

# KOYUKUK HEALTH CLINIC



## ALASKA RURAL PRIMARY CARE FACILITY ASSESSMENT AND INVENTORY SURVEY REPORT

FEBRUARY 26, 2002



Tanana Chiefs  
Conference, Inc

## Table of Contents

<b>1. EXECUTIVE SUMMARY</b>	<b>1</b>
A. OVERVIEW	1
B. RENOVATION/UPGRADE AND ADDITION	2
C. NEW CLINIC	2
<b>2. GENERAL INFORMATION</b>	<b>3</b>
A. PURPOSE OF REPORT AND ASSESSMENT PROCESS	3
B. ASSESSMENT TEAM	3
C. REPORT FORMAT	3
D. SITE INVESTIGATION	3
<b>3. CLINIC INSPECTION SUMMARY</b>	<b>5</b>
A. COMMUNITY INFORMATION	5
B. GENERAL CLINIC INFORMATION	6
1) Physical Plant Information	6
C. PROGRAM DEFICIENCY NARRATIVE	7
1) Space Requirements and Deficiencies	7
2) Building Issues	8
3) Functional Design Issues	8
4) Health Program Issues	8
5) Utilities	9
D. ARCHITECTURAL / STRUCTURAL CONDITION	9
1) Building Construction	9
2) Interior Construction	9
3) Structural	10
E. MECHANICAL CONDITION	10
1) Heating System	10
2) Ventilation System	10
3) Plumbing System	10
F. ELECTRICAL CONDITION	11
1) Electrical Service	11
2) Power Distribution	11
3) Grounding System	11
4) Exterior Elements	11
5) Electrical devices and lighting	12

6) Emergency System _____	12
7) Fire Alarm System _____	12
8) Telecommunication _____	12
G. CIVIL / UTILITY CONDITION _____	12
1) Location of Building _____	12
2) Site Issues _____	13
3) Proximity of Adjacent Buildings _____	13
4) Utilities _____	13
H. EXISTING FACILITY FLOOR PLAN (SITE PLAN IF AVAILABLE: _____	13
<b>4. DEFICIENCY EVALUATION _____</b>	<b>14</b>
A. DEFICIENCY CODES: _____	14
B. PHOTOGRAPHS _____	16
C. COST ESTIMATE GENERAL PROVISIONS _____	16
1) New Clinic Construction _____	16
2) Remodel, Renovations, and Additions _____	17
<b>5. SUMMARY OF EXISTING CLINIC DEFICIENCIES _____</b>	<b>19</b>
<b>6. NEW CLINIC ANALYSIS _____</b>	<b>20</b>
<b>7. CONCLUSIONS AND RECOMMENDATIONS _____</b>	<b>22</b>

**Appendix A: Specific Deficiencies Listings**  
**Appendix B: Reference Photographs**

## 1. EXECUTIVE SUMMARY

### A. OVERVIEW

The purpose of this report is to document rural community health program clinic needs. Those needs have been assessed from several perspectives. This is the second stage of the planning and implementation process for improving the quality of rural primary care through capital improvements to community clinics.

The first stage was development of the "Alaska Rural Primary Care Facility Needs Assessment" dated 10/23/2000. The purpose in part of this effort was to establish base lines for the planning and implementation to follow. This second stage is to document rural community health clinic needs and conditions from several perspectives as follows:

- 1) A spatial assessment involving spaces (as-built floor plan) for comparison with pre-established Alaska Rural Primary Care Facility (ARPCF) space basis, as set forth in the ARPCF needs assessment dated 10/23/2000.
- 2) A code and condition survey of the existing facility
- 3) Identification of a site for a new facility (if applicable/decided) and the status of services to that site (road, electricity, water, sewer, etc.).
- 4) Documentation of functional inputs as communicated by local people or observed by the assessment team (Note: functional planning was a component of the needs assessment in the stage 1).
- 5) Development of options to facilitate programmatic and technical needs and deficiencies,
- 6) Costing of those options and
- 7) Recommendations as to the option or options that best address the clinic need and deficiencies<sup>1</sup>.

ARPCF clinic basis were standards established in stage 1 based on population. They translate into three clinic sizes as follows:

#### Small Clinic

Population	20-100
Space Standard	1,535 gsf (heated)

#### Medium Clinic

Population	101-500
Space Standard	1,989 gsf (heated)

#### Large Clinic

Population	501+
Space Standard	2,459 gsf (heated) <sup>2</sup>

<sup>1</sup> There are only four options available in any rural community as follows: 1) New Facility, 2) Existing Facility renovations and or additions, 3) limited scope renovations and/or additions – driven by committed funding from either capital or operating perspectives (this option is not costable without scope or funding definition), 4) status quo (no change) (note: any of these options can apply to combined facilities existing or envisioned.)

<sup>2</sup> The intent of the code and condition survey is to identify and cost deficiencies inclusive of spatial deficiencies. The accumulation of those costs is then intended to be compared to the cost of a new clinic. If the costs of renovations and additions exceed 75% of new construction then a new clinic option is considered viable.

Koyukuk has a population of 101 (2000 Census). ARPCF guidelines would put this in the medium clinic size with a gross square footage of 1,989 gsf. The existing clinic is 988 gsf. This is a spatial deficiency of 1,001 gsf. The existing facility is a composite facility. It shares the facility with the community library. The overall gross square footage of the facility is 1,456 gsf. This means if the library were to be relocated that the entire square footage of the facility would still be short by 533 gsf. The existing facility is a typical wood frame building, which does not appear to have had architectural or engineering input. An example of this is that the exterior foundation is treated piling. It appears that they attempted to span the floor the full twenty-eight feet and later had to come in and add center support, which is a beam on post and pad support system.

Contextual issues and perspectives are as follows:

In meetings with Cecelia Grant, Health Aide and Mayor, she indicated that the community had an interest in a composite facility and that the current clinic's location is good. They viewed the same site, i.e. to the back and/or to the side of the existing clinic as an option for the purposes of this report and to establish a renovation/addition options, we've chosen to develop an option of displacing the library and expanding the existing facility. Regarding a new site, a new clinic could be built behind the old clinic and the old clinic/library building could be relocated.

Other important issues are whether the community needs a small clinic or a medium clinic, a number of communities are at that breakpoint of 100 or 101 in population, which is right on the line between small and medium clinic. This report is addressing a medium clinic, however the community might want to address small community standards also. A small clinic program could possibly fit within the existing facility if the library were relocated.

## **B. RENOVATION/UPGRADE AND ADDITION**

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This option is as previously discussed under A Overview. Its probable impacts are diagramed in drawing A4 that is an overlay of ARPCF spaces onto the existing floor plan. The existing Koyukuk clinic has a spatial deficiency of 1,001 gsf. It is constructed to residential standards and may or may not have foundation problems. However, the facility does have value for renovations and additions. Therefore, a plan has been prepared to show how the clinic could expand, utilizing this facility should the library be relocated. Based on an economic comparison only, a new clinic would be less expensive than renovation and upgrade of the existing clinic.

## **C. NEW CLINIC**

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This option is as cost summarized in Section A Overview. It is based on ARPCF space standards set in Stage I of this planning process and as costed under section 6 new clinic analysis of this report for a medium size clinic. Based solely on economic criteria, a new clinic is recommended over renovation and upgrade of the existing facility.

## 2. GENERAL INFORMATION

### A. PURPOSE OF REPORT AND ASSESSMENT PROCESS

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 assessment, planning, design, and construction. Over 200 clinics will be inspected through the course of the program. 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 between the communities of Alaska for funding assistance for the construction of new or remodeled clinic facilities. 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 3 and 4. The information gathered will be tabulated and analyzed according to an asset of fixed criteria that should yield a priority list for funding. Additionally, the relative costs of new construction vs. remodel/addition will be evaluated to determine the most efficient means to bring the clinics up to a uniform standard of program and construction quality.

A team of professional Architects and Engineers traveled to the site and completed a detailed Field Report that was revised by all parties. Subsequently, the team completed a draft and then final report of the facility condition.

### B. ASSESSMENT TEAM

The survey was conducted on November 8, 2001 by Robert F. Bezek, Architect, Bezek Durst Seiser, Inc., Charlie Chien M.E. PDC, Inc., Dan Williams from ANTHC, Charlie Woodlee and Teresa Gallagher with Tanana Chiefs Conference, Inc. Cecilia Grant the Health Aide and Mayor was the village contact. ANTHC made introductions and conducted village briefings to ensure a complete understanding of the inspection process. Team members who assisted in the preparation of report from information gathered included members of the field team above and Robert Bezek, Bezek Durst Seiser, Inc., and Charlie Chien M.E. PDC, Inc.

### C. REPORT FORMAT

The format adopted is a modified "Deep Look" format, a facilities 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 building code compliance, general facility condition, and spatial deficiencies. The written report includes these evaluations, in addition to sketches of building construction details and identification of potential sites (where available) for a new clinic. This information is available for viewing at ANTHC's Anchorage offices and will be held for reference.

### D. SITE INVESTIGATION

On November 6, 2001, the team flew to the site and made observations, took photos, and discussed the needs with on-site personnel for the facility. Approximately three and half hours were spent on site, with

sufficient time to investigate general foundations, structure, condition, mechanical and electrical systems, and to interview the staff.

Interviews were conducted with Cecelia Grant, Health Aide/Mayor. She provided information on the potential of using the same site for a new facility. ANTHC representatives explained the Denali Commission Alaska Primary Care Facility Assessment and Inventory Survey and Process to her.

### 3. CLINIC INSPECTION SUMMARY

#### A. COMMUNITY INFORMATION

##### Population:

- ◆ 101 (2000 Census)
- ◆ 2<sup>nd</sup> Class City, Unorganized Borough, Yukon/Koyukuk School District, Doyon Limited

**Location:** Koyukuk is located on the Yukon River near the mouth of the Koyukuk River, 30 miles west of Galena and 290 air miles west of Fairbanks. It lies adjacent to the Koyukuk National Wildlife Refuge and the Innoko National Wildlife Refuge. It lies at approximately 64d 53m N Latitude, 157d 42m W Longitude. (Sec. 17, T007S, R006E, Kateel River Meridian.) Koyukuk is located in the Nulato Recording District. The area encompasses 6.2 sq. miles of land and 0 sq. miles of water.

**History:** The Koyukon Athabascans traditionally had spring, summer, fall, and winter camps, and moved as the wild game migrated. There were 12 summer fish camps located on the Yukon River between the Koyukuk River and the Nowitna River. Friendships and trading between the Koyukon and Inupiat Eskimos of the Kobuk area has occurred for generations. A Russian trading post was established at nearby Nulato in 1838. A smallpox epidemic, the first of several major epidemics, struck the Koyukon in 1839. A military telegraph line was constructed along the north side of the Yukon around 1867, and Koyukuk became the site of a telegraph station. A trading post opened around 1880, just before the gold rush of 1884-85. The population of Koyukuk at this time was approximately 150. Missionary activity was intense along the Yukon, and a Roman Catholic Mission and school opened downriver in Nulato in 1887. A post office operated from 1898 to 1900. Steamboats on the Yukon, which supplied gold prospectors, peaked in 1900 with 46 boats in operation. A measles epidemic and food shortages during 1900 tragically reduced the Native population by one-third. Gold seekers left the Yukon after 1906, but other mining activity, such as the Galena lead mines, began operating in 1919. The first school was constructed in 1939. After the school was built, families began to live at Koyukuk year-round. The City was incorporated in 1973.

**Culture:** Residents are primarily Koyukon Athabascans with a subsistence lifestyle.

**Economy:** There are few full-time jobs in the community; the city, clinic, school and store provide the only year-round employment. BLM fire fighting, construction work, and other seasonal jobs often conflict with subsistence opportunities. Two residents hold commercial fishing permits. Trapping and beadwork supplement incomes. Subsistence foods include salmon, whitefish, moose, waterfowl and berries.

**Facilities:** The City delivers treated well water from the washeteria and hauls honeybuckets. Households are not plumbed. The school and washeteria use City water, with sewage disposal into a lagoon. A Master Plan is underway, and preliminary work has begun to upgrade the community to a flush/haul system. A new landfill and access road are under development.

**Transportation:** The State-owned 3,000' lighted gravel runway provides year-round transportation. The river is heavily traveled when ice-free, from mid-May through mid-October. Cargo is delivered by barge about four times each summer. Numerous local trails and winter trails to Chance and Nulato are used by residents. Snow machines, ATVs and riverboats are used for local transportation.

**Climate:** The area experiences a cold, continental climate with extreme temperature differences. The average daily high temperature during July is in the low 70s; the average daily low temperature during January ranges from 10 to below zero. Sustained temperatures of -40 degrees are common during winter. Extreme temperatures have been measured from -64 to 92. Annual precipitation is 13 inches, with 60 inches of snowfall annually. The River is ice-free from mid-May through mid-October.

## **B. GENERAL CLINIC INFORMATION**

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### **1) Physical Plant Information**

The existing Koyukuk Clinic occupies 998 gsf of a composite facility along with a community library. The Alaska community database gives the date of construction as 1983. This is 1,001 gsf facility short of the 1,989 gsf that defines the medium size clinic under the Alaska Primary Care Facility Program. We were not able to ascertain what the floor system is framed with, but it did appear to be framed for the twenty-eight foot span from two piling-supported exterior wall lines. That framing system must have had some problems because now there is a center support system which is a beam on post and pads that has been run down the middle of that span this looks like an afterthought based on the different type of foundation system as opposed to the piling on the perimeter of the building. Aside from that foundation issue and the need to have it structurally examined further, it is a basic wood frame structure that could be renovated and added on to. The health clinic area itself weighed against Alaska Primary Care Facility Standards and/or ADA standards or other building code issues has some problem areas. Clearances at the entry door do not meet ADA Standards. The bathroom is not designed to ADA Standards. It is too small, as can be seen on the floor plan; it is a very congested bathroom. The exam or trauma room is too small. The corridor width is narrow. There is inadequate storage. There are no arctic entries. Door sizes are too small. There is no ADA accessibility to the entries. There is no ramp. The stairs do not comply with ADA standards.

**C. PROGRAM DEFICIENCY NARRATIVE**

**1) Space Requirements and Deficiencies**

**SPACE COMPARISON MATRIX**  
**Current Koyukuk Actual SF to Denali Commission Medium Clinic**

Alaska Rural Primary Care Facility

Purpose / Activity	Designated Itinerant			Current Clinic			Medium Clinic			Difference		
	Size	No.	Net Area (SF)	Actual Net S.F.			ARPCF SF			Difference		
				Size	No.	Net Area (SF)	Size	No.	Net Area (SF)	Size	No.	Net Area (SF)
Arctic Entries				0	0	0	50	2	100			-100
Waiting/Recep/Closet				199	1	199	150	1	150			49
Trauma/Telemed/Exam				147	1	147	200	1	200			-53
Office/Exam				120	1	120	150	1	150			-30
Admin./Records				124	1	124	110	1	110			14
Pharmacy/Lab				148	1	148	80	1	80			68
Portable X-ray									0			0
Specialty Clinic/Health Ed/Conf.							0	150	1	150		-150
Patient Holding/Sleeping Room							0	80	1	80		-80
Storage				26	1	26	100	1	100			-74
HC Toilet				37	1	37	60	2	120			-83
Janitor's Closet				40	1	40	30	1	30			10
							0		0			0
							0		0			0
Subtotal Net Area				841		841			1270			-429
Circulation & Net/Gross Conv. @45% (Circ + Ext Walls)				54+92	1	146			572			-426
Subtotal (GSF)						987			1842			-855
Mechanical Space @ 8%				0	0	0			147			-147
Total Heated Space						987			1989			-1002

- a. Overall Space Deficiencies: The size of the facility is about 1,001 gsf short of the ARPCF space requirements for a medium-sized clinic.

- b. Specific Room Deficiencies: The exam/trauma room is too small. The toilet room is too small and not ADA compliant. There is a lack of storage space. There are no arctic entries. There's no designated pharmacy/lab. There is no itinerant space and there is no specialty clinic space.
- c. Other Size Issues: There is no mechanical room. There is no ventilation.

## 2) Building Issues

- a. Arctic Entries: There are none.
- b. Waiting / Reception: The waiting/reception area is chopped up with circulation to the bathroom, the hallway, the exam room, and from the front entrance door. There is very little useful space in the waiting/reception area.
- c. Exam / Trauma: This room is very small. It has a 2 x 6 door. It does not come close to the ARPCF standards.
- d. Office / Administration / Records: This space is adequate per the standards.
- e. Pharmacy / Lab: This activity is housed in a sort of second exam room. There is no designated specific space for this activity
- f. Specialty Clinic / Health Education / Conference: There is no space for this function.
- g. Patient Holding / Sleeping Room: No designated space for this function.
- h. Storage: There is only a small closet of 26 gs.
- i. HC Toilet Facilities: There are none.
- j. Janitors Room: There is an adequate janitors room, which is also used for other functions.
- k. Mechanical/Boiler Room: There is none.
- l. Ancillary Rooms: There are none.

## 3) Functional Design Issues

This facility serves the community well, but is substantially under programmed based on Alaska Primary Care Facility Standards for a medium-sized clinic. See previous discussion for specific spatial deficiencies.

## 4) Health Program Issues

- a. Patient comfort and privacy: Aside from temperature control, the way out of the facility appeared to satisfy patient comfort and privacy issues.
- b. Medical/Infectious Waste: Medical and infectious wastes are shipped out.
- c. Infection Control: No reported issues.
- d. Insect and Rodent Control: No reported issues.

- e. Housekeeping: Seems to be satisfactory. There is a good-sized janitors room.

## 5) Utilities

- a. Water Supply: Hauled in by ATV.
- b. Sewage Disposal: Hauled out by ATV.
- c. Electricity: Community.
- d. Telephone: Overhead lines.
- e. Fuel Oil: Yes.

## D. ARCHITECTURAL / STRUCTURAL CONDITION

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### 1) Building Construction

- a. Floor Construction: It is assumed based on dimensional information from the soffit of this elevated building to the floor level that there are deep trusses spanning the twenty-eight feet width of this building. It was also observed that a different footing system was placed down the center of that span suggesting that the design of the original floor system was too weak and needed additional support. Therefore, we assume the floor system is, starting at the bottom: plywood soffit, some kind of truss system, insulation, plywood sheathing, plywood underlayment, and floor finish.
- b. Exterior Wall Construction: Appears to be 2 X 6 construction at either 16 or 24 inches on center. The sheathing is unknown. The siding is T111. The interior finish is gypsum board painted. The assumed R value is R-19. A vapor barrier is assumed.
- c. Roof Construction: The roof is constructed of trusses at 24 inches on center with plywood sheathing on the top, painted gypsum board on bottom, and vapor barrier and insulation between the trusses. Roofing is metal. The assumed insulating value is R-38.
- d. Exterior Doors: Metal with wood frame with trim.
- e. Exterior Windows: Wood awning windows with insulating glass.
- f. Exterior Decks, Stairs, and Ramps: Wood frame construction that does not meet disability standards. There is no ramp.

### 2) Interior Construction

- a. Flooring: There is a combination of sheet vinyl and vinyl tile over an assumed underlayment over sheathing over framing.
- b. Walls: Assumed to be 2 x 4 construction and have gypsum board painted on both sides.
- c. Ceilings: Gypsum board with paint. There is an assumed vapor barrier and insulation above.
- d. Interior doors: Hollow core wood with wood trim with residential Weiser-type hardware, no disability provisions.

- e. Casework: Upper and base cabinets are plastic laminant on particle board, some of the medical industry casework is metal.
- f. Furnishings: Mix of old and new furnishings.
- g. Insulation: Floor insulation assumed at R-38, wall at R-19, attic and roof at R-38. There is attic ventilation at the gable ends.
- h. Tightness of Construction: Facility seemed generally tight. There was no severe cracking. The foundation modifications down the center seem to be effective.
- i. Arctic Design: There are no arctic entries. However, the facility seemed reasonably tight and reasonably well insulated.

### 3) Structural

- a. Foundations: As previously discussed, the two outside bearing lines are supported on treated piling and there is a different post and pad-type foundation system that was added (assumed) down the middle of that span below the building.
- b. Walls and Roof: The roof is framed with trusses at 24 inches on center. The walls appear to be 2 x 6 construction of either 16 or 24-inch centers.
- c. Stairs, Landings, and Ramps: Stairs, landings, and ramps are wood framed. There is no ramp.

## E. MECHANICAL CONDITION

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### 1) Heating System

- a. Fuel Storage and Distribution: An above ground single wall 150-gallon capacity heating fuel oil storage tank installed on a wood stand serves the clinic building heating unit. The distance between the fuel tank and the building is less than the required distance of 5 feet.
- b. Heating Unit: A single Monitor heater in the waiting area serves the clinic portion of the building.

### 2) Ventilation System

- a. System: The building is not equipped with mechanical ventilation system. The code required ventilation requirement is satisfied by the fact that most spaces are equipped with operable windows.
- b. Exhaust Air: Local exhaust systems using small ceiling mounted exhaust fans are installed in the Restroom.

### 3) Plumbing System

- a. Water System: The building is served by piped water distribution system at the building. The Co-Water type system water supply system includes a local storage tank and pressure booster system. The system appears to be in good condition.
- b. Sewer System: The building sanitary waste system discharge to a Co-Water type storage tank outside the building. The system appears to be in good condition.

- c. Fixtures: The fixtures observed at this building are in good condition but the restroom and exam room fixtures do not conform to acceptable American Disability Act access and general patient care requirements.

## **F. ELECTRICAL CONDITION**

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### **1) Electrical Service**

- a. The electrical service for this clinic is a 100 amp 120/240 volt AC single phase three wire system with a meter/disconnect located near the eve of the building on the back side the service equipment is detached from the building. Service equipment must be accessible and attached to the structure per NEC requirements.
- b. The overhead service drop conductors are routed to the meter/disconnect above the roof through an unsupported mast. The mast has been pulled and apparently levered the service equipment off the wall. It is recommended to guy the mast to prevent undue stress on the equipment and conductors.
- c. The clearance above the roof for the service drop conductors appears adequate.

### **2) Power Distribution**

- a. The feeder to the Main Distribution Panel (MDP) consists of three # 4 copper conductors and is undersized for a 100 amp feeder per National Electric Code (NEC) 310-15 and Table 310-16.
- b. The Clinic MDP is a 24 circuit Bryant panelboard the MDP currently has 7 spare breaker spaces.
- c. Branch circuit neutrals and grounds are connected to the neutral bus in the MDP, which is a violation of NEC 250-142b
- d. The feeder conduit is not mechanically or electrically secured to the MDP in violation of NEC 370-17b and 300-10.
- e. The feeder does not contain a grounding conductor and must rely on the conduit for grounding between the MDP and service equipment.

### **3) Grounding System**

- a. The electrical service does not appear to have a grounding electrode system. Electrical services are required to be bonded to a grounding electrode system with a maximum resistance of 25 ohms.
- b. Interior metal piping of other mechanical systems is required to be bonded to the electrical service per NEC 250-104

### **4) Exterior Elements**

- a. The clinic does not have exterior general use receptacles. The lack of exterior receptacles usually forces extension cords to be plugged in inside the building and routed through doorways, which is a violation of NEC Article 400.

- b. It is recommended to install individual branch circuits and GFCI protected receptacles for automotive block heaters, commonly known as head bolt heaters.
- c. Exterior lighting is provided by light fixtures mounted to the ceiling above the entries to the clinic.

#### 5) Electrical devices and lighting

- a. Duplex receptacles are the grounding type.
- b. The total number of receptacles does not appear sufficient for the equipment and loads in place in the clinic.
- c. Lighting fixtures throughout the clinic are predominantly 4' surface mounted fluorescent fixtures with wrap around lenses and appear to be in good condition.
- d. The wiring in the clinic is primarily non-metallic sheathed cable (NM). Health Care Facilities are required to have all receptacles and fixed electric equipment, in patient care areas, supplied by circuits in grounded metal raceways with an insulated grounding conductor.

#### 6) Emergency System

- a. Non-lighted exit sign are currently installed. Where exit lighting is required by building code, the exit lighting shall be powered and provide minimum foot candle levels, per IBC Section 1003. Branch circuits for exit lighting shall comply with NEC 700-12.
- b. Emergency lighting fixtures are not operational. Where, emergency egress lighting is required by building code, the fixtures shall be powered and provide minimum foot candle (fc) levels, per the International Building Code (IBC) Section 1003. Branch circuit wiring for emergency lighting shall comply with NEC 700-12.

#### 7) Fire Alarm System

- a. A single residential type smoke detector was observed in the clinic, located in the waiting room. Fire alarm systems, where required by building codes must comply with the provisions of NFPA 72 (National Fire Alarm Code), NEC article 725 and the IBC Section 907.

#### 8) Telecommunication

- a. The Data Telecommunications system currently provides service to the telephone system and the "Telemed" remote diagnostic system.
- b. A wall mounted data cabinet is located on the wall above the filing cabinets in the office
- c. The number of data and telephone outlets is not sufficient for the clinic's current and future needs.

### G. CIVIL / UTILITY CONDITION

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#### 1) Location of Building

- a. Patient Access: Interviews with Cecilia indicated that patient access was good and fairly central to the community.

- b. Service Access: Similar to patient access.
- c. Other Considerations: This area does flood. They said the road in front of the facility had been covered in water in one of the last floods.

## 2) Site Issues

- a. Drainage: Aside from flooding, the drainage appears to work well.
- b. Snow: No problems with snow drifting were observed.

## 3) Proximity of Adjacent Buildings

- a. There appears to be sufficient space around the building and, particularly, behind the building to allow for expansions and additions.

## 4) Utilities

- a. Water Supply: Water is ATV'd to tank storage on site.
- b. Sewage Disposal: Sewage is ATV'd off site.
- c. Electricity: Community.
- d. Telephone: Overhead lines.

## H. EXISTING FACILITY FLOOR PLAN (SITE PLAN IF AVAILABLE:

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We have attached drawings, as we have been able to identify, find, or create as part of this report. We have endeavored to provide all drawings for all the sites; however, in some cases exact existing site plans were not available. We have provided as indicated below:

- A1 Site Plan
- A2 Existing Facility Floor Plan
- A3 Typical Wall Section
- A4 Addition to Existing Facility Floor Plan
- A5 Medium Clinic Floor Plan
- M1 Fuel Oil Diagram
- E1 Electrical One-Line Diagram
- E2 MDP Panel Schedule

## 4. DEFICIENCY EVALUATION

### A. DEFICIENCY CODES:

The deficiencies are categorized according to the following deficiency codes to allow the work to be prioritized for funding. The codes are as follows:

**01 Patient Care:** Based on assessment of the facilities ability to support the stated services that are required to be provided at the site. Items required for the patients social environment such as storage, privacy, sensitivity to age or developmental levels, clinical needs, public telephones and furnishings for patient privacy and comfort.

**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 life safety aspects of building codes including the Uniform Building Code, International Building Code, The Uniform Fire Code, NFPA 101, The Uniform Mechanical and Plumbing Codes and The National Electrical Code. Deficiencies could include inadequacies in fire barriers, smoke barriers, capacity and means of egress, door ratings, safe harbor, and fire protection equipment not covered in other deficiency codes.

**03 General Safety:** These deficiencies identify miscellaneous safety issues. These are items that are not necessarily code items but are conditions that are considered un-safe by common design and building practices. Corrective actions required from lack of established health care industry safety practices, and local governing body code safety requirements. I.e. Occupational Safety Health Administration (OSHA) codes & standards.

**04 Environmental Quality:** Deficiencies based on Federal, State and Local environmental laws and regulations and industry acceptable practices. For example this addresses DEC regulations, hazardous materials and general sanitation.

**05 Program Deficiencies:** These are deficiencies that show up as variations from space guidelines evaluated through industry practices and observation at the facility site and documented in the facility floor plans. These are items that are required for the delivery of medical services model currently accepted for rural Alaska. This may include space modification requirements, workflow pattern improvements, functional needs, modification or re-alignment of existing space or other items to meet the delivery of quality medical services. (Account for new space additions in DC 06 below)

**06 Unmet Supportable Space Needs:** These are items that are required to meet the program delivery of the clinic and may not be shown or delineated in the Alaska Primary Care Facility Space Guideline. Program modifications requiring additional supportable space directly related to an expanded program, personnel or

equipment shall be identified in this section; for example additional dental space, specialty clinic, storage, or program support space that requires additional space beyond the established program.

**07 Disability Access Deficiencies:** The items with this category listing are not in compliance with the Americans with Disabilities Act. This could include non-compliance with accessibility in parking, entrances, toilets, drinking fountains, elevators, telephones, fire alarm, egress and exit access ways, etc.

**08 Energy Management:** These deficiencies address the efficiency of lighting, heating systems/fuel types and the thermal enclosures of buildings, processes, and are required for energy conservation and good energy management.

**09 Plant Management:** This category is for items that are required for easy and cost efficient operational and facilities management and maintenance tasks of the physical plant.

**10 Architectural M&R:** Items affecting the architectural integrity of the facility, materials used, insulation, vapor retarder, attic and crawlspace ventilation, general condition of interiors, and prevention of deterioration of structure and systems.

**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, interior mechanical utilities, requiring maintenance due to normal wear and tear that would result in system failure.

**13 Electrical Deficiencies:** These are deficiencies with normal or emergency power, electrical generating and distribution systems, interior electrical and communications utilities, fire alarm systems, power systems and communications systems within a building that should be repaired or replaced on a recurring basis due to normal wear and tear that would otherwise result in system failure.

**14 Utilities M&R:** This category is used for site utilities for incoming services to facilities that are required for the building to be fully operational. Deficiencies may include sewer and water lines, water wells, water tanks, natural gas and propane storage, electric power and telecommunications distribution, etc.

**15 Grounds M&R:** Real property grounds components that should be replaced on a recurring basis due to normal wear and tear. Deficiencies with respect to trees, sod, soil erosion, lawn sprinklers, parking, bridges, pedestrian crossings, fences, sidewalks & roadways, and site illumination etc. are considerations.

**16 Painting M&R:** Any painting project that is large enough to require outside contractors or coordination with other programs.

**17 Roof M&R:** Deficiencies in roofing, and related systems including openings and drainage.

**18 Seismic Mitigation:** Deficiencies in seismic structural items or other related issues to seismic design, including material improperly anchored to withstand current seismic requirements effect. The elements under consideration should include the cost incidental to the structural work like architectural and finishes demolition and repairs.

## B. PHOTOGRAPHS

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We have provided photographs attached which are noted to describe the various deficiencies described in the narratives and itemized in the summary below. The photos do not cover all deficiencies and are intended to provide a visual reference to persons viewing the report who are not familiar with the facility.

We have included additional photos as Appendix B for general reference. These are intended to add additional information to the specific deficiencies listed and to provide general background information.

## C. COST ESTIMATE GENERAL PROVISIONS

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### 1) New Clinic Construction

- a. 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.
- b. 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.
- c. 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.
- d. 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.

## 2) Remodel, Renovations, and Additions

- a. 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.
- b. 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.
- c. 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.

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- d. 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.
- e. 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.
- f. 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.
- g. 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.

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## **5. SUMMARY OF EXISTING CLINIC DEFICIENCIES**

The attached sheets document the deficiencies; provide recommendations on how to make repairs or accommodate the needs and provide a cost estimate to accomplish the proposed modifications. The summary addresses individual deficiencies. If all deficiencies were to be addressed in a single construction project there would be cost efficiencies that are not reflected in this tabulation.

These sheets are reports from the Access Data Base of individual Deficiencies that are compiled on individual forms and attached for reference.

Refer to Section VI. New Clinic Analysis for a comparison of remodel/addition to new construction.

## 6. NEW CLINIC ANALYSIS

The analysis of whether a new clinic is required is based on the Denali Commission standard of evaluation that "New Construction is viable if the cost of Repair/Renovation and Addition exceeds 75% of the cost of New Construction".

We have therefore determined the cost of a New Clinic Construction to meet the Alaska Rural Primary Care Facility (ARPCF) Space Guidelines for a village of 101 people (2000 Census). We have also determined the cost of Repair/Renovation & Addition to the existing Clinic to meet the same ARPCF Space Guidelines.

A. The cost of a New Denali Commission 1,989 SF Medium Clinic in Koyukuk is projected to be:

▪ Base Anchorage Construction Cost per s.f.		\$183	
▪ Project Cost Factor:	@ 45%	\$ 82	
Medical Equipment	17%		
Construction Contingency	10%		
Design Fees	10%		
Construction Administration	8%		
▪ <u>Multiplier for Village</u>	<u>@ 1.279</u>	<u>\$ 74</u>	
Adjusted Cost per SF		\$339	
<hr/>			
<b>Projected Cost of a New Clinic:</b>	<b>1,989 s.f. x \$339</b>	<b>=</b>	<b>\$674,271</b>
(not inclusive of site development costs)			

B. The cost of the Repair/Renovation and Additions for the existing Clinic are projected to be:

▪ Code & Condition Repairs/Renovations		\$466,913.64	
Cost from Deficiency Summary			
▪ Remodel/Upgrade work (See Def. Code 01)			
100% of clinic 1,456 SF = 1,456 SF @ \$103/SF		\$150,489.14	
▪ Additional Space Required by ARPCF (See Def. Code 06)			
○ Base Anchorage Cost		\$226	
Medical Equipment		\$ 32	
Additional Costs –		\$ 98	
General Requirements	20%		
Estimation Contingency	15%		
○ <u>Multiplier for Village</u>	<u>@1.279</u>	<u>\$99</u>	
<u>Adjusted Cost per SF</u>		<u>\$455</u>	
Total Addition Cost of 533 SF @ \$455		\$242,365.15	

Projected Cost Factor	@28%	\$240,735.02	
Construction Contingency	10%		
Construction Administration	8%		
Design Fees	10%		

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**Total Cost of remodel/addition** **\$1,100,502.95**

C. Comparison of Existing Clinic Renovation /Addition versus New Clinic:

**Ratio of Renovation/Addition versus New Clinic is:**

$$\mathbf{\$1,100,503 / \$674,271 = 1.63 \times \text{cost of New Clinic}}$$

Based on Denali Commission standard of evaluation; the remodel/addition costs are more than 75% of the cost of new construction. A new clinic is recommended for this community.

D. Overall Project Cost Analysis:

The overall project cost analysis below incorporates land, multi-use, utility costs, and road access costs, and project management fees if any are associated with the project.

<b>Item</b>	<b>Quantity</b>	<b>Units</b>	<b>Unit Cost</b>	<b>Area Adjustment Factor</b>	<b>Total Cost</b>	<b>Allowable under "Small" Clinic Process (yes/no)</b>
Primary Care Clinic (Allowable)	1,989	SF	\$265.00	1.279	\$674,271	yes
Clinic (Non-allowable portion)	0	SF	\$265.64	1.279	\$0	no
Land	15,000	SF	\$2.00	1	\$30,000	yes
Multi-Use Facility Design Cost	0	LS	\$0.00	1	\$0	yes
Multi-Use Facility Construction Cost	0	LS	\$0.00	1	\$0	no
Utility Extension/Improvements	1	LS	\$15,000	1	\$15,000	yes
Road access & parking lot improvements	1	LS	\$5,000	1	<u>\$5,000</u>	yes
<b>Subtotal Project Cost</b>					<b>\$724,271</b>	
<b>Project Management Fees</b>					<u><b>Unknown</b></u>	
<b>Total Project Cost</b>					<b>Unknown</b>	

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## **7. CONCLUSIONS AND RECOMMENDATIONS**

The existing Koyukuk clinic has a spatial deficiency of 1,001 gsf. It is constructed to residential standards and may or may not have foundation problems. However, the facility does have value for renovations and additions. Therefore, a plan has been prepared to show how the clinic could expand, utilizing this facility should the library be relocated. This will provide a cost basis of comparison with a new clinic. It will be up to the community to determine 1) what the size (small or medium clinic it can support, 2) between renovation and expansion of a new facility and 3) if a new facility in combination with other community facility needs is the right answer for them.

## **Appendix A: Specific Deficiencies Listings**

The attached sheets represent the individual deficiencies identified for this project and the corrective action required to meet current codes and standards of construction. The deficiencies are further summarized in Section V. Summary of Existing Clinic Deficiencies.

**Appendix B: Reference Photographs**