provided in the clinic.
- **Storage:** Medical supplies are generally kept in a single room. This room is separated only by partial height walls and is therefore not secure. The room is small but generally well organized and maintained.
- **HC Toilet Room:** The toilet room for this clinic is clean and neat, despite being limited to the use of a honeybucket system.
- **Janitor Closet:** None provided.
- **Ancillary Spaces:** There are no ancillary spaces in this clinic.

D. Architectural/Structural Condition

The clinic building is a rustic log structure of approximately 1310 s.f. The foundation is 2x12 sills laid on a gravel pad. The floor structure is 2x12 beams supporting 2x12 joists. The walls are vertical logs, exposed on the interior. The ceiling is painted plywood. The roof is a low-grade metal roof over 2x6/plywood sandwich panel. No trim or flashing was apparent, and roofing underlayment was not apparent. Because of the questionable load-capacity of the floor system and the questionable load capacity of the roof system, an attempt to tie a modern, tight building into the existing log building is not recommended. While it may be feasible to add an addition of similar construction and structural nature, a new building with a much more rigid frame, increased load capacities, and solid foundation would probably not weather and wear at the same rate as the existing building and could potentially cause substantial and continuous problems with joints and sealants in the long run. A preferable approach would be to abandon the existing log building and build a new separate clinic building.

E. Site Considerations

The site of the existing clinic is not a preferred location for construction of a new clinic. The village has chosen several alternative sites for the new clinic, near the new school and washeteria buildings. The new sites have access to village water, sewer, power, and telephone

services. As typical for most sites in Arctic Village, a gravel pad will be required prior to construction. No significant problems were noted pertaining to the proposed sites. A final decision has not yet been reached by the community on a preferred location.

F. Mechanical Condition

Heating and Fuel Oil: The clinic is heated with a Monitor stove located in the waiting room. This heating system is inadequate for heating the clinic uniformly because the unit provides only one highly variable zone of heating. The nature of this heating arrangement is such that rooms without the heater where privacy or security is required will rapidly cool below the comfort zone. At times the health aids have had to take medicines home at night to prevent them from freezing. A wood stove is also installed in the waiting area and serves as back up in the event that the Monitor stove should fail. Fuel for the Monitor stove is stored in a 55-gallon drum located too close to the building. The 55-gallon tank is not UL listed and needs to be replaced.

Ventilation: The clinic has no mechanical ventilation. The only source of ventilation for the occupied spaces is through operable windows. The clinic needs to be provided with a mechanical ventilation system and should not rely on operable windows alone.

Plumbing: The clinic has no running water or sewer. This is not acceptable for a clinic, the facility needs to have some form of running water and sewer.

G. Electrical Condition

Power: 120/240-volt single-phase power is provided to the clinic through an overhead service. The system appears to be grounded correctly to a grounding rod located below the meter. A 100-amp breaker is provided after the meter and a 100-amp panel is provided inside the building. The electrical panel is in poor condition and access to the panel is poor – it is located behind some medical supplies. The wiring from the panel is run in romex, some of which is exposed. In general the electrical power system for the facility is in poor condition and is a safety hazard. There is exposed romex in various locations throughout the building and open junction boxes with exposed wire. The entire electrical power system needs to be replaced.

Lighting and Emergency Fixtures: Florescent fixtures provide interior lighting. Lighting levels are low throughout the building, especially in the office and exam areas. The lighting should all be replaced. No emergency lights or emergency exit signs are installed in the clinic. Exterior lighting is provided with incandescent fixtures at the clinic entrance. There are no smoke detectors installed in the clinic.

Telecommunications: The telecommunication system includes one phone line serving the clinic. The facility does not have a Telemed system.

H. Existing Facility Floor Plan

See following sheet for the floor plan of the existing clinic.

J. Community Plan

Refer to the attached community plan for location of the existing clinic and the proposed location for the new clinic. If the existing clinic site is the preferred location or if a new site has not yet been selected, only the existing clinic location will be shown.

IV. DEFICIENCY EVALUATION AND COST ASSESSMENT

The attached deficiency reporting forms are based on Public Health Service form AK H SA-43. The forms are numbered sequentially for each discipline starting with **A01** for Architectural and structural deficiencies, **M01** for Mechanical deficiencies and **E01** for Electrical deficiencies.

A. Deficiency Codes

Deficiencies are further categorized according to the following PHS Deficiency codes to allow the work to be prioritized for federal funding, should that apply. Deficiency codes used in this survey include:

- 02 Fire and Life Safety:** These deficiencies identify areas where the facility is not constructed or maintained in compliance with provisions of the state mandated building codes including the International Building Code, The Uniform Fire Code, NFPA 101, The Uniform Mechanical and Plumbing Codes and The National Electrical Code.
- 03 Safety:** These deficiencies identify miscellaneous safety issues.
- 04 Environmental Quality:** This addresses DEC regulations, hazardous materials and general sanitation.
- 05 Program Deficiencies:** These are deficiencies which show up as variations from space guidelines established in the Alaska Primary Care Facility Facility Needs Assessment Project and as further evaluated through observation at the facility site and documented in the facility floor plans.
- 07 Disability Access Deficiencies:** The items with this category listing are not in compliance with the Americans with Disabilities Act.
- 08 Energy Management:** These deficiencies address the efficiency of heating systems/fuel types and the thermal enclosures of buildings.
- 11 Structural Deficiencies:** These are deficiencies with the fabric of the building. It may include the foundations, the roof or wall structure, the materials used, the insulation and vapor retarders, the attic or crawl space ventilation and the general condition of interior finishes. Foundation systems are included in this category.
- 12 Mechanical Deficiencies:** These are deficiencies in the plumbing, heating, ventilating, air conditioning, or medical air systems.
- 13 Electrical Deficiencies:** These are deficiencies with electrical generating and distribution systems, fire alarm systems and communications systems.
- 14 Utilities:** This category is used for site utilities, as opposed to those within the building and may include sewer lines and water and power distribution.

B. Photographs

Each sheet has space for a photograph. Some deficiencies do not have photos. Photographs do not cover all areas where the deficiencies occur but are intended to provide a visual reference to persons viewing the report who are not familiar with the facility. Additional photographs of the clinic and the surrounding area are included in Appendix B.

C. Cost Estimate General Provisions

New Clinic Construction

- **Base Cost**

The Base Cost provided in Section VI of this report is the direct cost of construction, inclusive of general requirements (described below) and contingency for design unknowns (an estimating contingency) The base cost is exclusive of overhead and profit, mark-ups, area cost factors and contingencies. Material costs for the project are all calculated FOB Anchorage and labor rates are based on Davis Bacon wages, regionally adjusted to Anchorage. Transportation costs, freight, Per Diem and similar costs are included in the base costs. The Project Factors and Area Cost Factor are multipliers of the base costs.

General Requirements are based on Anchorage costs without area adjustment. It is included in the Base Cost for New Clinics. These costs are indirect construction cost not specifically identifiable to individual line items. It consists of supervision, materials control, submittals and coordination, etc. The general requirements factor has not been adjusted for Indian Preference.

The Design Unknowns Contingency is an estimator's contingency based on the schematic nature of the information provided, the lack of any real design, and the assumption that any project will encompass related work not specifically mentioned.

- **Project Cost Factors**

Equipment Costs for new medical equipment has been added at 17% of the cost of new floor space.

Design Services is included at 10% to cover professional services including engineering and design.

Construction Contingency is included at 10% of the Base Costs to cover changes encountered during construction.

Construction Administration has been included at 8% of the Base Costs. This is for monitoring and administration of the construction contract.

- **Area Cost Factor**

The Area Cost Factor used in the cost estimates for this facility is shown in Section VI of this report. The area cost factors are taken from a recent study completed for the Denali Commission for statewide healthcare facilities. The numbers are the result of a matrix of cost variables including such items as air travel, local hire costs, room and board, freight, fire protection equipment, foundation requirements, and heating equipment as well as contractor costs such as mobilization, demobilization, overhead, profit, bonds and insurance. These parameters were reconsidered for each village, following the site visit, and were modified, if necessary.

- **Estimated Total Project Cost of New Building**

This is the total estimated cost of the project, including design services. The construction contract will be work subject to Davis Bacon wages, and assumes construction before year-end 2001. No inflation factor has been applied to this data.

Remodel, Renovations, and Additions

- **Base Cost**

The Base Cost provided in the specific deficiency sheets is the direct cost of construction, exclusive of overhead and profit, mark-ups, area cost factors and contingencies. Material costs for the project are all calculated FOB Anchorage and labor rates are based on Davis Bacon wages, regionally adjusted to Anchorage. Most of the deficiency items do not constitute projects of sufficient size to obtain efficiency of scale. The estimate assumes that the projects are completed either individually, or combined with other similar projects of like scope. The numbers include moderate allowances for difficulties encountered in working in occupied spaces and are based on remodeling rather than on new construction costs. Transportation costs, freight, Per Diem and similar costs are included in the base costs. The General Requirements, Design Contingency and Area Cost Factors are multipliers of the base costs.

The cost of Additions to clinics is estimated at a unit cost higher than New clinics due to the complexities of tying into the existing structures.

Medical equipment is calculated at 17% of Base Cost for additions of new space only and is included as a line item in the estimate of base costs.

- **General Requirements Factor**

General Requirements Factor is based on Anchorage costs without area adjustment. The factor is 1.20. It is multiplied by the Base Cost to get the project cost, exclusive of planning, architecture, engineering and administrative costs. This factor assumes projects include multiple deficiencies, which are then consolidated into single projects for economies of scale. The general requirements factor has not been adjusted for Indian Preference.

- **Area Cost Factor**

The Area Cost Factor used in the cost estimates for this facility is shown in Section VI of this report. The area cost factors are taken from a recent study completed for the Denali Commission for statewide healthcare facilities. The numbers are the result of a matrix of cost variables including such items as air travel, local hire costs, room and board, freight, fire protection equipment, foundation requirements, and heating equipment as well as contractor costs such as mobilization, demobilization, overhead, profit, bonds and insurance. These parameters were reconsidered for each village, following the site visit, and were modified, if necessary.

- **Contingency for Design Unknowns (Estimating Contingency)**

The Design Unknowns Contingency is an estimator's contingency based on the schematic nature of the information provided, the lack of any real design, and the assumption that any project will encompass related work not specifically mentioned. The factor used is 1.15.

- **Estimated Total Cost**

This is the total estimated bid cost for work completed under Davis Bacon wage contracts, assuming construction before year-end 2001. This is the number that is entered in the front of the deficiency form. No inflation factor has been applied to this data.

- **Project Cost Factors**

Similar to new clinics, the following project factors have been included in Section VI of this report.

Design Services is included at 10% to cover professional services including engineering and design.

Construction Contingency is included at 10% of the Base Costs to cover changes encountered during construction.

Construction Administration has been included at 8% of the Base Costs. This is for monitoring and administration of the construction contract.

- **Estimated Total Project Cost of Remodel/Addition**

This is the total estimated cost of the project including design services, the construction contract cost for work completed under Davis Bacon wages and assuming construction before year-end 2001. No inflation factor has been applied to this data.

V. SUMMARY OF EXISTING CLINIC DEFICIENCIES

The attached table summarizes the deficiencies at the clinic and provides a cost estimate to accomplish the proposed modifications. If all deficiencies were to be addressed in a single construction project there would be cost savings that are not reflected in this tabulation. The total cost of remodel/addition shown in Section VI is intended to show an overall remodel cost that reflects this economy. Refer to Section VI for a comparison of remodel/addition costs to the cost of new construction. The specific deficiency sheets are included in Appendix A.

VI. NEW CLINIC ANALYSIS

The decision on whether to fund new clinic construction or a remodel/addition of the existing clinic is to be determined by comparing the cost of a new facility designed to meet the program requirements of the Alaska Rural Primary Care Facilities minimum area requirements with the projected combined cost of renovating, remodeling and adding onto the existing building to provide an equivalent facility. If the cost of the remodel/addition project is greater than 75% of the cost of constructing an altogether new facility then a new facility is recommended. That ratio is computed as follows:

- **The cost of a new clinic in Arctic Village is projected to be:**

Base Anchorage Cost per s.f.	\$183/ s.f.
Medical Equipment Costs @ 17%	\$31
Design Services 10%	\$18
Construction Contingency 10%	\$18
Construction Administration. 8%	\$15
Sub-total	\$265/ s.f.
Area Cost Factor for Arctic Village 1.66*	
Adjusted Cost per s.f.	\$439/ s.f.

Total Project Cost of NEW BUILDING 2,000 x \$439 = \$878,000

- **The cost of a Remodel/Renovation/Addition is projected to be:**

Projected cost of code/condition renovations (From the deficiency summary)	
90% of cost of code/condition improvement**	\$423,105 Renovation
Projected cost of remodeling work (See A08)	
1,310 s.f. clinic @ 15% remodel = 200 s.f.	\$185,425 Remodel
Projected cost of building addition (See A07)	
2,000 s.f. – 1,310 s.f. = 690 s.f.	\$342,952 Addition
<u>Design 10%, Const. Contingency 10%, Const. Admin. 8%</u>	<u>\$266,415</u>

Total Project Cost of REMODEL ADDITION \$1,217,897

- **Ratio of remodel:new is \$1,217,897 : \$878,000 = 1.39X**

The cost of a remodel/addition for this clinic would cost 139% the cost of a new clinic, therefore, a new clinic is recommended for this community.

* The Area Cost Factor was refined by Estimations, Inc. in July 2001 based on information obtained during the site visit.

** The 90% factor represents economy of scale by completing all renovation work in the same project.

Appendix A: SPECIFIC DEFICIENCIES LISTING

Refer to the attached sheets for the listing of the individual deficiencies and the corrective action recommended.

Appendix B: GENERAL SITE PHOTOGRAPHS

The following sheets provide additional photographic documentation of the existing building and surroundings.

Appendix C: ADCED Community Profile

Refer to the attached document prepared by Alaska Department of Community and Economic Development profiling the community of Arctic Village.

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