ALASKA LEGISLATURE COMMITTEE FILES 1985-1986 8672

3853 SCRA SB 47

729

O&M Sewer Alternative 11 - Lagoon

Areas 1 and 2

TABLE 23

	Costs
Building heat (102 gallons x $1.20/gal)	$ 122
Electricity for compressor (12,600 KWH x $.09/KWH)	1,134
Labor (20-Hour Week x 50 weeks/year @ $15/hr)	15,000
(40-Hour Week x 2 weeks/year @ $15/hr)	1,200
Monitor (90 tanks @ 6/day = 15 days 15 days x 8 hrs/day @ $15/hr)	1,800
Tank pumping (1/2 home/year @ $200/home x 90)	9,000
Major repair (Assume one major repair per year with 3-man crew for one week: 50 hrs. x $20/hr x 3)	3,000
Materials	1,000
Equipment rental (50 hrs. @ $100/hr)	5,000
Pump replacement ($250 x 90 pumps ÷ 7 years)	3,214
ALTERNATIVE 11 TOTAL ANNUAL O&M COSTS	$ 40,470
Divided by 90 services x 12 months = $37.47 per month per household	

SUMMARY

WATER AND SEWER SYSTEM ALTERNATIVES
CAPITAL AND O & M COST ESTIMATES

TABLE 24

Alternative	Area(s)	Capital Cost	O&M Cost/Year
WATER:			
1*	1, 2 & 3	$ 2,033,000	$ 26,675
2	1, 2	1,349,000	22,180
3	1	739,000	15,885
4	1, 3	1,424,000	20,355
SEWER:			
5*	1	1,129,000	18,991
6	1, 2 & 3	3,314,000	52,422
7	1, 2 & 3	2,417,000	46,516
8	1	1,200,000	31,703
9	1, 2	1,505,000	36,374
10	1	2,402,000	35,410
11	1, 2	2,402,000	40,470

*Recommended Alternatives.

VII. ADDENDUM

References

1. Flood Plain Information
   Talkeetna River - Susitna River - Chulitna River
   Talkeetna, Alaska
   Dept. of the Army, Alaska District, Corps of Engineers
   Anchorage, Alaska June 1982

2. Matanuska-Susitna Borough
   Population Projections and Growth Potential

3. FY's LEGISLATIVE TRANSPORTATION PROJECTS

4. Talkeetna Materials Investigation
   January 1980 DOT/PF, Division of Aviation

5. Household Survey Report, Talkeetna
   February 1984 DOC #1109
   Alaska Power Authority, Project #7114
   Frank Orth & Associates, Inc.

6. Business Survey Report, Talkeetna
   February 1984
   Alaska Power Authority
   Frank Orth & Associates, Inc.

7. Alaska Regional Profiles

STATE OF ALASKA

BILL SHEFFIELD, GOVERNOR

DEPT. OF ENVIRONMENTAL CONSERVATION

Telephone: (907) 274-2533
Address: 437 E Street
Suite 200
Anchorage, AK
99501

Dear Resident:

In December 1983, a meeting was held between residents of Talkeetna, the Department of Environmental Conservation (DEC), and the representatives of the Mat-Su Borough. The reason for this meeting was the mutual concern over water and wastewater conditions in Talkeetna. As a result of that meeting the Mat-Su Borough made available $40,000 to fund a feasibility study. The Village Safe Water section of DEC was asked to conduct this study. Wells and waste disposal systems are located close together and some wells have become contaminated. There is concern that in the future more wells could be contaminated. State Wastewater Regulations state that the minimum lot size is 40,000 square feet for on-site water and sewer. Minimum separation distances for a well and soil absorption system is 100 feet. Because lot sizes in Talkeetna are small most cannot meet these requirements.

On March 1st a second meeting was held between Village Safe Water and the residents of Talkeetna. At that meeting it was decided there should be a consensus of the whole community, not just those present, that a water and sewer feasibility study is needed. It was decided that the way this concensus would be reached would be with a questionnaire distributed to residents in the affected area.

On March 15th, a third meeting was held to review and approve the questionnaire.

You are being asked to answer questions concerning your own water and wastewater facilities and those in the community as a whole. You are also being asked to decide whether or not a feasibility study needs to be done. If you decide yes, a study will be done to outline possible problems and develop alternative solutions. Capital cost and operation and maintenance cost estimates for each alternative will be developed. If a majority answer no, then the feasibility study process will stop here.

If you have any questions please call me at 274-2533.

Sincerely,

Tom Coolidge

Tom Coolidge, P.E.
Village Safe Water

TC/jfr

TALKEETNA PUBLIC SURVEY
Summary of Results

1. Name: 56 responses

2. Are you a resident and/or land owner in the area outlined in map A/B? (mark location on map).

3. If yes, what block and lot number(s) and subdivision?

4. Do you have a well in use on your lot? Yes 45 No 9

5. If yes, how deep is it? 14-115', Average 27'

6. How do you dispose of wastewater/sewage?

8-seepage pit 7-outhouse 3-no facilities
34-septic system 11-other

7. Have you ever had problems with it? Yes 10 No 41

8. What kind? Poor perculation.

9. Do you feel you have a problem with potable water?

Yes-17 No-30 1-Uncertain

If yes, what do you feel the problem is if known. Shallow wells located too close to waste disposal site.

10. How far is your well from the closest waste disposal area?

Greater than 100'-27 Less than 100'-11
Don't know-4

11. Do you get water from any other source in Talkeetna?

Yes-9 No-__ Where? various, Union 76

12. About how much water do you haul each time and how often?

_____

13. Do you feel that Talkeetna has a problem with potable water?

Yes-47 No-3 2-Don't know

If yes, what do you feel the problem is?
High water table-downtown area-shallow wells

14. What area of town has the problem?_____

15. Do you feel that Talkeetna has a problem with sewage disposal?

Yes-41 No-5 3-Don't know

If yes, what do you feel the problem is? 3-Don't know, small lots, poor drainage, shallow wells.

16. What area of town?_____

17. Do you support a water and sewer feasibility study that would investigate the possible problems in Talkeetna, and would propose alternative solutions to those problems along with capital cost and operation and maintenance costs?

Yes-43 No-8 5-No Answer

GROUNDWATER ELEVATION DATA

Well No.	Description	Elevation	Water Elevation	Ground Elevation	Difference
1	Block 3, Lot 7 Talkeetna Townsite Top of 6.5" steel cap	342.122 -7.9'	334.222	340.872	6.65
2	Govt. Lot 32 T26N, R5W, Sec. 25 Top of 7" cap	346.114 -13.6'	332.514	343.414	10.9
3	Block 25, Lot A-14 Talkeetna Townsite Top of 6.5" steel cap	342.615 -12.6'	330.015	339.615	9.6
4	Block 1, Lot 11 Denali Subdivision Top of 6.5" steel casing	350.209 -9.0'	341.209	348.293	7.08
5	Govt. Lot 6 T26N, R5W, Sec. 25 Top of 6.5" casing	344.121 -8.7'	335.421	342.621	7.2
6	Block 3, Lot 4 Talkeetna Heights Top of 6.5" steel cap	354.145 -9.7'	344.445	351.978	7.53
7	Block 12, Lot 8 Talkeetna Townsite Top of 6.5" steel cap	343.950 -9.5'	334.450	341.200	6.75

SUMMARY

WATER SAMPLE ANALYTICAL REPORT
TALKEETNA

Sample No.*	pH	Nitrate-N	Phosphorous	Sulfate	TFR	Cloride	Conductivity
1	7.1	0.57	<0.021	4.5	57	4.0	110
2	7.4	0.37	0.032	5.9	82	6.9	140
3	7.7	0.46	0.017	5.2	85	6.9	130
4	7.3	0.35	0.018	5.9	86	8.9	140
5	7.1	0.58	<0.01	4.4	74	8.9	130
6	7.0	1.0	<0.01	5.4	86	9.9	140
7	7.1	1.1	0.02	5.6	54	1.0	140
8	7.2	0.6	0.037	4.7	92	3.0	140
9	7.5	0.42	<0.01	4.8	100	7.9	120
10	7.3	0.46	0.029	4.5	74	8.9	130
11	7.1	<0.10	0.054	1.3	81	1.0	120
12	7.5	<0.10	0.037	<1.0	72	1.0	120
13	7.4	<0.10	0.040	1.8	103	1.0	140
14	7.9	<0.10	0.053	4.6	84	1.0	130
15	7.2	0.36	0.04	3.1	86	1.0	120
16	7.2	1.6	<0.01	7.7	98	11.0	140
17	7.4	0.92	0.105	5.8	85	11.0	140
18	7.5	0.40	0.100	4.6	89	7.9	140
19	7.5	0.40	0.07	5.0	95	7.9	120
20	7.4	0.26	0.079	3.6	80	4.0	110
21	7.3	0.13	0.035	1.5	77	2.0	110
22	7.3	<0.10	0.033	<1.0	116	1.0	160
23	7.6	0.43	0.032	4.8	32	7.9	120

*Exact locations of sample sites are available from Village Safe Water, 437 "E" Street, Anchorage, Alaska 99501.

SUMMARY

DRINKING WATER ANALYSES
TOTAL COLIFORM BACTERIA

Fermentation Tube
Untreated Water

Sample No.*	Result
1	0
2	0
3	0
4	0
5	0
6	0
7	0
8	0
9	0
10	0
11	0
12	0
13	0
14	0
15	0

*Exact locations of sample sites are available from Village Safe Water, 437 "E" Street, Anchorage, Alaska 99501.

TALKEETNA COMMUNITY MEETING

ATTENDANCE SHEET

March 1, 1984

Tom Coolidge
Jim Kellard
Susan Kellard
Deloris Scott
Waymon West
John Carlson
Phillip Wellona
Kathy Krompacky
Norm Solberg
Ron Garrett
Tom Sisul
Verner J. Ranchauskin
Wayne Holley
Jim Okonek
Tom Scanlon
Rose Jenne
Patsy Krompacky
Verna Thompson
Arthur Mannic
Richard Derrickson
Kercy Trump

AD HOC COMMITTEE MEETING

July 31, 1984

Rose Jenne
Tom Scanlon
Verner Ranchauskin
Mac Stevens
Margaret Melnick
Mr. Clark

Wayne Holley
Committee for Safe Water
P.O.Box 388
Talkeetna, Alaska 99676

August 9, 1984

Tom Coolidge
Department of Environmental Conservation
Village Safe Water Division
437 E Street, Suite 200
Anchorage, Alaska

Mr. Coolidge:

Our committee has reviewed your report on the study of the possible water supply and waste disposal problems in Talkeetna. We agree with your findings and are ready to begin the task of implementing your recommendations.

Committee for Safe Water

George W Holley

Wayne Holley

Statement of Support
for Creation of
TALKEETNA WATER AND SEWER SERVICE AREA

Good evening Madame Mayor, Mr. Thurlow, Assembly Members, and Visitors. Tonight I represent those 137 residents of the Talkeetna area who signed a recent petition requesting that you place on the October General Election Ballot the question of whether to establish a water and sewer service area in Talkeetna.

There are several reasons for this request. One of these reasons is that many of the existing septic systems are only marginally dependable because;

1) the soil in much of the area is saturated with silt and sludge resulting from many years of on-site waste disposal in a crowded area, and

2) the water table ranges from a shallow few feet up to nearly zero in wet seasons.

Either of these situations can render a septic system useless and when they occur together there is a doubly serious problem.

A second reason for the request results from the growth of Talkeetna in the past few years and its <u>expected</u> growth which is tied to both the growth of the borough as a whole and the large capital projects which are anticipated for the Susitna Valley area. This growth results in requests for new septic system permits for both residential and business use. However, the conditions of the area mean that most of those permits must be refused and thus our growth is stunted.

Of course, the problems cited earlier are small when compared with the potential health problem. During wet seasons many septic systems have the potential for releasing improperly treated waste products into and onto the ground. This has happened in some areas requiring that all water from wells in those areas be boiled before use. There is a growing potential for this to occur more frequently and in other areas.

All of the reasons mentioned earlier bear upon one problem which looms over the entire community. Both the State of Alaska and you, the Borough, have recognized tourism as our single most valuable renewable resource. If exploited intelligently it is an inexhaustible and non-destructive source of revenue for the Talkeetna area and for the Borough as a whole. And yet, we are severely restricted in our attempts to attract this resource.

Many times in the past the waste disposal systems of our merchants who serve the tourists have been over-taxed. Not only has this caused pressure to scale down our attempts to attract tourism, it also tends to scare people away. Add to this the refusal of new permits which prevents any new service oriented businesses from locating in the area and I think we can expect very little growth in our share of this very important resource.

Our problem extends beyond our area. To illustrate this, consider the following points:

Throughout the spring and early summer, hundreds of mountain climbers from all over the world converge on Talkeetna in preparation to climbing Denali. Last year the National Park Service recognized that this was creating a severe waste disposal problem on the mountain and the problem was widely publicized. What they did not recognize is that all of those climbers pass through our town and leave as much or more waste there.

Talkeetna is one of the popular stops along the Alaska Railroad. Each year hundreds of travelers arrive at and depart from the Talkeetna station and yet the Railroad provides no public restrooms.

Talkeetna supplies drinking water, showers and laundry facilities for people over a very large area, some as far away as Trappers Creek. One of the public showers provides more than 600 showers each month.

In our efforts to solve our problem, we requested that a study be done by the Department of Environmental Conservation. In the preliminary draft of the report from that study, a water and sewer system was recommended for the area. In order to proceed any further, we must form the Service Area which would be the subject of the ballot question we are now requesting you to authorize.

We, the people of Talkeetna, ask you to please recognize our problem and to help us find its solution.

Edit Copy

ALASKA DEPARTMENT OF ENVIRONMENTAL CONSERVATION

Bill Sheffield
Governor

Richard Neve'
Commissioner of
Environmental Conservation

VILLAGE SAFE WATER

FY 86

PROPOSED CAPITAL PROJECTS

FACILITY CONSTRUCTION & OPERATION

OCTOBER 1984

TABLE OF CONTENTS

TABLE OF CONTENTS

VILLAGE SAFE WATER

FY86 CAPITAL BUDGET REQUEST

Purpose

The purpose of this report is to provide State policy makers with backup information which supports the Village Safe Water program FY86 capital budget request.

Introduction

The Village Safe Water (VSW) Program within the Alaska Department of Environmental Conservation (ADEC) assists rural communities with the planning, design, and construction of sanitation facilities. This work is authorized by AS 46.07.

What follows is background information on projects included in the ADEC capital budget for FY86. There are two categories of projects:

(1) Prioritized projects established by ADEC and the twelve regional health corporations; and

(2) Various statewide projects commissioned by the Alaska Legislature.

Sec 3, SB47

Prioritized Projects

To determine construction priorities for the VSW Program in FY86, a panel was convened. It consisted of VSW people, an engineer from outside the Department, and a representative of the Governor's Office of Management and Budget. Twelve regional health corporations were contacted and six responded by recommending eighteen communities which were prioritized.

Three categories were established to aid in the evaluation:

Category A - Those villages that do not have community sanitation facilities or have a documented public health problem;

Category B - Communities with sanitation systems that are not fully operational, or potential health problems exist, or funds are available but additional money is needed to correct the problem;

Category C - Communities with operational facilities that need to be expanded or a higher level of service is desired by the residents.

Using available background information, VSW priorities were established as follows:

Category A	Category B	Category C
1. Shungnak	8. Diomede	16. Kivalina
2. Healy Lake	9. Noatak	17. Golovin
3. Lime Village	10. Kiana	18. Koyuk
4. Red Devil	11. St. Paul	
5. Circle	12. Venetie	
6. Igushik	13. Kalskag	
7. Lewis Point	14. St. George	
	15. Telida	

Please keep the following points in mind when reviewing the fact sheets on each community (pages 2 - 22):

1. Because of the limited time available to prepare this year's capital budget, no visits were made to these villages. Background information was obtained from the regional health corporations, health professionals, and others.

2. Proposed improvements in each village are subject to review and approval by the appropriate village entity. Therefore, the scope of some projects may change.

3. Engineering feasibility studies have not been done on these proposed projects because planning funds were not available for this purpose. Studies will be done if projects are funded.

4. The cost estimates used on the attached fact sheets are subject to change due to local environmental conditions and other factors. For example, before construction starts in five villages, the relationship of 1984 direct municipal grants to proposed VSW projects must be evaluated.

5. Scheduling of construction depends upon the following:
   a. Availability of funds to initiate the work;
   b. Completion of feasibility studies and review by the community;
   c. Barge schedules;
   d. Weather; and
   e. Availability of VSW staff.

A lump sum appropriation of $17 million is requested. This amount will enable VSW to plan, design, and build each project. If less is appropriated, the list will be worked from the top down until all funds are spent.

NOTE: For a discussion of various statewide projects, please refer to pages 23 - 34.

VSW FY86 PRIORITY LIST
FACT SHEET

Village	VSW Priority	Region	Population	VSW Funding Request
SHUNGNAK	1	NANA	210	$ 720,000

Other Funding*	Amount	Balance
(1983) SB 162	$ 400,000	$ 145,000
(1984) HB 691	300,000	50,000

EXISTING SITUATION

- Frozen PHS water and sewer system, only watering point in operation
- Winter 1984, large amount of sewage on ground near HUD subdivision

ASSUMPTIONS

- Assume water system frozen, replace extended water main
- Assume sewer system OK (effluent flowing through manholes to lagoon)
- Two lift stations need replaced; city's direct grant funds will pay for lift station repairs

FUNDING ESTIMATE

- Water system replacement: 11,000 feet pipe @ $60/ft installed	$ 660,000
Contingency 10%	60,000
Total	$ 720,000

COMMENTS

- Not sure how city will use direct grants
- Rural Ventures Alaska retained by city

*Direct municipal grants for water and sewer.

WORK TO BE DONE

___ Engineering Plan
_X_ Design
_X_ Construction

VSW FY86 PRIORITY LIST
FACT SHEET

Village	VSW Priority	Region	Population	VSW Funding Request
HEALY LAKE	2	DOYON	30	$ 300,000

Other Funding	Amount	Balance
None known		

EXISTING SITUATION

- Water hauled from lake and boiled
- No sewage disposal system

ASSUMPTIONS

- No developed community sanitation facilities
- Eight homes need service
- Winter construction to transport drill rig across lake
- Assume wells < 100 feet/no treatment required
- Assume community drainfield for waste disposal

FUNDING ESTIMATE

8 wells @ $6000	$ 48,000
MOB & DeMOB well rig	40,000
Install pumps & pump houses	56,000
Install 8 septic tanks	32,000
Install drainfield (rock)	85,000
Engineering & contingency	39,000
Total	$ 300,000

COMMENTS

WORK TO BE DONE

X Engineering Plan

X Design

X Construction

VSW FY86 PRIORITY LIST
FACT SHEET

Village	VSW Priority	Region	Population	VSW Funding Request
LIME VILLAGE	3	CALISTA	42	$ 365,000

Other Funding	Amount	Balance
None known		

EXISTING SITUATION

- No developed community sanitation facilities
- Water hauled from school or springs

ASSUMPTIONS

- No power plant in town
- Small generator set must be part of project
- Sewage disposal by individuals

FUNDING ESTIMATE

Community well & watering point	$ 280,000
Sewage bunkers	38,000
Engineering & contingency	47,000
Total	$ 365,000

COMMENTS

- One of the few villages that has never received sanitation facilities from federal or state government

WORK TO BE DONE

X Engineering Plan

X Design

X Construction

VSW FY86 PRIORITY LIST
FACT SHEET

Village	VSW Priority	Region	Population	VSW Funding Request
RED DEVIL	4	CALISTA	42	$ 430,000

Other Funding	Amount	Balance
None known		

EXISTING SITUATION

- Four families have wells; rest haul from river

ASSUMPTIONS

- Four existing wells need rehabilitation
- No community power

FUNDING ESTIMATE

5 new wells @ $30,000	$ 150,000
Renovate 4 wells @ $11,000	44,000
Plumb 9 houses @ $6000	54,000
9 septic tanks @ $4000	36,000
9 seepage pits @ $10,000	90,000
Engineering & contingency	56,000
Total	$ 430,000

COMMENTS

WORK TO BE DONE

X Engineering Plan

X Design

X Construction

VSW FY86 PRIORITY LIST
FACT SHEET

Village	VSW Priority	Region	Population	VSW Funding Request
CIRCLE	5	DOYON	51	$ 150,000

Other Funding	Amount	Balance
None known		

EXISTING SITUATION

- Water hauled from river or school

ASSUMPTIONS

- City will make arrangements to assess and collect user fees to maintain watering point

FUNDING ESTIMATE

Drill community well	$ 60,000
Construct well house	80,000
Pump & plumbing	10,000
Total	$ 150,000

COMMENTS

- When VSW visited this village in 1980, community could not afford operation & maintenance costs associated with community water supply

WORK TO BE DONE

X Engineering Plan

X Design

X Construction

VSW FY86 PRIORITY LIST
FACT SHEET

Village	VSW Priority	Region	Population	VSW Funding Request
IGUSHIK	6	BRISTOL BAY	200 (seasonal)	$ 45,000

Other Funding	Amount	Balance
None known		

EXISTING SITUATION

- Seasonal fish camp with no potable water supply

ASSUMPTIONS

- No power, sanitation system must be completely self-supporting
- No water treatment required

FUNDING ESTIMATE

MOB & DeMOB well drilling rig	$ 10,000
Drill well & install hand pump	35,000
Total	$ 45,000

COMMENTS

WORK TO BE DONE

___ Engineering Plan

___ Design

_X_ Construction

VSW FY86 PRIORITY LIST
FACT SHEET

Village	VSW Priority	Region	Population	VSW Funding Request
LEWIS POINT	7	BRISTOL BAY	200 (seasonal)	$ 50,000

Other Funding	Amount	Balance
None known		

EXISTING SITUATION

- Seasonal fish camp with no potable water supply

ASSUMPTIONS

- No power
- No water treatment required

FUNDING ESTIMATE

MOB & DeMOB drilling rig	$ 15,000
Drill well & install hand pump	35,000
Total	$ 50,000

COMMENTS

- Well driller will do Lewis Point first, then move to Ugashik

WORK TO BE DONE

___ Engineering Plan

___ Design

_X_ Construction

VSW FY86 PRIORITY LIST
FACT SHEET

Village	VSW Priority	Region	Population	VSW Funding Request
DIOMEDE	8	NORTON SOUND	135	$ 500,000

Other Funding	Amount	Balance
PHS	$ 750,000	

EXISTING SITUATION

- Inadequate water storage
- School runs out of water (BIA)

ASSUMPTIONS

- Assume PHS to provide 400,000-gallon storage, water treatment building and foundations, replace water transmission line and hook-up to BIA
- Assume additional VSW funds ($500,000) needed to complete PHS job

FUNDING ESTIMATE

Develop water source	$ 200,000
Provide additional water storage	300,000
Total	$ 500,000

COMMENTS

WORK TO BE DONE

___ Engineering Plan

___ Design

_X_ Construction

VSW FY86 PRIORITY LIST
FACT SHEET

Village	VSW Priority	Region	Population	VSW Funding Request
NOATAK	9	NANA	290	$ 450,000

Other Funding	Amount	Balance
None known		

EXISTING SITUATION

- PHS piped water and sewer system to 73 homes
- South "Loop" frozen
- Sixteen homes and several businesses without service

ASSUMPTIONS

- Assume rest of system OK

FUNDING ESTIMATE

Replace South Loop 5000' @ $50/ft	$ 250,000
Replace service lines 40 @ $2700	108,000
Upgrade pumphouse	51,000
Engineering & contingency	41,000
Total	$ 450,000

COMMENTS

WORK TO BE DONE

___ Engineering Plan

_X_ Design

_X_ Construction

VSW FY86 PRIORITY LIST
FACT SHEET

Village	VSW Priority	Region	Population	VSW Funding Request
KIANA	10	NANA	345	$ 330,000

Other Funding *	Amount	Balance
(1984) SB 420	$ 300,000	$ 60,000

EXISTING SITUATION

- Replace damaged sewer line in Spruce housing area

ASSUMPTIONS

- Rest of system OK
- Laundromat funds cannot be used for sewer rehabilitation

FUNDING ESTIMATE

Replace 4000' sewer line @ $56/ft	$ 220,000
Reset manholes 14 @ $4800	67,200
Engineering & contingency	42,800
Total	$ 330,000

COMMENTS

- Damaged sewer system apparently caused by improper construction

*Direct municipal grant for community laundromat

WORK TO BE DONE

___ Engineering Plan

X Design

X Construction

VSW FY86 PRIORITY LIST
FACT SHEET

Village	VSW Priority	Region	Population	VSW Funding Request
ST. PAUL	11	ALEUTIAN/ PRIBILOF	300	$ 800,000

Other Funding	Amount	Balance
PHS	$ 1,200,000	

EXISTING SITUATION

- Existing sanitation system inadequate
- Water storage tank leaking
- Sewage treatment needs improvement

ASSUMPTIONS

- PHS providing septic tank and outfall line, lift stations
- PHS funds not enough to finish job
- VSW will fund interceptor sewer and connect to PHS effluent sewer outfall

FUNDING ESTIMATE

Interceptor lines 10,000' @ $60/ft	$ 600,000
Storage tank lines	120,000
Engineering & contingency	80,000
Total	$ 800,000

COMMENTS

WORK TO BE DONE

___ Engineering Plan

_X_ Design

_X_ Construction

VSW FY86 PRIORITY LIST
FACT SHEET

Village	VSW Priority	Region	Population	VSW Funding Request
VENETIE	12	DOYON	160	$ 500,000

Other Funding	Amount	Balance
None known		

EXISTING SITUATION

- PHS piped system frozen .

ASSUMPTIONS

- Improvements must be inexpensive to maintain
- PHS system completely inoperable
- Schools hauling water

FUNDING ESTIMATE

Rehab well & build watering point	$ 60,000
New transmission line from well	180,000
Rehab water treatment building	100,000
New service line to 2 schools	95,000
Engineering & contingency	65,000
Total	$ 500,000

COMMENTS

- Combination of factors led to demise of PHS system. Planning and design should proceed slowly.

WORK TO BE DONE

X Engineering Plan

X Design

X Construction

VSW FY86 PRIORITY LIST
FACT SHEET

Village	VSW Priority	Region	Population	VSW Funding Request
KALSKAG	13	CALISTA	160	$ 500,000

Other Funding	Amount	Balance
None known		

EXISTING SITUATION

- PHS system of 13 individual wells and septic tanks in operation

ASSUMPTIONS

- Watering point needed for those without service
- High iron content in wells, treatment required

FUNDING ESTIMATE

New well	$ 50,000
Water treatment building	285,000
Water treatment	100,000
Engineering & contingency	65,000
Total	$ 500,000

COMMENTS

- Original piped water and sewer system failed in late 1960's.
- Various reasons cited for system failure.

WORK TO BE DONE

X Engineering Plan

X Design

X Construction

VSW FY86 PRIORITY LIST
FACT SHEET

Village	VSW Priority	Region	Population	VSW Funding Request
ST. GEORGE	14	ALEUTIAN/ PRIBILOF	158	$ 850,000

Other Funding	Amount	Balance
PHS	$ 750,000	

EXISTING SITUATION

- Existing water system suffers from chronic water shortages and high sodium concentrations in well
- PHS to drill exploratory well several miles from town
- PHS to hook up new HUD homes to water and septic system

ASSUMPTIONS

- VSW money needed for additional exploratory wells and transmission line to transport water to town
- VSW funds will augment and help complete PHS project

FUNDING ESTIMATE

New well	$ 100,000
Transmission line	600,000
Repair storage tank	73,000
Contingency	77,000
Total	$ 850,000

COMMENTS

- Town sits on fresh water lens
- Salt water encroachment potential problem
- New wells several miles from town must be developed
- Distance of wells from town makes project expensive

WORK TO BE DONE

___ Engineering Plan

_X_ Design

_X_ Construction

VSW FY86 PRIORITY LIST
FACT SHEET

Village	VSW Priority	Region	Population	VSW Funding Request
TELIDA	15	DOYON	25	$ 350,000

Other Funding	Amount	Balance
None known		

EXISTING SITUATION

- Community watering point
- Some residents haul from river and school
- No wastewater disposal

ASSUMPTIONS

- Watering point needs new pumphouse and treatment
- Storage tanks in homes required
- Assume existing well OK

FUNDING ESTIMATE

New water treatment building	$ 112,000
Watering point treatment	80,000
8 water storage tanks @ $2000/tank	16,000
8 septic tanks/seepage pits and plumbing @ $12,000 each	96,000
Engineering & contingency	46,000
Total	$ 350,000

COMMENTS

WORK TO BE DONE

X Engineering Plan

X Design

X Construction

VSW FY86 PRIORITY LIST
FACT SHEET

Village	VSW Priority	Region	Population	VSW Funding Request
KIVALINA	16	NANA	250	(PHASE I) $2,200,000 (PHASE II) 2,800,000

Other Funding*	Amount	Balance
(1983) HB 105	$ 150,000	$ 120,000

EXISTING SITUATION

- PHS community watering point, 600,000-gallon storage tank in operation
- Sewage bunkers overloaded

ASSUMPTIONS

- Community desires piped water and sewer system
- Phased project: (1) Water System, (2) Sewer System

FUNDING ESTIMATE

- Water Distribution System	$ 1,870,000
Engineering	143,000
Contingency	187,000
Total	$ 2,220,000
- Sewage Disposal System	$ 2,350,000
Engineering	215,000
Contingency	235,000
Total	$ 2,800,000

COMMENTS

- Estimates on water system based on CH2M Hill Engineering Report done for city in 1984

*Direct municipal grant for water and sewer.

WORK TO BE DONE

___ Engineering Plan (completed)
_X_ Design
_X_ Construction

VSW FY86 PRIORITY LIST
FACT SHEET

Village	VSW Priority	Region	Population	VSW Funding Request
GOLOVIN	17	NORTON SOUND	125	$ 2,000,000

Other Funding *	Amount	Balance
(1984) SB 409	$ 90,000	-0-
(1984) HB 691	625,000	$ 500,000

EXISTING SITUATION

- PHS community laundromat in operation

ASSUMPTIONS

- More water storage needed to develop piped water supply
- Tough soil conditions exist
- Coordination with ongoing city project crucial

FUNDING ESTIMATE

Water storage	$ 300,000
Water distribution system	926,000
50 septic tanks/drain fields	600,000
Engineering & contingency	174,000
Total	$2,000,000

COMMENTS

- City has hired an engineer to hook-up community buildings to water service

*Direct municipal grant for water and sewer and waste heat.

WORK TO BE DONE

X Engineering Plan

X Design

X Construction

VSW FY86 PRIORITY LIST
FACT SHEET

Village	VSW Priority	Region	Population	VSW Funding Request
KOYUK	18	NORTON SOUND	199	$ 3,500,000

Other Funding *	Amount	Balance
(1984) HB 691	$ 750,000	$ 500,000

EXISTING SITUATION

- PHS laundromat in operation
- No toilets in laundromat
- Bunkers provided for waste disposal

ASSUMPTIONS

- City desires piped water and sewer system. This requires a water exploration project to provide adequate supply.
- Tough soil conditions for waste disposal

FUNDING ESTIMATE

New well and water exploration	$ 150,000
Water transmission line	200,000
Upgrade laundromat	300,000
Water distribution line	993,000
Sewage disposal	1,400,000
Engineering & contingency	457,000
Total	$3,500,000

COMMENTS

- Not sure how city will use municipal grant funds

*Direct municipal grant for water and sewer.

WORK TO BE DONE

X Engineering Plan

X Design

X Construction

Various Statewide Projects

During 1984, the Alaska Legislature provided funds for the VSW Program to initiate engineering feasibility studies in most of the following locations:

- Atmautluak
- Chefornak
- Chuathbaluk
- Glennallen
- Kasaan
- Napaskiak
- Newtok
- Platinum
- Port Protection
- Stony River
- Talkeetna

These studies are well underway or complete and are the basis for cost estimates used on each fact sheet. Therefore, a line item allocation for each project through VSW is requested. Copies of the engineering reports are available from the office of: Village Safe Water, Pouch 0, Juneau, Alaska 99811.

VSW FY86 VARIOUS STATEWIDE PROJECTS
FACT SHEET

Village	Region	Population	VSW Funding Request	Other Funding
ATMAUTLUAK	CALISTA	140	$ 1,200,000	None Known

EXISTING SITUATION

- PHS watering point and iron treatment

ASSUMPTIONS

- System must be expanded to serve growing population
- Village watering point can be expanded into laundromat facility
- Lagoon could treat laundromat and school waste

FUNDING ESTIMATE

Expand watering point into laundromat	$ 260,000
1200' sewer line @ $40/ft	480,000
Lagoon	300,000
Engineering & contingency	156,000
Total	$ 1,200,000

COMMENTS

- A line item allocation through VSW for this project is recommended

WORK TO BE DONE

___ Engineering Plan (underway)
_X_ Design
_X_ Construction

VSW FY86 VARIOUS STATEWIDE PROJECTS
FACT SHEET

Village	Region	Population	VSW Funding Request	Other Funding
CHEFORNAK	CALISTA	236	$ 300,000	None Known

EXISTING SITUATION

- PHS well, insulated water points on Loop in operation

ASSUMPTIONS

- Existing well will turn brackish due to increased water usage
- Alternative water source needs to be located and developed
- Tundra lake will provide adequate water source

FUNDING ESTIMATE

Pump installation	$ 30,000
Water treatment	90,000
6000' transmission @ $30/ft	180,000
Total	$ 300,000

COMMENTS

- See VSW Study for details
- A line item allocation for this project through VSW is recommended

WORK TO BE DONE

___ Engineering Plan (underway)
X Design
X Construction

VSW FY86 VARIOUS STATEWIDE PROJECTS
FACT SHEET

Village	Region	Population	VSW Funding Request	Other Funding
CHUATHBALUK	CALISTA	117	$ 40,000	

EXISTING SITUATION

- Residents haul water from school to homes

ASSUMPTIONS

- Community desires an engineering study to develop Capital and Operation & Maintenance costs for water and sewer system

FUNDING ESTIMATE

Engineering study	$ 40,000

COMMENTS

- A line item allocation through VSW for this project is recommended

WORK TO BE DONE

X Engineering Plan

VSW FY86 VARIOUS STATEWIDE PROJECTS
FACT SHEET

Village	Region	Population	VSW Funding Request	Other Funding
GLENNALLEN	INTERIOR ROAD	365	$ 2,200,000	None Known

EXISTING SITUATION

- High groundwater and poor soils contribute to sewage disposal problems for businesses and individual homesites

ASSUMPTIONS

- Community sewer system desired
- Water OK

FUNDING ESTIMATE

12,000' sewer main @ $60/ft	$ 720,000
10,000' sewer service line @ $50/ft	450,000
1 highway crossing	40,000
1 lift station	60,000
Sewage lagoon	600,000
Engineering & contingency	330,000
Total	$2,200,000

COMMENTS

- Consult VSW Study for details
- A line item allocation for this project through VSW is recommended

WORK TO BE DONE

___ Engineering Plan (underway)
X Design
X Construction

VSW FY86 VARIOUS STATEWIDE PROJECTS
FACT SHEET

Village	Region	Population	VSW Funding Request	Other Funding
KASAAN	SEAALASKA	75	$ 1,200,000	None Known

EXISTING SITUATION

- Existing PHS piped water and sewer system needs expansion into new housing areas

ASSUMPTIONS

- Existing system OK

FUNDING ESTIMATE

22,000' ductile iron water main @ $25/ft	$ 550,000
80,000-gallon storage tank	250,000
Booster pump station	50,000
120 house service lines @ $1000/line	120,000
Engineering & contingency	230,000
Total	$1,200,000

COMMENTS

- A line item allocation through VSW for this project is recommended

WORK TO BE DONE

___ Engineering Plan (underway)
_X_ Design
_X_ Construction

VSW FY86 VARIOUS STATEWIDE PROJECTS
FACT SHEET

Village	Region	Population	VSW Funding Request	Other Funding
NAPASKIAK	CALISTA	293	$ 1,325,000	None Known

EXISTING SITUATION

- PHS well and watering point in operation
- Laundromat desired

ASSUMPTIONS

- School will hook-up to proposed community laundromat and purchase water
- Waste heat can be obtained from power plant at fair cost

FUNDING ESTIMATE

New well	$ 45,000
Laundromat/treatment building	600,000
Building equipment	250,000
Fuel storage	60,000
Waste water line	60,000
Lagoon	137,000
Engineering & contingency	173,000
Total	$1,325,000

COMMENTS

- Negotiations underway with school and power company
- A single appropriation for this project through VSW is recommended

WORK TO BE DONE

___ Engineering Plan (completed)
_X_ Design
_X_ Construction

VSW FY86 VARIOUS STATEWIDE PROJECTS
FACT SHEET

Village	Region	Population	VSW Funding Request	Other Funding
NEWTOK	CALISTA	150	$ 250,000	None Known

EXISTING SITUATION

- Solid waste disposal site needed

ASSUMPTIONS

FUNDING ESTIMATE

Boardwalk	$ 80,000
Dump fence	20,000
Excavation	40,000
4 haul vehicles	16,000
5 trailers	44,000
25 dumpsters	50,000
Total	$ 250,000

COMMENTS

- A line item allocation for this project through VSW is recommended

WORK TO BE DONE

___ Engineering Plan (underway)
_X_ Design
_X_ Construction

VSW FY86 VARIOUS STATEWIDE PROJECTS
FACT SHEET

Village	Region	Population	VSW Funding Request	Other Funding
PLATINUM	CALISTA	65	$ 600,000	None Known

EXISTING SITUATION

- Existing system is old and needs replaced and expanded

ASSUMPTIONS

FUNDING ESTIMATE

New well	$ 20,000
10,000' transmission line	250,000
21 service connections	42,000
21 septic tanks and drain fields	210,000
Engineering & contingency	78,000
Total	$ 600,000

COMMENTS

- A line item allocation for this project through VSW is recommended

WORK TO BE DONE

___ Engineering Plan (completed)
_X_ Design
_X_ Construction

VSW FY86 VARIOUS STATEWIDE PROJECTS
FACT SHEET

Village	Region	Population	VSW Funding Request	Other Funding
PORT PROTECTION	SEAALASKA	60	$ 875,625	None Known

EXISTING SITUATION

- Springs used as water source. More reliable source needs to be developed.

ASSUMPTIONS

- No central power in village
- More reliable water source is needed
- Spring can be developed into year-round water source
- Waste water disposal not required
- City will organize to operate proposed facility

FUNDING ESTIMATE

Build access road and tank site	$ 52,000
Build foundation for tank	15,000
167,000-gallon tank & construction	250,000
Collection structure & piping	10,000
Distribution piping 7300' @ $40/ft	292,000
11 fire hydrants @ $2500/hydrant	27,500
36 house service @ $1500/house	54,000
Engineering, administration & contingency	175,125
Total	$ 875,625

COMMENTS

- See VSW Engineering Study for details
- A line item allocation for this project through VSW is recommended

WORK TO BE DONE

___ Engineering Plan (completed)
_X_ Design
_X_ Construction

VSW FY86 VARIOUS STATEWIDE PROJECTS
FACT SHEET

Village	Region	Population	VSW Funding Request	Other Funding
STONY RIVER	CALISTA	74	$ 100,000	None Known

EXISTING SITUATION

- Thirteen individual wells in operation
- Waste disposal needed
- Wells need sanitary seals

ASSUMPTIONS

- Seepage pits will be adequate for grey water

FUNDING ESTIMATE

- Water Distribution System	
Seal 15 wells @ $300/well	$ 4,500
Slope drainage around 15 homes @ $1000	15,000
- Sewer Disposal System	
Build 15 seepage pits @ $2000/pit	30,000
Construct 15 privies @ $2000/each	30,000
Contingency	20,500
Total	$ 100,000

COMMENTS

- A line item allocation for this project through VSW is recommended

WORK TO BE DONE

X Engineering Plan

X Design

X Construction

VSW FY86 VARIOUS STATEWIDE PROJECTS
FACT SHEET

Village	Region	Population	VSW Funding Request	Other Funding
TALKEETNA	SOUTH CENTRAL	360	$ 3,200,000	None Known

EXISTING SITUATION

- Individual wells and septic tanks on small lots have created potential groundwater contamination problems

ASSUMPTIONS

- Assume community will form LID and follow Study recommendations

FUNDING ESTIMATE*

- Piped water (Areas 1, 2 & 3)	
Well, pump, treatment building, lines, hydrants & storage	$ 1,626,000
Design, management & contingency	406,550
- Sewer (Area 1 only)	
Septic tanks/leach field	903,340
Design, management & contingency	255,835
Total	$ 3,200,000

COMMENTS

- Wells need to be drilled first, presumably with funds left over from Study (≈35,000)
- A line item allocation for this project through VSW is recommended

WORK TO BE DONE

___ Engineering Plan (completed)
_X_ Design
_X_ Construction

*See pages 18 & 26 of VSW Talkeetna Engineering Study for details.

PROJECT TITLE: Village Safe Water Priority List

AGENCY PRIORITY: 03 OF 10

LOCATION: Norton Sound, NW Arctic, Yukon Kuskokwim, Interior, Aleutian Islands, and Bristol Bay Regions

ELECTION DISTRICT: 22, 23, 24, 25, 26

FISCAL YEAR: 86 DURATION: 24

APPROPRIATION TO: Department of Environmental Conservation

PROGRAM: Village Safe Water

	FUNDING:	CAPITAL REQUEST	REVISED REQUEST	OPERATING COSTS
1002	FEDERAL RECEIPTS			
1003	GENERAL FUND MATCH			
1004	GENERAL FUND	17,300,000		
1005	INTER-AGENCY RECEIPTS			
1028	PROGRAM RECEIPTS			
	TOTALS:	17,300,000		NA
	POSITIONS (PFT):			

PROJECT DESCRIPTION AND JUSTIFICATION:

LINE (1) This is a lump sum appropriation request with estimated allocations for each project. Actual costs may vary.
LINE (2) Projects in order of priority are 1) Shungnak $720,000; 2) Healy Lake $300,000; 3) Lime Village $365,000;
LINE (3) 4) Red Devil $430,000; 5) Circle $150,000; 6) Igashik $45,000; 7) Lewis Point $50,000; 8) Diomede $500,000;
9) Noatak $450,000; 10) Kiana $300,000; 11) St. Paul $800,000; 12) Venetie $500,000; 13) Kalskag $500,000;
14) St. George $850,000; 15) Telida $350,000; 16) Kivalina $5,200,000; 17) Golovin $2,000,000;
18) Koyuk $3,500,000.
LINE (4)

CP1 CAPITAL PROJECTS DESCRIPTION

DATA ENTRY WORKSHEET

(6/84)-cp1

WORKSHEET

REVISED DATE 10/16/84

FY 86

Regional Health Corporations submitted a list of communities in their areas most in need of sanitation improvements. Using health criteria, a technical committee developed the priority list. These communites are to receive funding for Village Safe Water (VSW) projects in FY86 as authorized by AS 46.07. This statute allows the VSW program to make grants to communities to plan, design, and build facilities. VSW staff will assist communities through all phases of project development by performance in the role of "city engineer." Communities are listed below in order of priority with a description of each project. What follows are estimates of how these funds should be allocated between projects. Actual costs and scope of each project may change due to local conditions.

	Community	Project Scope	Estimated Project Cost
1.	Shungnak	Rehabilitate system	$ 720,000
2.	Healy Lake	Wells and septic tanks	300,000
3.	Lime Village	Watering point and bunkers	365,000
4.	Red Devil	Wells and septic tanks	430,000
5.	Circle	Community watering point	150,000
6.	Igashik	Community well	45,000
7.	Lewis Point	Community well	50,000
8.	Diomede	Water storage and treatment	500,000
9.	Noatak	Rehabilitate South Loop	450,000
10.	Kiana	Spruce sewerage system upgrade	300,000
11.	St. Paul	Interceptor sewer	800,000
12.	Venetie	New watering point	500,000
13.	Kalskag	New watering point	500,000

CP1 **ADDITIONAL EXPLANATION FORM**

AGENCY Environmental Conservation

PROGRAM Village Safe Water

BRU

COMPONENT

REVISED DATE 10/16/84

FY 86

(6/84)-ae1

14.	St. George	Water source develoment	850,000
15.	Telida	Watering point, treatment, & storage	350,000
16.	Kivalina	Water system	2,200,000
		Sewer system	3,000,000
17.	Golovin	Piped water and sewer	2,000,000
18.	Koyuk	Water exploration, washeteria upgrade, sewage lagoon	3,500,000
19.	Various Statewide projects and contingencies		83,900
20.	Administration (CIP costs)		281,000

CPI ADDITIONAL EXPLANATION FORM

AGENCY Environmental Conservation

PROGRAM Village Safe Water

BRU

COMPONENT

REVISED DATE

FY 86

(6/84)-ae1

PROJECT TITLE:	Village Safe Water Various Statewide Projects	AGENCY PRIORITY:	04 OF 10
LOCATION:	Yukon Kuskokwim, Southeast, Interior Roads		
ELECTION DISTRICT:	2, 16, 17, 25	FISCAL YEAR: 86	DURATION: 24
APPROPRIATION TO:	Department of Environmental Conservation	PROGRAM:	Village Safe Water

	FUNDING:	CAPITAL REQUEST	REVISED REQUEST	OPERATING COSTS
1002	FEDERAL RECEIPTS			
1003	GENERAL FUND MATCH			
1004	GENERAL FUND	11,500,000		
1005	INTER-AGENCY RECEIPTS			
1028	PROGRAM RECEIPTS			
	TOTALS:	11,500,000		NA
			POSITIONS (PFT):	

PROJECT DESCRIPTION AND JUSTIFICATION:

LINE (1) This is a lump sum appropriation. The specified amounts used are estimates of how these funds should
LINE (2) be allocated between projects. Atmauthluk $1,200,000; Chefornak $300,00; Port Protection $875,000;
LINE (3) Kasaan $1,200,000; Glennallen $2,200,000; Stony River $100,000; Platinum $600,000; Talkeetna $3,200,000;
LINE (4) Napaskiak $1,325,000; Newtok $250,000; Chuathbaluk $40,000.

CP1 CAPITAL PROJECTS DESCRIPTION

DATA ENTRY WORKSHEET

(6/84)-cp1

WORKSHEET

REVISED DATE 10/17/84

FY 86

Engineering studies were commissioned by the Alaska Legislature in 1984 for the projects listed below. These cost figures are based upon these feasibility reports (copies of these reports available upon request).

Chuathbaluk	Water treatment, sewer rehabilitation	$ 40,000
Atmauthluk	Washeteria and lagoon	1,200,000
Port Protection	Develop water source	875,000
Kasaan	Water system expansion	1,200,000
Glennallen	Sewer system	2,200,000
Stony River	Septic tanks	100,000
Platinum	Water and sewer	600,000
Chefornak	Water Storage	300,000
Talkeetna	Water and sewer	3,200,000
Napaskiak	Washeteria and waste disposal	1,325,000
Newtok	Liquid and solid waste disposal	250,000
Various Projects and Contingencies		160,100

CPI **ADDITIONAL EXPLANATION FORM**

AGENCY Environmental Conservation

PROGRAM Village Safe Water

BRU

COMPONENT

PAGE 2 OF 2

REVISED DATE 10/17/84

FY 86

(6/84)-ae1

ALASKA DEPARTMENT OF ENVIRONMENTAL CONSERVATION

Bill Sheffield
Governor

Richard Neve'
Commissioner of
Environmental Conservation

MUNICIPAL GRANTS

FY 86

FACILITY CONSTRUCTION & OPERATION

TABLE OF CONTENTS

MUNICIPAL GRANTS PROGRAM

FY86 CAPITAL BUDGET REQUEST

Purpose

The purpose of this report is to provide State policy makers with backup information on the Municipal Grants Program, FY86 Capital Budget Request.

Introduction

The Municipal Grants Program provides grants up to fifty percent of the non-federally financed costs for water, sewerage and solid waste improvements. These grants may be used to pay for engineering, construction, legal, administrative and equipment costs. Grants through this program are available only to incorporated municipalities. The State does not provide any operation and maintenance support behond technical assistance. This program is authorized by AS 46.03.030.

The Alaska Department of Environmental Conservation (ADEC) is concerned with approval of construction plans and specifications, contract documents for engineering design and for construction. Progress payments and interim construction inspections are made during the course of the project. Grantees' final project costs are audited by the Department. The emphasis of the program is to

minimize grant requirements with the grantees responsible for the majority of project administration.

In FY86 the Department is requesting three separate capital appropriations to be administered through the Municipal Grants Program. These are:

(1) Water, Sewer and Solid Waste Projects . . . . $ 50 million

(2) Wastewater Disposal Facilities
Construction (State Match) . . . . . $ 3.4 million

(3) Anchorage 50% Construction Grants . . . . . $ 9.716 million

The Governor's proposed capital budget contained $10,166,500 for the Municipal Grants Program.

Water, Sewer and Solid Waste Projects

In July 1984, the Department solicited community input as to what projects they would like to have funded through the Municipal Grants Program. We also asked for their comments on a criteria system which would rank community needs in a statewide perspective. The criteria system is presented in Appendix A. We received approximately $115.5 million in needs from forty-one communities for 148 projects. More details are available from the Department.

The projects were then scored and ranked to give a statewide perspective of need. This list is presented in Table I (page 4). The Department has requested $50 million to fund the construction of these projects. If less money is appropriated, the list will be worked from the top down until all funds are spent.

TABLE I

FY 86 STATE SANITATION PROJECT PRIORITY LIST 12/07/84

TOTAL SCORE	MUNICIPALITY	PROJECT NAME	FUNDING-ADEC	CUMMULATIVE TOTAL
670	KLAWOCK	EAST KLAWOCK WATER AND SEWER	322,000	322,000
590	KENAI	PRINCESS, CINDERELLA, MCCOLLUM, ALIAK, M AGIC WATER AND SEWER IMPROVEMENTS	600,000	922,000
580	NORTH SLOPE BOROUGH	ATQASUK SEWAGE TREATMENT FACILITY	1,000,000	1,922,000
575	KOTZEBUE	SEWAGE LAGOON IMPROVEMENTS	150,000	2,050,000
525	JUNEAU	MENDENHALL VALLEY STP EXPANSION, SEGMENT II & III, LIQUID TREAT.	1,292,500	3,342,500
525	JUNEAU	MENDENHALL VALLEY SEWER I/I CORRECTION	511,750	3,854,250
515	BRISTOL BAY BOROUGH	NAKNEK SOLID WASTE PROJECT	750,000	4,604,250
515	NORTH POLE	HIGHWAY PARK WATER AND SEWER	1,389,000	5,993,250
510	GALENA	WATER DISTRIBUTION AND WASTEWATER COLLEC TION	2,000,000	7,993,250
500	CRAIG	WATER SOURCE	3,800,000	11,793,250
500	JUNEAU	MENDENHALL PENINSULA DISTRIBUTION	1,087,500	12,880,750
500	JUNEAU	MENDENHALL VALLEY STP EXPANSION, SEGMENT IV & V, SOLIDS TREATMENT	621,600	13,502,350
485	KENAI	EAST KENAI INTERCEPTOR-THOMPSON PARK SEW ER IMPROVEMENTS	1,083,000	14,585,350
485	NORTH SLOPE BOROUGH	KAKTOVIK SEWAGE DISPOSAL	742,500	15,327,850
480	NORTH SLOPE BOROUGH	ATQASUK WATER TREATMENT FACILITY	1,000,000	16,327,850
475	VALDEZ	CAMPGROUNDS SANITARY DUMP STATION	10,000	16,337,850
470	DILLINGHAM	SEWERAGE TREATMENT FACILITY	700,000	17,037,850
470	FAIRBANKS	N. E. INTERCEPTOR -PHASE II	150,000	17,187,850
470	HAINES	SEWER OUTFALL EXTENSION	55,000	17,242,850
470	KETCHIKAN GATEWAY BORO	SOUTH TONGASS SERVICE DISTRICT SEWER	850,000	18,092,850
465	NORTH POLE	NORTHWEST SEWER INTERCEPTOR AND WATER TR ANSMISSION LINES	1,953,500	20,046,350
465	NORTH SLOPE BOROUGH	WAINWRIGHT WATER SUPPLY LINE	1,000,000	21,046,350
465	PETERSBURG	HAMMER AND MILL SLOUGH SEWER EXTENSION	228,000	21,274,350
460	NORTH SLOPE BOROUGH	WAINWRIGHT SEWAGE DISPOSAL	1,730,250	23,004,500
455	KENAI	SPRUCE, 2ND, 3RD AND 5TH WATER AND SEWER IMPROVEMENTS	300,000	23,304,600
455	PETERSBURG	SCOW BAY AREA SEWER SYSTEM	678,825	23,983,425
445	ST. MARY'S	WATER/SEWER UPGRADE PH. 1, ADREAFSY SEWE R PROJECT/ WATER LOOP REPAIR	575,071	24,558,496
440	FAIRBANKS	WATER TREATMENT PLANT EXPANSION, PHASE B	3,997,566	28,556,062
435	NOME	ICY VIEW UTILITY EXTENSION	3,092,063	31,648,125
425	JUNEAU	EAST MENDENHALL VALLEY DISTRIBUTION	1,563,500	33,211,625

FY 86 STATE SANITATION PROJECT PRIORITY LIST 12/07/84

TOTAL SCORE	MUNICIPALITY	PROJECT NAME	FUNDING-ADEC	CUMMULATIVE TOTAL
420	ANGOON	GARBAGE DUMP IMPROVEMENT	50,000	33,261,625
420	NOME	LANDFILL IMPROVEMENTS	123,500	33,385,125
420	NORTH SLOPE BOROUGH	BARROW LANDFILL	1,000,000	34,385,125
420	PETERSBURG	WATER PLANT CLARIFICATION SYSTEM	350,000	34,735,125
420	SOLDOTNA	SLUDGE DEWATERER	60,000	34,795,125
420	WASILLA	WATER SYSTEM EXPANSION	1,200,000	35,995,125
410	KENAI	THOMPSON PARK WATER IMPROVEMENTS	350,000	36,345,125
400	FAIRBANKS	N.E. INTERCEPTOR -PHASE I	175,000	36,520,125
390	CORDOVA	NORTH FILL INDUSTRIAL PARK	720,000	37,220,125
390	CORDOVA	SOUTH FILL SEWER AND WATER	361,000	37,581,125
390	SITKA	CASCADE CREEK SEWER	140,500	37,721,625
385	KETCHIKAN GATEWAY BORO	MUD BITE SUBDIVISION SEWER	1,079,580	38,801,205
385	KLAWOCK	AIRPORT WATERLINE	300,000	39,101,205
375	CORDOVA	USS 900 - INTERCEPTOR-CRH	550,000	39,651,205
370	CORDOVA	POWER CREEK INTERCEPTOR	410,000	40,061,205
370	FAIRBANKS	WASTEWATER TREATMENT PLANT UPGRADE/EXPANSION	3,300,000	43,361,205
370	KENAI PENINSULA BOROUGH	CENTRAL PENINSULA INCINERATION FACILITY	5,500,000	48,861,205
370	NOME	WASTEWATER PLANT IMPROVEMENTS	1,250,000	50,111,205
365	KENAI	NORTH SPUR WATER AND SEWER IMPROVEMENTS, WILDWOOD TO CITY LIMITS	400,000	50,511,205
350	KENAI	EAST KENAI SEWER INTERCEPTOR-VALHALLA HEIGHTS SEWER IMPROVEMENTS	1,686,000	52,197,205
350	KETCHIKAN PUBLIC UTILITIES	CARLANNA LAKE TREATMENT PLANT	415,850	52,613,055
345	JUNEAU	WEST MENDENHALL VALLEY INTERCEPTOR PHASE I	1,962,332	54,575,387
345	SOLDOTNA	K-BEACH ROAD WATER MAIN INTERTIE	225,100	54,800,487
340	HAINES	YOUNG ROAD SANITARY SEWER COLLECTOR	165,000	54,965,487
340	NORTH POLE	SEWAGE TREATMENT EXPANSION	1,425,000	56,390,487
340	SOLDOTNA	KNIGHT DRIVE WATER AND SEWER EXTENSIONS	846,170	57,236,657
340	SOLDOTNA	EAST REDOUBT-STERLING HWY TO SE CORNER, SECTION 28 WATER MAIN	326,000	57,562,657
340	VALDEZ	ALPINE WOODS SEWERAGE	1,500,200	59,062,557
335	KAKE	WATER AND SEWER IMPROVEMENTS - PUBLIC DOCK	28,050	59,090,707
330	CORDOVA	SKI HILL SEWER MAIN EXTENSION	137,500	59,228,207
330	JUNEAU	NORTH DOUGLAS RESERVOIR	999,000	60,227,207
330	JUNEAU	MONTANA CREEK RESERVOIR	622,500	60,849,707
330	JUNEAU	EAST VALLEY RESERVOIR	1,012,500	61,862,207
325	DILLINGHAM	WATER DISTRIBUTION SYSTEM EXPANSION	640,000	62,502,207
325	JUNEAU	NORTH DOUGLAS DISTRIBUTION	2,095,000	64,597,207
325	JUNEAU	WEST VALLEY RESIDENTIAL DISTRIBUTION	1,440,000	66,037,207
325	KETCHIKAN GATEWAY BORO	MOUNTAIN POINT WATER DISTRICT	100,000	66,137,207
325	SOLDOTNA	1.0 MG RESERVOIR AND FOOTHILLS TRANSMISS	825,000	66,962,207

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FY 86 STATE SANITATION PROJECT PRIORITY LIST 12/07/84

TOTAL SCORE	MUNICIPALITY	PROJECT NAME	FUNDING-ADEC	CUMMULATIVE TOTAL
		ION MAIN		
320	ANGOON	CITY WATER STORAGE TANK	200,000	67,162,207
320	KETCHIKAN PUBLIC UTILITIES	WATER TANK RELOCATION, PUMP STATION AND TRANSMISSION LINE	247,000	67,409,207
320	NORTH SLOPE BOROUGH	BARROW SEWAGE DISPOSAL/WATER DISTRIBUTIO N	5,000,000	72,409,207
315	ANGOON	ELEVATED WATER STORAGE TANK	75,000	72,484,207
315	CRAIG	WASTEWATER TREATMENT FACILITIES EXPANSIO N	1,000,000	73,484,207
315	HOMER	OCEAN DRIVE SEWER LINE	305,000	73,789,207
315	HOMER	WEST HOMER WATER & SEWER LINES	637,500	74,426,707
310	CORDOVA	INDUSTRIAL PARK PHASE IIIC SEWER	266,000	74,692,707
310	KENAI	VALHALLA HEIGHTS WATER IMPROVEMENTS	300,000	74,992,707
300	JUNEAU	DOUGLAS ZONE 2 AND 3 DISTRIBUTION	850,000	75,842,707
300	JUNEAU	WEST VALLEY INDUSTRIAL DISTRIBUTION	372,000	76,214,707
300	JUNEAU	CHANNEL MARINA DISTRIBUTION	37,000	76,251,707
300	JUNEAU	INDIAN POINT-AUKE BAY DISTRIBUTION	1,193,500	77,445,207
300	KENAI PENINSULA BOROUGH	NINILCHIK LANDFILL	150,000	77,595,207
295	FAIRBANKS	DERBY TRACTS LATERAL SEWERS	175,000	77,770,207
295	KODIAK	SANITARY LANDFILL	640,000	78,410,207
295	SOLDOTNA	PARK LANE WATER LOOP	183,890	78,594,097
295	SOLDOTNA	RIVERSIDE SEWER MAIN	96,680	78,690,777
295	SOLDOTNA	STERLING HIGHWAY-SALAMATOF SEWER EXTENSI ON	98,820	78,789,597
290	ANGOON	WATER AND SEWER LINE EXTENSION	84,450	78,874,047
285	KODIAK	NEAR ISLAND WATER AND SEWER	2,000,000	80,874,047
285	KENANA	WATER AND SEWER EXPANSION PHASE II	2,000,000	82,874,047
285	NOME	AIRPORT UTILITY EXPANSION	971,715	83,845,762
285	NORTH POLE	HIGH SCHOOL BYPASS FORCE MAIN	237,000	84,082,762
270	FAIRBANKS	WILBUR STREET WATER TIE	1,000,000	85,082,762
270	JUNEAU	J-D TREATMENT PLANT SLUDGE DEWATERING	155,700	85,238,462
270	KETCHIKAN PUBLIC UTILITIES	NORDSTROM-CONFIDENCE WATER	696,250	85,934,712
270	KODIAK	ELEVENTH AVENUE WATERLINE	300,000	86,234,712
270	SAXMAN	SEWAGE TREATMENT PLANT UPGRADE	308,750	86,543,462
270	VALDEZ	BLUEBERRY HILL WATER AND SEWERAGE SYSTEM S	450,000	86,993,462
265	KETCHIKAN PUBLIC UTILITIES	LOWER HIGHLAND WATER	34,000	87,027,462
265	SOLDOTNA	WATER LOOP - KENAI SPUR MAIN EXTENSION	470,000	87,497,462
255	KAKE	SEWER MAIN FOR SOUTHERN KAKE	1,013,956	88,511,418
250	KETCHIKAN PUBLIC UTILITIES	CARLANNA LAKE ROAD-TIMBERLINE TO FAIRVIE W WATER	20,500	88,531,918
245	HOMER	HOMER SPIT WATERLINE, PH IA	430,000	88,961,918
245	KODIAK	WASTEWATER TREATMENT PLANT MODIFICATIONS	250,000	89,211,918

FY 86 STATE SANITATION PROJECT PRIORITY LIST 12/07/84

TOTAL SCORE	MUNICIPALITY	PROJECT NAME	FUNDING-ADEC	CUMMULATIVE TOTAL
240	HOMER	DANVIEW WATER LINE	72,000	89,283,918
240	KENAI	KENAI SPUR WATER & SEWER BORE TO SOUTHWEST PORTION OF SECTION 36	50,000	89,333,918
225	KENAI PENINSULA BOROUGH	NEW SPECIAL SOLID WASTE SITE	250,000	89,583,918
220	CHEVAK	COMMUNITY INCINERATOR	20,000	89,603,918
220	SAND POINT	BOAT HARBOR/DOCK WATER AND SEWER	216,305	89,820,223
220	SOLDOTNA	AIRPORT INTERCEPTOR SEWER	948,000	90,768,223
220	VALDEZ	SANITARY LANDFILL EQUIPMENT SHED	30,000	90,798,223
215	DILLINGHAM	WATER WELLS	395,000	91,193,223
215	NOME	WATER SUPPLY IMPROVEMENTS	2,175,000	93,368,223
210	HAINES	GRUENING DRIVE WATER AND SEWER	133,000	93,501,223
200	KETCHIKAN PUBLIC UTILITIES	MILLER STREET WATER EXTENSION	32,550	93,533,773
200	KETCHIKAN PUBLIC UTILITIES	THIRD AVENUE EAST WATER	37,000	93,570,773
200	VALDEZ	OLD TOWN LANDFILL CLOSURE	52,500	93,623,273
195	KING COVE	BOAT HARBOR/DOCK WATER AND SEWER	400,000	94,023,273
195	SOLDOTNA	SEWER SLUDGE INCINERATOR	1,015,000	95,038,273
195	VALDEZ	LOOP ROAD WELL HOUSE TELEMETRY	37,500	95,075,773
190	HAINES	SMALL TRACT/FAA SANITARY SEWER COLLECTION SYSTEM	195,325	95,271,098
190	KENAI	KENAI SPUR SEWER BORE AT ILIAMNA ROAD	25,000	95,296,098
190	SOLDOTNA	1.0 MG RESERVOIR AND SALAMATOF TRANSMISSION MAIN	981,050	96,277,148
170	KETCHIKAN PUBLIC UTILITIES	FAWN LAKE 36-INCH TRANSMISSION	644,400	96,921,548
160	FAIRBANKS	VAN HORN AREA WATER DISTRIBUTION	425,000	97,346,548
145	SKAGWAY	WATER STORAGE TANK	125,000	97,471,548
90	NOME	ALTERNATE WATER SUPPLY	776,250	98,247,798

APPENDIX A

CRITERIA SYSTEM

ALASKA DEPARTMENT OF ENVIRONMENTAL CONSERVATION
CAPITAL PROJECTS
SFY 86

	Points
1. Problem Addressed	
A. Public Health	
1. A documented existing disease event exists (documented by a recognized public health organization and confirmed by ADEC sanitarians).	500
2. The potential for a disease event exists. (All the elements are there, it just has not yet happened.)	200
3. The potential for a disease does not exist. Not all the elements exist but development suggests the event will occur in the future unless this project is constructed.	100
B. Public Safety	
1. This project is needed to provide water for fire protection. The existing population currently has no fire protection through a piped water/hydrant system.	100
2. This project is needed to provide water for fire protection. New development is being constructed which needs a piped water/hydrant system.	50
C. Environmental	
1. A documented existing pollution event exists.	100
2. The potential for a pollution event exists.	75
3. Development suggests a pollution event will occur in the future unless this project is constructed.	50
4. An esthetic "pollution" problem needs correcting.	25
2. This project is being done in conjunction with an EPA funded project.	100
3. Project Development Status	
A. Project has engineering plans and specification already prepared.	75
B. A feasibility study or facility plan has been prepared for the project.	45
C. A comprehensive study has been prepared which addresses the need for this project among other community needs.	20
D. No documentation has been prepared for this project.	0

	Points
4. Matching Funds Available	
A. Matching funds are currently available for this project.	100
B. Matching funds have been approved by appropriate authorities.	60
C. There is reasonable expectation that matching funds will be available and the source has been specified.	25
5. Grant Funds Cost/Population Benefitted. This criteria will use the actual population expected to be benefitted.	
A. The cost/population ratio is low: 0 to 400.	75
B. The cost/population is moderate: 401 to 4,000.	45
C. The cost/population ratio is high: >4,000.	15
6. Operational and Maintenance costs have been considered and either are not existent or a source of funds will exist to pay for them.	50
7. Phased or Segmented Project	
A. Part of the project is already started. This phase is needed to make the project functional.	50
B. The project is composed of more than one segment. This segment is needed to meet the water quality or public health intent of the plan but is not necessary to make the project functional.	25
8. Effect on Other Projects	
A. Project needs to be accomplished in conjunction with another project to reduce overall cost to State (paving, etc.).	15

APPENDIX B

FY 86 CAPITAL BUDGET QUESTIONNAIRES RECEIVED 10/03/84

MUNICIPALITY	PROJECT NAME		FUNDING - ADEC	NO.
		Total:		
ANCHORAGE	ANTICIPATED LATERAL IMPROVEMENT DISTRICTS-SEWER		3,160,000	076
	ANTICIPATED WATER IMPROVEMENT DISTRICTS		1,020,000	079
	DISTRIBUTION RESERVOIRS AND SMALL RESERVOIRS		1,840,000	142
	MISCELLANEOUS NEW TRANSMISSION MAINS		1,200,000	144
	PUBLIC WORKS ROAD RELATED PROJECTS-SEWER		780,000	077
	PUBLIC WORKS ROAD RELATED PROJECTS-WATER		600,000	080
	STATE DOTPF HIGHWAY RELATED PROJECTS-SEWER		720,000	078
	STATE DOTPF HIGHWAY RELATED PROJECTS-WATER		320,000	081
	TRANSMISSION SYSTEM INTERTIES		60,000	143
		Total:	9,716,000	
ANGOON	CITY WATER STORAGE TANK		200,000	037
	ELEVATED WATER STORAGE TANK		75,000	036
	GARBAGE DUMP IMPROVEMENT		50,000	034
	WATER AND SEWER LINE EXTENSION		84,450	035
		Total:	409,450	
ANIAK	AREA II COMMUNITY SEWERAGE		589,650	023
		Total:	589,650	
BRISTOL BAY BOROUGH	NAKNEK SOLID WASTE PROJECT		750,000	002
		Total:	750,000	
CHEVAK	COMMUNITY INCINERATOR		20,000	022
		Total:	20,000	
CORDOVA	INDUSTRIAL PARK PHASE IIIC SEWER		266,000	054
	NORTH FILL INDUSTRIAL PARK		700,000	056
	POWER CREEK INTERCEPTOR		410,000	058
	SKI HILL SEWER MAIN EXTENSION		137,500	055
	SOUTH FILL SEWER AND WATER		361,000	057
	USS 900 - INTERCEPTOR-CRH		550,000	059
		Total:	2,424,500	
CRAIG	WASTEWATER TREATMENT FACILITIES EXPANSION		1,000,000	083
	WATER SOURCE		3,800,000	082
		Total:	4,800,000	
DILLINGHAM	SEWERAGE TREATMENT FACILITY		700,000	003
	TRANSITE PIPE REPLACEMENT		486,000	005
	WATER DISTRIBUTION SYSTEM EXPANSION		640,000	004
	WATER WELLS		395,000	006

FY 86 CAPITAL BUDGET QUESTIONNAIRES RECEIVED 10/03/84

MUNICIPALITY	PROJECT NAME	FUNDING - ADEC	NO.
	Total:	2,221,000	
FAIRBANKS	DERBY TRACTS LATERAL SEWERS	175,000	099
	N. E. INTERCEPTOR -PHASE II	150,000	098
	N.E. INTERCEPTOR -PHASE I	175,000	097
	VAN HORN AREA WATER DISTRIBUTION	425,000	102
	WASTEWATER TREATMENT PLANT UPGRADE/EXPANSION	3,300,000	100
	WATER TREATMENT PLANT EXPANSION, PHASE B	3,997,566	096
	WILBUR STREET WATER TIE	1,000,000	101
	Total:	9,222,566	
GALENA	WATER DISTRIBUTION AND WASTEWATER COLLECTION	2,000,000	066
	Total:	2,000,000	
HAINES	GRUENING DRIVE WATER AND SEWER	133,000	128
	SEWER OUTFALL EXTENSION	55,000	147
	SMALL TRACT/FAA SANITARY SEWER COLLECTION SYSTEM	195,325	129
	YOUNG ROAD SANITARY SEWER COLLECTOR	165,000	127
	Total:	548,325	
HOMER	DANVIEW WATER LINE	72,000	019
	HOMER SPIT WATERLINE, PH IA	430,000	018
	OCEAN DRIVE SEWER LINE	305,000	020
	WEST HOMER WATER & SEWER LINES	637,500	021
	Total:	1,444,500	
JUNEAU	CHANNEL MARINA DISTRIBUTION	37,000	149
	DOUGLAS ZONE 2 AND 3 DISTRIBUTION	850,000	153
	EAST MENDENHALL VALLEY DISTRIBUTION	1,563,500	130
	EAST VALLEY RESERVOIR	1,012,500	148
	INDIAN POINT-AUKE BAY DISTRIBUTION	1,193,500	133
	J-D TREATMENT PLANT SLUDGE DEWATERING	155,700	134
	MENDENHALL PENINSULA DISTRIBUTION	1,087,500	137
	MENDENHALL VALLEY SEWER I/I CORRECTION	511,750	132
	MENDENHALL VALLEY STP EXPANSION, SEGMENT II & III, LIQUID TREAT.	1,292,500	131
	MENDENHALL VALLEY STP EXPANSION, SEGMENT IV & V, SOLIDS TREATMENT	621,600	155
	MONTANA CREEK RESERVOIR	622,500	152
	NORTH DOUGLAS DISTRIBUTION	2,095,000	140
	NORTH DOUGLAS RESERVOIR	999,000	141
	WEST MENDENHALL VALLEY INTERCEPTOR PHASE I	1,962,332	135
	WEST VALLEY INDUSTRIAL DISTRIBUTION	372,000	150
	WEST VALLEY RESIDENTIAL DISTRIBUTION	1,440,000	151
	Total:	15,816,382	
KAKE	SEWER MAIN FOR SOUTHERN KAKE	1,013,956	125
	WATER AND SEWER IMPROVEMENTS - PUBLIC DOCK	28,050	126

FY 86 CAPITAL BUDGET QUESTIONNAIRES RECEIVED 10/03/84

MUNICIPALITY	PROJECT NAME		FUNDING - ADEC	NO.
		Total:	1,042,006	
KENAI	EAST KENAI INTERCEPTOR-THOMPSON PARK SEWER IMPROVEMENTS		1,083,000	024
	EAST KENAI SEWER INTERCEPTOR-VALHALLA HEIGHTS SEWER IMPROVEMENTS		1,686,000	028
	KENAI SPUR SEWER BORE AT ILIAMNA ROAD		25,000	032
	KENAI SPUR WATER & SEWER BORE TO SOUTHWEST PORTION OF SECTION 36		50,000	030
	NORTH SPUR WATER AND SEWER IMPROVEMENTS, WILDWOOD TO CITY LIMITS		400,000	031
	PRINCESS, CINDERELLA, MCCOLLUM, ALIAK, MAGIC WATER AND SEWER IMPROVEMENTS		600,000	025
	SPRUCE, 2ND, 3RD AND 5TH WATER AND SEWER IMPROVEMENTS		300,000	029
	THOMPSON PARK WATER IMPROVEMENTS		350,000	026
	VALHALLA HEIGHTS WATER IMPROVEMENTS		300,000	027
		Total:	4,794,000	
KENAI PENINSULA BOROUGH	CENTRAL PENINSULA INCINERATION FACILITY		5,500,000	008
	NEW SPECIAL SOLID WASTE SITE		250,000	009
	NINILCHIK LANDFILL		150,000	010
		Total:	5,900,000	
KETCHIKAN GATEWAY BORO	MOUNTAIN POINT WATER DISTRICT		100,000	069
	MUD BITE SUBDIVISION SEWER		1,079,580	017
	SOUTH TONGASS SERVICE DISTRICT SEWER		850,000	016
		Total:	2,029,580	
KETCHIKAN PUBLIC UTILITIES	CARLANNA LAKE ROAD-TIMBERLINE TO FAIRVIEW WATER		20,500	121
	CARLANNA LAKE TREATMENT PLANT		415,850	117
	FAWN LAKE 36-INCH TRANSMISSION		644,400	116
	LOWER HIGHLAND WATER		16,500	120
	MILLER STREET WATER EXTENSION		32,550	122
	NORDSTROM-CONFIDENCE WATER		696,250	119
	THIRD AVENUE EAST WATER		37,000	123
	WATER TANK RELOCATION, PUMP STATION AND TRANSMISSION LINE		247,000	118
	WATERFRONT PIPE PROGRAM (WATER)		536,550	124
	WOOD STAVE WATER MAIN PROGRAM		302,300	115
		Total:	2,548,900	
KING COVE	BOAT HARBOR/DOCK WATER AND SEWER		400,000	074
		Total:	400,000	
KLAWOCK	AIRPORT WATERLINE		300,000	111
	EAST KLAWOCK WATER AND SEWER		300,000	110
		Total:	600,000	
KODIAK	ELEVENTH AVENUE WATERLINE		300,000	086
	NEAR ISLAND WATER AND SEWER		2,000,000	084
	WASTEWATER TREATMENT PLANT MODIFICATIONS		250,000	085

MUNICIPALITY	PROJECT NAME		FUNDING - ADEC	NO.
		Total:	2,550,000	
KODIAK ISLAND BOROUGH	CITY LANDFILL		1,000,000	146
		Total:	1,000,000	
KOTLIK	WATER AND SEWER		1,500,000	011
		Total:	1,500,000	
KOTZEBUE	SEWAGE LAGOON IMPROVEMENTS		150,000	114
	SEWER SYSTEM MODIFICATIONS		125,000	113
	SOLID WASTE DISPOSAL SITE		40,000	112
		Total:	315,000	
MATANUSKA-SUSITNA BOROUGH	TALKEETNA WATER SYSTEM		1,091,000	051
		Total:	1,991,000	
NENANA	WATER AND SEWER EXPANSION PHASE II		2,000,000	001
		Total:	2,000,000	
NOME	AIRPORT UTILITY EXPANSION		971,715	064
	ALTERNATE WATER SUPPLY		776,250	065
	ICY VIEW UTILITY EXTENSION		3,092,063	062
	LANDFILL IMPROVEMENTS		123,500	052
	WASTEWATER PLANT IMPROVEMENTS		1,250,000	061
	WATER SUPPLY IMPROVEMENTS		2,251,125	063
		Total:	8,464,653	
NORTH POLE	HIGH SCHOOL BYPASS FORCE MAIN		237,000	072
	HIGHWAY PARK WATER AND SEWER		1,389,000	073
	NORTHWEST SEWER INTERCEPTOR AND WATER TRANSMISSION LINES		1,953,500	070
	SEWAGE TREATMENT EXPANSION		1,425,000	071
		Total:	5,004,500	
NORTH SLOPE BOROUGH	ATQASUK SEWAGE TREATMENT FACILITY		1,000,000	103
	ATQASUK WATER TREATMENT FACILITY		1,000,000	104
	BARROW LANDFILL		1,000,000	105
	BARROW SEWAGE DISPOSAL/WATER DISTRIBUTION		5,000,000	106
	KAKTOVIK SEWAGE DISPOSAL		742,500	107
	WAINWRIGHT SEWAGE DISPOSAL		1,730,250	108
	WAINWRIGHT WATER SUPPLY LINE		1,000,000	109
		Total:	11,472,750	
OUZINKIE	WATER AND SEWER		150,000	095

FY 86 CAPITAL BUDGET QUESTIONNAIRES RECEIVED 10/03/84

MUNICIPALITY	PROJECT NAME		FUNDING - ADEC	NO.
		Total:	150,000	
PETERSBURG	HAMMER AND MILL SLOUGH SEWER EXTENSION		228,000	068
	SCOW BAY AREA SEWER SYSTEM		678,825	060
	WATER PLANT CLARIFICATION SYSTEM		350,000	067
		Total:	1,256,825	
SAND POINT	BOAT HARBOR/DOCK WATER AND SEWER		400,000	075
		Total:	400,000	
SAXMAN	SEWAGE TREATMENT PLANT UPGRADE		308,750	053
		Total:	308,750	
SITKA	CASCADE CREEK SEWER		140,500	015
		Total:	140,500	
SKAGWAY	WATER STORAGE TANK		125,000	126
		Total:	125,000	
SOLDOTNA	1.0 MG RESERVOIR AND FOOTHILLS TRANSMISSION MAIN		825,000	038
	1.0 MG RESERVOIR AND SALAMATOF TRANSMISSION MAIN		981,050	046
	AIRPORT INTERCEPTOR SEWER		948,000	042
	EAST REDOUBT-STERLING HWY TO SE CORNER, SECTION 28 WATER MAIN		326,000	047
	K-BEACH ROAD WATER MAIN INTERTIE		225,100	045
	KNIGHT DRIVE WATER AND SEWER EXTENSIONS		846,170	040
	PARK LANE WATER LOOP		183,890	049
	RIVERSIDE SEWER MAIN		96,680	039
	SEWER SLUDGE INCINERATOR		1,015,000	041
	SLUDGE DEWATERER		60,000	044
	STERLING HIGHWAY-SALAMATOF SEWER EXTENSION		98,820	043
	WATER LOOP - KENAI SPUR MAIN EXTENSION		470,000	048
		Total:	6,075,710	
ST. MARY'S	WATER/SEWER UPGRADE PH. 1, ADREAFSY SEWER PROJECT/ WATER LOOP REPAIR		575,071	050
		Total:	575,071	
THORNE BAY	WATER AND SANITARY SEWER RENOVATION		1,345,000	033
		Total:	1,345,000	
TULUKSAK	WATER AND SEWER FACILITIES			145

FY 86 CAPITAL BUDGET QUESTIONNAIRES RECEIVED 10/03/84

MUNICIPALITY	PROJECT NAME		FUNDING - ADEC	NO.
		Total:	0	
VALDEZ	ALPINE WOODS SEWERAGE		1,500,000	091
	BLUEBERRY HILL WATER AND SEWERAGE SYSTEMS		450,000	092
	CAMPGROUND SANITARY DUMP STATION		45,000	089
	LOOP ROAD WELL HOUSE TELEMETRY		37,500	090
	OLD TOWN LANDFILL CLOSURE		52,500	094
	SANITARY LANDFILL EQUIPMENT SHED		30,000	093
	SMALL BOAT HARBOR COMRFORT STATION		78,650	088
		Total:	2,193,650	
WASILLA	WATER SYSTEM EXPANSION		1,200,000	087
		Total:	1,200,000	
		Total:	115,445,268	

SB 47

Arctic Air Pollution Calls for International Controls

World Climate Endangered

The problem of Arctic haze promises to join acid rain as an issue demanding international [illegible]nents governing industrial pollution. Northerners have been alerted by a growing number of reports to the problem of Arctic haze and its international implications.

While scientists still differ about the impact of Arctic haze, they agree on the significant capacity of such atmospheric pollution to absorb light from the sun and thereby alter the temperature of the Arctic air.

In a recent article in the *Los Angeles Times* North Slope Borough scientist Tom Albert was quoted as saying, "If this cuts down on the amount of sunlight that reaches the ground or retards reflection of the sunlight, it's going to have an effect, either increasing or decreasing polar icecap melting, and you're talking about water on a grand scale. That has an effect on sea level, so the rest of the U.S. must have an interest in Arctic haze."

Industrial Pollution Sink

Generally, Alaskans enjoy the best air in the U.S. When the air mass flows in from the Gulf of Alaska, it bears traces of sodium and chlorine, components of sea water. When it enters from Canada, it bears traces of aluminum and silicon, components of wind-blown dust. During these times, visibility in Alaska is good, and Mt. McKinley can be seen easily from Anchorage to Fairbanks. On the North Slope, winds and air [illegible] tend to keep locally generated pollution at a very low level.

But when the air flow enters Alaska from over the Arctic Ocean, as it does frequently in the winter, the air becomes hazy. Chemical analysis of the air shows the presence of black soot in concentrations comparable to that found in the air above large cities, along with particles of sulphur and heavy metals associated with heavy industry.

Generally, the increase in Arctic pollution has been attributed to the ten-fold increase in pollution emissions in the northern hemisphere, unobstructed and increased air circulation moving directly from continental industrial areas into the Arctic during winter months, and less winter precipitation, which accentuates the haze.

Appearing as grey-blue or grey-brown, the haze arrives in the fall and peaks in March and April. Its origins are 3,000 to 6,000 miles away, and it takes at least five days to reach Barrow. Most of it comes from smelting lead and zinc or the combustion of coal and oil in the industrialized areas of the Soviet Union, including the southern Urals and northern Siberia. Pollution from England and places like the Ruhr Valley in West Germany accounts for most of the rest, with a small amount coming from North America.

It is known to travel in concentrations, so much so that one element, sulfur, has been measured at greater levels than in the industrialized northeastern U.S. in winter. It covers a vast area comparable in size to North America, extending from Alaska eastward to Norway, covering the whole Arctic basin. It is the extent of the [illegible]ollution and its impact upon world [illegible] are the concern of scientists.

The Atomic Pollution Studies

Arctic haze was described in scientific journals as early as 1914. It was later observed in the 1950's and 60's by weather observers making flights, called the Ptarmigan flights, from Fairbanks to the North Pole and back. They noted that near the Arctic coast, a dense haze was observed that extended thousands of miles horizontally and three to five miles vertically.

It was felt that a haze so far from factories and cars must have been the result of natural causes. Scientists could not conceive of air pollution being transported from the world's industrial centers, the closest of which are 1,500 kilometers away. Slowly, however, evidence began to accumulate that pollutant particles can be transported in the lower atmosphere over immense distances. Atomic testing provided the first hard evidence.

In the early-1960's, scientists worldwide discovered high high concentrations of radioactive fallout from atmospheric atomic testing were concentrating in the Arctic food chain. These early studies indicated that the subsistence foods of Alaska Native peoples contained as much as four times as much Strontium-90 as other U.S. populations.

This prompted several comprehensive investigations of the efficient transfer of radioactive materials up the relatively direct and simple food chains of northern subsistence users. Measurements of Cesium-137 in northern populations began almost simultaneously in Scandinavia and Alaska. Investigations were conducted among the reindeer herding societies of northern Sweden, Finland, and Russia. Other studies were carried out among Canadian Indians and Eskimos.

In Alaska, Wayne Hanson was put to work by the U.S. Atomic Energy Commission to investigate resident radioactive pollution in preparation for Project Chariot, a U.S. Atomic Energy Commission plan — later aborted — to dredge a harbor near Cape Thompson near Point Hope using an atomic bomb.

Noting concentrations in lichen and caribou, Hanson and his colleagues undertook to measuring the amount of excess radioactivity present in Alaskan lichen, caribou and reindeer, and subsistence users themselves. His early work involved transporting a lead-shielded whole-body radioactivity counter weighing 15,000 pounds to the Arctic villages of Anaktuvuk Pass, Barrow, Kotzebue, Point Hope, Fort Yukon, and Arctic Village, where body radioactivity tests were conducted. Similar reports had been received from the University of Lund in Sweden about the atomic-fallout radiation concentrating in the Sami (Lapps) of both Sweden and

W.C. Hanson

Anaktuvuk Pass, September 1963: living off the radioactive end of the food chain.

Finland.

In 1965, a technique was developed which involved a much lighter lap-held sodium-iodide crystal around which the subject's body provided a background shield. With this new equipment weighing less than 30 pounds, Hanson was able to measure seasonal changes in the concentration of Cesium-137 of people in three Alaskan villages of contrasting cultural backgrounds.

Hanson and his colleagues worldwide were able to trace the movement of radioactive pollution from its world-wide atomic-test sources into the Arctic lichen and up the food chain during the period of world-wide atomic testing between 1962 and 1965. They discovered that:

1. Levels of Cesium-137 in the food chain varied according to the amount of radioactive pollution in the air.
2. The amount of radioactive atmospheric pollution varied according to the size and number of atomic tests.
3. The amount of Cesium-137 ingested by subsistence users varied according to the amount of reindeer and caribou eaten.
4. Although the deposition of fallout was only one-fourth that found in the northern tier states such as Washington, Idaho, and Montana, the Cesium-137 content of the average adult in Anaktuvuk Pass was much greater than that of other U.S. citizens. citizens.
5. A dramatic decline in the level of radioactive materials in the Arctic food chain occured after the 5 August 1963 Limited Nuclear Test Ban Treaty between the U.S, the U.S.S.R., and the U.K. During the 1967-73 test series conducted by the Peoples' Republic of China, an 8-fold increase in radioactive pollution was observed in Alaskan lichen the summer following a specific test series and in the bodies of northern subsistence users the second summer after the test.

These studies, along with the data from the worldwide network of fallout-sampling stations set up by the Atomic Energy Commission in 1952, were able to accurately trace the transport of radioactive materials from the locations of the specific test sites through the atmosphere to their Arctic destinations. The atmospheric transport of radioactive fallout provided scientists with a tracer for the study of the transport of other atmospheric pollutants. The implications for world climate were enormous.

Tracing the Routes of Atmospheric Pollution

Joseph Prospero and his group at the University of Miami discovered that the fine dust swept up by storms over the Algerian Sahara travelled as far as Barbados (7,000 kilometers), Florida, and even Mexico (10,000 kilometers). They found that one factor contributing to these long trips is the ability of the dust layers to suppress the rainfall which would normally wash the dust out of the atmosphere.

In 1971, Kenji Isono and his colleagues at the Water Research Institute of Nagoya, Japan, reported that they had observed dust travel over Japan from Asia and days later collected the dust in Hawaii and Alaska, some 10,000 km from its source. The same phenomenon was observed in 1975 by Kenneth Rahn of the University of Rhode Island and Glenn E. Shaw of the University of Alaska, Fairbanks, when they began sampling pollutants in the Arctic haze at Barrow — but they have reported little evidence of Gobi dust since then.

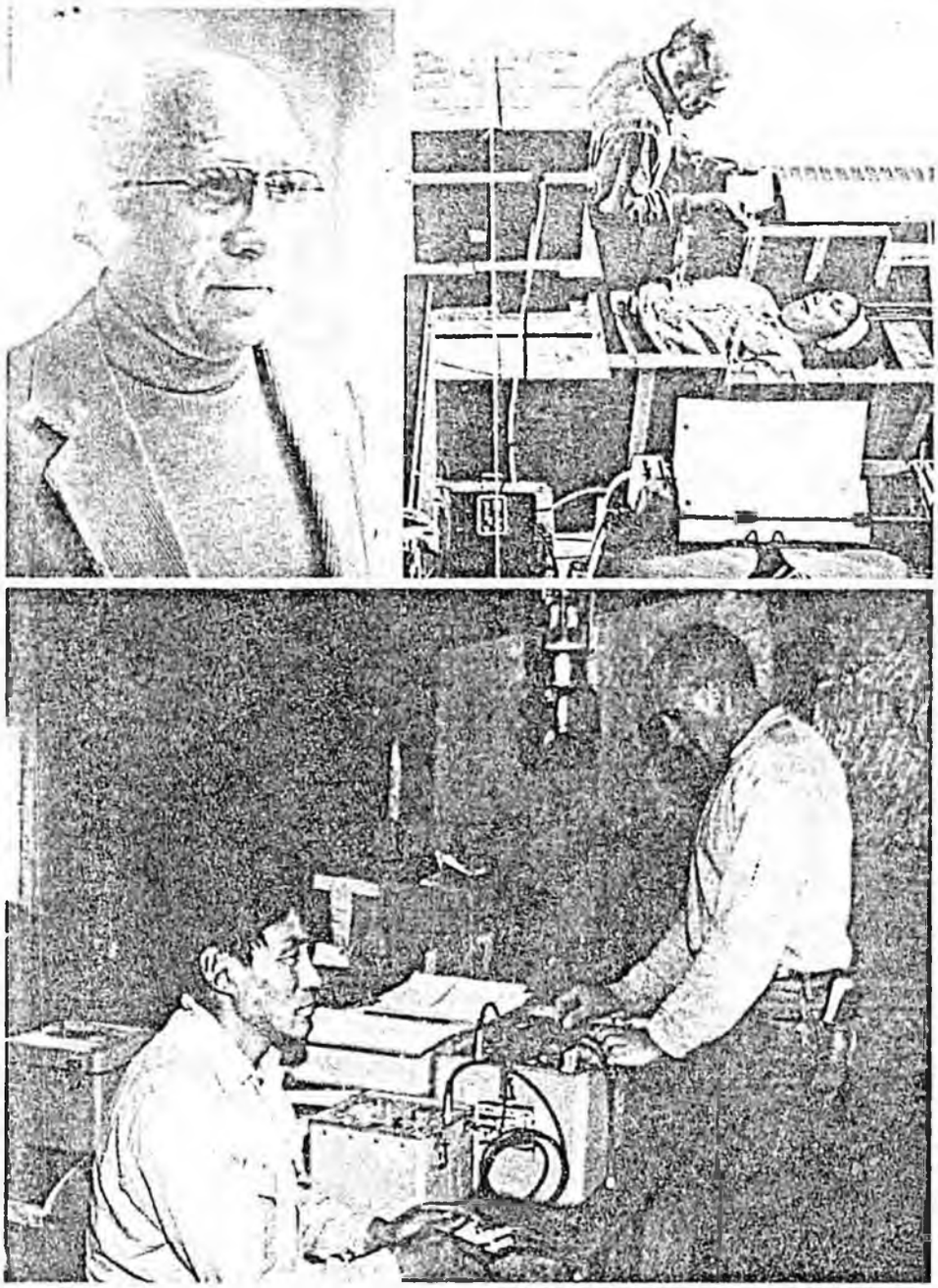
Climatic Impact of Arctic Haze

While the sources and makeup of Arctic haze are becoming better known, studies on the impact of the haze on global climate have only begun. Last year, the Office of Geophysical Monitoring Climate Change of the National Oceanic and Atmospheric Administration (NOAA) announced a huge study on Arctic haze, which will begin in 1986 and involve a number of organizations including a Norwegian research institute. NOAA put up $500,000 for the study and another $125,000 is coming from from the Office of Naval Research and the Air Force. Dr. Russell C. Schnell, a research scientist at the University of Colorado who conceived the project, said in an interview with the *New York Times* that researchers would measure solar radiation on land and in the air, using a plane owned by NOAA that can sample the air continuously for 5,000 miles in a single flight.

He said the aircraft would enable the scientists to get instantaneous readings on the effect of the pollutants by flying above the haze and then diving below it, comparing solar radiation above the haze to radiation below it. From this comparison, they hope to determine the energy absorbed by the haze and the resulting temperature change.

The plane will fly in an arc from southern Alaska to northern Norway, crossing directly over the North Pole. These measurements will be compared to recordings taken at stations in Canada, Norway, and Barrow. Schnell stated in a recent *Los Angeles Times* article, "This is another building block in what we are doing to our climate. There is no doubt there's a change because of Arctic haze. But is that change important? That is the question."

Continued next page



Top left, Hansen today: what are the impacts on Arctic health? Top right, Hansen conducting a whole-body radioactive count in Kotzebue in a photo appearing in the November 1965 National Geographic.
Below, counting the Cesium-137 burden of Zaccharias Hugo at Anaktuvuk Pass with a lap counter in January 1966.

The Rahn-Shaw Studies

In 1972, Kenneth Rahn and Glenn Shaw began to study Arctic haze supported by the Pentagon's Office of Naval Research. They began building an alliance of researchers in a world-wide Arctic Air-Sampling Network with stations in the U.S., Canada, Denmark, Iceland, Norway, Sweden, and, since 1983, West Germany. The researchers were able to trace separate layers of the pollutants through chemical analysis and identified at least 15 unique "signatures"—the trail of each pollution source from its point of origin in Europe, North America, and the Soviet Union. The haze is composed of sulfates — the major source of pollution in urban areas — and the elements manganese, vanadium, arsenic, selenium, zinc, and indium.

By comparing the ratio of the various elements in the Arctic haze, along with meterological data on air flow patterns, they were convinced — after six years of research — that air masses from the central Soviet Union carried as much as 70 percent of the pollutants to the Arctic. Landstat satellite images have shown 25-mile long plumes emanating from smelters processing rich nickel and copper sulfide ores at Noril'sk, Siberia, near the mouth of the Yenisey River at 70 degrees lattitude (almost as far north as Barrow).

In 1983, the U.S. and several other nations addressed the problem of Arctic haze in a series of flights over the North Pole. Pollution samples taken by the Air Force during these flights showed that pollution samples collected from air masses emerging from central U.S.S.R. matched the Barrow pollution samples in composition.

The Lawrence Berkeley Findings

In 1982, researchers at Lawrence Berkeley Laboratory of the University of California at Berkeley announced that they had discovered large concentrations of black soot in Arctic haze, similar to that found in the air above large cities. The soot concentrations are only three or four times less than those found in typical urban environments such as Berkeley, Denver, and Gaitersburg, Maryland, and only 10 times less than found in New York City.

The researchers pointed out that the graphitic carbon particles can be produced only by combustion process, confirming suspicions that Arctic haze is caused by pollution, not natural causes, and that airborne pollution can be transported over long distances and become a global problem. These particles absorb the sun's radiation very effectively and "can contribute significantly to the heating of the atmosphere," the report said.

The Arctic Haze Symposium

The recognition of the deterioration of air quality in the Arctic prompted the Arctic Haze Symposium, which took place during the Arctic Science Conference held in Anchorage on 2–5 October 1984. The symposium was sponsored by the State of Alaska through the efforts of State Senator Frank Ferguson.

At the symposium, a series of eight papers summarized studies done on Arctic haze, along with public testimony, including that of three people from Yukon-Kuskokwim Delta area, Jack Williams, Wassilie Evans, and Mathew Beam, who expressed concern about the effects of air pollution on reindeer and

marine mammals. There were also international participants from Canada, Sweden, Denmark, and Switzerland, along with a representative from the U.S. Department of State.

Emerging from those presentations and discussions, plans were made for an international symposium on Arctic atmospheric pollution to be held at Cambridge, England, on 2–5 September 1985, to be hosted by the Scott Polar Research Institute and co-sponsored by the State of Alaska and the World Meteorlogical Organization. Discussions will include: 1) composition and source areas (including indoor pollution), transportation, and deposition; 2) local, regional, and global climatic implications; 3) ecological, cultural, and health issues; and 4) international cooperation and state responsibilities.

Climate Impacts

So far, scientists can only speculate as to the possible effects of Arctic haze on the climate. While the light-absorbing haze may heat up the atmosphere, it may have a cooling effect upon Arctic ice. Some have suggested that the haze may influence cloud properties and precipitation by changing the concentration of particles that are capable of becoming the nuclei of ice crystals or cloud droplets.

Calculations and computer models in the Lawrence Berkeley study indicated that this heating effect in the Arctic is equivalent to that expected from doubling the levels of carbon dioxide in the atmosphere. Scientists have previously projected that doubling the concentration of carbon dioxide in the atmosphere may produce a catastrophic "greenhouse effect" by trapping heat near the earth's surface. An average global temperature increase of as little as 2 degrees Celsius might seriously affect the distribution on rainfall and could turn agricultural areas into deserts.

While Kenneth Rahn acknowledges the potential impacts, he minimizes them because of the seasonal nature of the haze. It does not accumulate from one year to the next as does carbon dioxide, which stays in the atmosphere for ten years. Rahn also points out that Arctic haze studies should give a better indication of the possibilities of nuclear winter. What happens when a thin layer of light-absorbing particles covers an area as large as the Arctic will tell us much about the aftermath of a nuclear war, when five to ten times as much pollution will be sent into the atmosphere.

Wayne Hanson has stated that the haze could contribute to the breakdown of the ozone layer which protects the earth from highly energetic radiation that comes from outer space. Recalling his studies which showed how quickly air pollution concentrates in the Arctic food chain, he is also concerned about the possibilities of effects upon the environment, health, and culture of northern societies.

An International Problem

Most significant is the fact that Arctic atmospheric pollution is international in scope and intercontinental in dimension, requiring international cooperation to address the problem. The failure of the Soviets to cooperate in this research has been the greatest disappointment in the research so far, especially as they have been fingered as the major contributor to the problem.

"The polar area of the Soviet Union is the largest military zone in the world," Russel Schnell noted in the *Los Angeles Times* article. "Scientists have no right to the area. Soviet or American, it makes no difference. Plus, it's got a lot of embarrassing and economic overtones. What are you going to do about it, shut down their industry?"

Addressing the Alaska North and Northwest Mayors Conference in Barrow in November 1984, Wayne Hanson said that Arctic haze might be the lever needed to open up more cooperation with the Soviet Union. "During the 1950's," he said, "we were aware of the problem of atomic fallout, but we didn't have the technology or public interest to do much about it," he said. "But in the period of 1962 to 1966, it received much international attention, and a great deal of information was obtained. It also figured very heavily, I think, in the conclusion of the 1963 Test Ban Treaty signed by the U.S., the Soviet Union, and Great Britain.

"In the issue of Arctic pollution, the people of the North have much to say. And I think that the Arctic Haze Symposium, that Senator Ferguson of Kotzebue was instrumental in starting, was a great initiative that should be given every support. Whether the Soviet Union will join us is anybody's guess, but we have to start somewhere. And the symposium to be held next year in Cambridge will be a major step."

Arctic haze, the carbon dioxide problem, sulfates, and the ozone effect are all ingredients in the climate soup. What science needs to find out is how air pollution is affecting world climate and how much more pollution can be tolerated before the climate is drastically changed.

March 19, 1985
Senate C&RA 3:30p

SB 47 -- Special appropriations for payment as grants to Municipality of Anchorage for Eklutna, and to municipalities and unincorporated communities for village safewater programs, special appropriation to Dept Environmental Conservation for water, sewer, solid waste projects

Bill heard on Feb 21 --testimony from Gary Hayden, DEC, Bill Miles, Muni of Anc; Scott Burgess

Sec 1 -- grants $50 million to Anc for Eklutna

Sec 2 -- grants $50 million as a 50% match for water, sewer, solid waste projects (see atch 2)

Sec 3 -- grants the sum of $16,840,000 to muni's and unincorporated communities for village safewater program

An amendment has been offered by Senator Ferguson which divides the communities named in Section 3 of the original bill into incorporated (funds to be administered through the Dept of Administration as direct grants); and unincorporated (funds to be administered through Dept Environmental Conservation Village Safewater Program).

Attachments: ATCH #1 - Ferguson amendment

ATCH #2 - Breakdown of projects proposed for funding under Sec 2 of bill

ATCH #3 - Breakdown of projects proposed for funding under Sec 3 of bill