

S B

267

STATE OF ALASKA 1984 LEGISLATIVE SESSION
FISCAL NOTE

Revision Date: November 18, 1983

REQUEST:
Bill/Resolution No.: Senate Bill No. 267
Title: "..establishment of maximum prison.."
Sponsor: Senator Moss
Requestor: Governor Sheffield
Date of Request: September 15, 1983

FISCAL DETAIL
Agency Affected: ADULT CORRECTIONS AGENCY
Program Category Affected: _____
Administration of Justice
BRU, Program or Subprogram(s) Affected: _____
Administration & Support

EXPENDITURES/REVENUES: (Thousands of Dollars)

	FY 84	FY 85	FY 86	FY 87	FY 88	FY 89
OPERATING						
100 PERSONAL SERVICES						
200 TRAVEL						
300 CONTRACTUAL						
400 COMMODITIES						
500 EQUIPMENT						
600 LAND & STRUCTURES						
700 GRANTS, CLAIMS, ETC.						
800 MISCELLANEOUS						
TOTAL OPERATING	-0-	-0-	-0-	-0-	-0-	-0-
CAPITAL	-0-	-0-	-0-	-0-	-0-	-0-
REVENUE	-0-	-0-	-0-	-0-	-0-	-0-

FUNDING: (Thousands of Dollars)

GENERAL FUND						
FEDERAL FUNDS						
OTHER (Specify Source)						
TOTAL	-0-	-0-	-0-	-0-	-0-	-0-

POSITIONS:

FULL-TIME						
PART-TIME						
TEMPORARY						
TOTAL	-0-	-0-	-0-	-0-	-0-	-0-

SOURCE OF FUNDS TO OFFSET FISCAL IMPACT OF BILL:

Not applicable.

ANALYSIS: Attach a separate page for any Analysis.

Prepared By: Roger C. Lange *Roger C. Lange*
Division: Administrative Services

Phone: 465-3376
Date: November 28, 1983

Approved by Commissioner: William W. Ludwig for Roger V. Enell
Department: ADULT CORRECTIONS AGENCY

Date: December 16, 1983

Distribution:
Legislative Finance ✓
Legislative Sponsor
Requestor
Office of Management and Budget
Impacted Agency (ics)

FISCAL NOTE
Senate Bill No. 267
Page 2

IV. ANALYSIS

No specific additional costs can be identified related to the requirement to locate all newly constructed maximum security prison facilities within the vicinity of Anderson and Palmer/Sutton.

NEW PAPER

White Paper

+ + + + +

A Consideration
For Location of
Maximum Security
Prison
In
Anderson

Developed In Cooperation With
GARY COPUS, Ph.D
Criminal Justice Division
University of Alaska
Fairbanks

Credentials Brief

GARY COPUS, PH.D

Currently serving the Thirteenth Alaska Legislature as a consultant in Corrections, Dr. Copus has also assisted the Mayor and Council of the City of Anderson in determining its viability for siting a Maximum Security Prison.

He received his Doctorate in Sociology at the University of Missouri-Columbia.

From 1970 until 1979, he was instructor in Criminal Justice in the graduate school at Sam Houston University, Huntsville, Texas.

From 1980 to the present he served in the Criminal Justice program in which he has published and lectured in all areas of corrections and its alternates.

We are very proud to have the assistance of Dr. Copus in developing our position.

White Paper

+ + + + +

A Consideration
For Location of
Maximum Security
Prison
In
Anderson

CONSIDERATIONS ABOUT ANDERSON AND MAXIMUM SECURITY PRISONS

- o Purpose of maximum facilities is LESS REHABILITATION AND MORE WAREHOUSING. Lessens the necessity to establish facilities in urban, or near urban, areas.
- o Availability of the Anderson Site for VISITATION is enhanced by the TRAIN STOP and HIGHWAY connecting Alaska's two largest cities.
- o There is no other prison system in Anderson. The modern trend is to keep prison facilities: less than 500 bed capacity, and GEOGRAPHICALLY SEPARATE, so as NOT TO CREATE A "PRISON MEGALOPOLIS." This latter characteristic allows for 1) distribution of the economic advantages and 2) the flexibility for prison management to have access to a variety of resources from the land and the community.
- o Anderson is in the middle of a growth/development corridor of Alaska. Remembering that given the prison facility will last many generations to come the Anderson site makes an excellent choice given the emerging DEVELOPMENT PATTERNS ALONG THE RAIL-BELT.
- o The facility, if a 400 bed one as currently proposed, will employ between 175 and 250 persons. The City of Anderson looks forward to the advantages new citizens afford and to the opportunity for current and future citizens to obtain correctional employment.
- o With OVERWHELMING COMMUNITY SUPPORT any deficit Anderson may have will be overcome or lessened. No matter where a site is located, there will be positive and negative factors to be dealt with. It is emphasized that where Anderson differs is the community spirit so necessary for what successes prisons can achieve.
- o IN SUMMARY, Prisons need four things to operate: a physical facility, personnel to staff and administer, offenders to be located there, and supplies. Anderson can provide a location whereby the state can satisfy these needs efficiently, economically, and continually.

COMMUNITY SUPPORT

- o Referendum on March 29, 1983 supported prison by 2-to-1.
- o 61% voter turnout
- o Five public meetings informed citizens
- o Reasons Anderson wants prison are community expansion and employment opportunities in future generations.

LAND AVAILABILITY

- o Multiple sites for selection
- o Sites are available by State Land Selection Process from Cook Inlet Region, Incorporated; or, Federal Lands

ELEMENTS OF PHYSICAL ENVIRONMENT

- o Water - pure, unlimited, and without fee via prison's own wells and distribution facilities.
- o Sewage - Cost saving from construction/operation of on-site treatment system.
- o Power - Optional excess power available from Clear AFB or, Golden Valley Electric Association and potential Anchorage-Fairbanks intertie.
- o Heating - Coal from Usibelli Mines 50 miles away, and/or fuel from North Pole Refinery 100 miles away.
- o Transportation available by highway, rail, and air.

ELEMENTS OF HUMAN ENVIRONMENT

- o Recreational areas and activities plentiful in Anderson area.
- o Modern elementary and high school expandable to accommodate increased student body.
- o Medical facilities currently 80 miles north in Fairbanks via highway, but, with increased population expect Anderson facility.
- o Fire protection supported by Anderson and Clear AFB.
- o The prison will attract quality personnel to work there and live in Anderson. Precedent in support is Clear AFB personnel educational level and technical skill level in Anderson for 20+ years. AFB also offers supply of potential quality employees from those retired or wishing a job change.

White Paper

+ + + + +

A Consideration
For Location of
Maximum Security
Prison
In
Anderson

MODERN
PRISONS
DESCRIBED

1. In modern penal systems the purpose of maximum security units has changed little since the inception of the first prison in our nation. The purpose is simply to provide for the safe keeping of those individual offenders who have shown themselves incapable of co-existing with others, or are deemed a danger to themselves or others, or are in danger from others.

Less
Rehabilitation

Individuals are assigned to maximum units via a thorough process called classification and end up "max-rated" only as a last resort. Given these considerations, experts argue that "max units" are simply warehousing units, with less emphasis on rehabilitation.

Rehabilitation is attempted in minimum or medium security units -- an assignment available to max inmates through re-classification. Thus

FOR SITE SELECTION OF A MAXIMUM SECURITY UNIT
THE AVAILABILITY OF REHABILITATION SERVICES
SHOULD NOT BE A MAJOR FACTOR OF CONSIDERATION.

EASY
TRAVEL

2. An Anderson site would be ideal for friends and relatives wishing to visit inmates because of its accessibility by highway and rail. The train is a particularly good asset for families not having access to automobile transportation and during most of the year the frequency of the local runs is such that persons visiting the prison could make convenient connections. Additionally, for persons visiting from Fairbanks, Anderson is a short, scenic drive.

NO PLACE
PERFECT

3. With the numerous points to consider, no matter which site the State selects, all points will not be positive relative to other sites. For example, one might argue that Haines would have been more positively effected economically than a Palmer area site, but Palmer is nearest the largest city. Anderson may have transportation and utility advantages over Palmer. Given that no one site will score relatively higher than other sites on all points, what becomes important is how to handle the deficits and then the community becomes an indispensable part of site consideration.

Positive
Community
Attitude

A positive community outlook supports the goals of the prison in many direct and subtle ways. For example, a positive community attitude attracts, in part, quality personnel to staff the prison; assists those families moving to the area because a friend or relative is incarcerated and thus eliminates worry on part of the inmate; works with the prison administration to provide for staff housing, supplies, and emergency labor needs thus resulting in an efficient institution with a high morale.

ANDERSON IS A CITY WHICH HAS PUBLICLY ANNOUNCED, ON THE BASIS OF INFORMED DECISION MAKING, THAT IT WILLINGLY ACCEPTS THE COMMUNITY RESPONSIBILITY.

LONG
USEFUL
LIFE

4. Prisons last for many years, a conservative estimate being a useful life of between 60 to 90 years. A good many prisons operating today are "centenarians". Thus when considering a site, the future of the area must be carefully taken into account. Any points negative with respect to Anderson should be assessed with the question, "What will the Anderson area be like 5, 10, 20, 50 years from now?" The current projections are that Anderson will be part of a rapidly developing area along the rail belt which could make it a center point of population in the next 20 years. This, accompanied by projected increases in transportation facilities demotes any current concerns about "out-of-the-wayness" to only temporal concerns at best.

MAJOR
PRISON
PROBLEMS

5. Many of the major problems in prisons today are in part related to their mere magnitude in terms of numbers of persons locked up under one roof. Recent national recommendations stress the importance of keeping newly constructed units less than 500 bed capacity, and the physical separation of units. In other words, the recommendations could be interpreted as "do not build a prison megalopolis" be it under one roof or by building multiple adjacent structures. Separation of facilities, geographically, has several advantages.

Physical
Separation

First from the standpoint of the state the economic advantages are spread as well as any disadvantages which communities might accrue. For example, suppose the presence of a facility attracts inmate families which have children who in turn have learning problems, behavior problems in school, and relatively high delinquency rates. Why concentrate these traits versus spreading them out and subject them to strong positive community influence (like Anderson can provide)?

Other
Advantages

Second building a facility geographically separate from other current institutions makes good sense from a management point of view. Take the hopefully unlikely and extreme case of a major earthquake in the vicinity of a prison creating the need for evacuation. Would it not be better to evacuate only one facility than several too closely juxtaposed? Further, physical separation enhances identification by staff with "their" facility and increases pride, morale, and dedication as opposed to "working in a large network of prisons." Management also has a variety of land and community resources, the variety offering the opportunity to install new programs and ideas which may not be acceptable in just any one location. These are only a few of the reasons not to build prisons in the same geographical locale.

Gary Copus, Ph.D

INTRODUCTION TO ANDERSON

Anderson, Alaska thinks it would be a good place for a Maximum Security Prison--But only a Maximum Security Prison! The people of Anderson are pretty outspoken on that point. They have talked it over.

You say you've never heard of Anderson-- and haven't the foggiest notion of where it is?

Touche!

No convention mecca, is Anderson. It is not on the tourist highways and by-ways or the slick travel maps. But, it is well connected--very well connected, to an all-weather highway, an airport and ocean-going barges via the Alaska Railroad, right in the middle of nowhere! Between Anchorage and Fairbanks.

Now you've heard of Anderson! a town of 550 people which comes of age on its 21st birthday in June.

The reasons for putting forth Anderson's name stem from a package of advantages no where else available in quite the same magnitude or combination, as they are available in Anderson.

..... READ ON!

COMMUNITY SUPPORT

The City of Anderson has made a pointed and energetic effort to inform the citizens of all aspects, both negative and positive, of having a maximum security prison within close proximity of the town. The idea was first publicly presented on February 8 at a City Council meeting where the decision was made to continue by informing the public and assessing the general opinion. During further public hearings and Town Hall meetings occurring on February 17, 18, 25, 26, and March 18, 26 it is estimated that over 60% of all citizens in Anderson were personally involved in acquiring knowledge and asking questions. Undoubtedly, 100% became informed through informal discussion.

During the meetings, material used to guide informative discussion was used from the American Correctional Association, The Federal Bureau of Prisons and the Criminal Justice Institute at Hemlock Hill, New York. In addition, at the March 18th Town Hall meeting, professionals in the correctional area were invited to address the citizenry. Invited and accepting were Captains Douglas Nowak and Lawrence Jackson of the U.S. Air Force, and Dr. Gary Copus.

Dr. Copus, with academic and practical expertise in community impact by prisons, was very careful to point out what to some communities might be undesirable impacts. No area was left unexamined and the result was--

BASED ON SOUND AND TOTAL INFORMATION THE CITIZENS
OF ANDERSON VOTED ON MARCH 29TH TO DIRECT THE CITY
COUNCIL TO PURSUE WITH VIGOR THE ATTRACTION OF THE
MAXIMUM SECURITY PRISON TO ANDERSON.

The resulting 2-to-1 vote was based on 61% of the registered voters. Voting was done in an official manner in all precincts, locked ballot boxes and election judges. Noteworthy is that the prison issue was the only item on the ballot so that the largest turnout in Anderson's voting history was due to the community interest which was overwhelmingly positive.

An informal assessment was made as to the reasons the community obviously wanted a maximum security prison.

First the community sees the prison as an employment opportunity for its future generations. Correctional employment was seen as not only an opportunity for young adults to have the alternative of remaining in Anderson as productive citizens, but the community also recognized modern corrections as providing a desirable career opportunity. Present employment was of lesser concern. Anderson is not currently impacted by any economic crisis which might sway a community's opinion to be only temporally positive. Anderson is in a reasonably good economic and employment status.

Second the community saw many positive aspects of development and growth. Among those mentioned were cultural and social growth, economic growth through curricula expansion and attraction of additional qualified teachers, and the establishment of social and health services. The community looks at the prison as offering a challenge to develop and manage a "new Anderson."

ECONOMIC ADVANTAGES
OF ANDERSON

The economical advantages of an Anderson site could vastly outweigh those of many other potential sites if life cycle economics is considered.

Life cycle economics center upon options available for essential operating utilities, such as:

heating/air conditioning
electric power
water
sewage treatment
transportation

HEATING Healy coal, transported by the Alaska Railroad, powers the generators and boilers at the Anderson-located Clear Air Force Station. Three Anderson sites are located immediately adjacent to the Alaska Railroad. Options for heating and power generation include both coal and/or diesel transported by the Alaska Railroad:

- o Coal: Usibelli Mines, Inc.
Healy, Alaska
50 miles South
- o Diesel: North Pole Refinery Co.
North Pole, Alaska
100 miles North

ELECTRIC POWER An option available only at an Anderson site includes the potential of purchasing the stable excess power generated at Clear Air Force Station, as many other Alaskan communities do from nearby U.S. Government facilities. The City of Anderson itself purchases power from the Golden Valley Electric Association, soon to be served by the Anchorage-Fairbanks Power Intertie, providing still another option for sub-station service at about the same time the Maximum Security Prison is expected to be operational.

WATER Anderson does not offer city-treated or supplied water to the Clear Air Force Station which consumes in excess of One Hundred Fifty Million Gallons per Month, or to the 117

domestic users inside the Municipality. The prison facility would drill its own wells and provide its own water from the uniquely-abundant natural supply of superior quality potable water available in Anderson--one of its priceless natural resources. Thus the prison would not now, or later, be in the position of having to purchase water supplies from a Municipality. And, the water in Anderson is hygienically pure without treatment. The prison would, of course, have established water rights, thereby protecting its call upon the natural resource forever.

A comprehensive water study, funded by the Alaska State Legislature, was completed on February 7, 1983 by URS Engineers, an internationally-connected firm of engineers and scientists with an Anchorage operations base. The final Draft Report, accepted by the Anderson City Council on February 15, 1983, found the water to be not only pure, but plentiful for domestic needs for generations into the future in the built-up residential area, and of unlimited industrial supply nearly everywhere else in the Municipality.

In further testimony of the purity and abundance of water for large-demand-users such as the prison might be considered, the State-owned/operated Clear Fish Hatchery draws water from its complex of wells directly into its propagation system, using 60 million gallons per month. Brewing and soft drink industries are looking at Anderson not only because of its abundance of pure water, but also because of its logistical advantages.

SEWAGE TREATMENT Another cost saving advantage of an Anderson site is that the prison would construct and operate its own small, self-contained treatment system, just as does the Clear Air Force Station for its 500+ military and civilian personnel forces. The State may wish to acquire slightly more than the proposed 100-acre-reservation for these purposes. Everywhere at all Anderson sites, land is available to the State for its purposes and needs.

TRANSPORTATION The advantages of prisoner transfer transportation has been earlier addressed. In this section, logistical transportation is discussed.

The locational advantage of an inter-modal transportation network must not be under-estimated, either for the construction phase or the ultimate operational life of the prison.

Construction materials can be boarded on rail cars at any point in the Lower-48 or the Orient and off-loaded near any of the potential Anderson sites. This same transportation system will greatly reduce costs of consumable supplies for the operation phases through use of the rail-barge-rail-truck-road inter-modal matrix available only at Anderson, while utilizing the state-owned Alaska Railroad utility. The air link to Anderson sites has been prior addressed.

CULTURAL-SOCIAL-RECREATIONAL
ADVANTAGES OF ANDERSON

Since Anderson is just 90 minutes driving time from the main campus of the University of Alaska/Fairbanks, and the university's Nenana Valley Rural Education Center presents credit-courses at Anderson and throughout the region, opportunities to take or teach graduate and under-graduate courses are readily available, as are symphony, drama, music and art, sports and popular music. The Fairbanks Regional Medical Center is only 30 air minutes from Anderson and provides a wide range of modern medical procedures.

In Anderson itself, there is an opportunity to participate in social and fraternal clubs and organizations as well as sports and educational activities. Anderson's new and modern elementary and High School can absorb a hundred or more students with only the addition of a few staff positions. By adding new rooms to the architecturally expandable complex, up to 250 additional students could be responsibly accommodated.

A new gun club and indoor shooting range will be completed next year in Anderson and, cross-country ski, snowmachine and ATV trails criss-cross the area and sport fishing and hunting are very nearby. Youth and large all-family parks are popular and in use. All roads and water removal ditching will have been completed prior to commencement of major construction.

Anderson is a Second Class City with an experienced, stable government and Council. There is no property tax. Except for educators and government employees, most adults work at Anderson's Clear Air Force Station as technical or management personnel. While Anderson has obvious employment stability, second and eventually third generation citizens face chronic unemployment and welcome the opportunity to train and to qualify for positions at the prison, now, and into its future life cycle.

LAND AVAILABILITY
IN ANDERSON

Anderson is surrounded on both sides by land available to the State through the State land selection process. Most specifically, from removal from the Cook Inlet Region, Incorporated selection pool, or from other federally owned land from which it may select. The State itself owns land which should be considered, and will soon receive numerous Sections of land in Township 7 South, Range 7 West, F.M. which affords a number of site potentials. The City of Anderson recommend sites in Sections 15, 14, 10, 11 of T7S, R7W FM be studied; then, section 8 or 4 of T7S, R7W FM; finally sections 13, 23, 26, 27 and 34 T7S, R7W FM.

THE SMALLER THE BETTER

Testimony given before the Senate H.E.S.S. Committee
on prison facility construction, April 21, 1983
Given by : Gary D. Dopus, Ph.D.

The State of Alaska faces the need of building additional prison facilities in the immediate future. Each of the state's units are at or above capacity with expectation by 1987 the population count will reach 2000.¹ Among the types of facilities needed is a maximum security unit. This paper specifically addresses the issue of the maximum desirable size of any one max unit. The issue is examined by citing disadvantages and advantages of building two 200-bed units versus one 400-bed unit.

Disadvantage of Two Small Units: The only disadvantage is one of economics. Although no cost figures were readily available for comparing the two-prison model against the single unit model, various professional opinions were solicited regarding capital cost and operational cost differences. Jim Austin of the National Council on Crime and Delinquency, administrators of the Fairbanks Correctional Facility, and Stuart Shadbolt, Administrator of the North Carolina Department of Corrections each contributed to the question of cost differentials. All agreed on two points. First, it was inevitable that the two-unit model would be more expensive both for initial construction and for continued operational costs;

¹Adult Corrections In Alaska: Current Issues In Administration and Management, pp.1 and 14, House Research Agency Report 82-E, 1983.

however, the increase was not seen to be exorbitant. They further agreed that these expenses were well worth the accrued advantages.²

The California Department of Corrections also addressed this issue.³ In part they concluded despite the apparent administrative and financial benefits associated with larger institution size, smaller institutions than size 400 may be preferable when the cost and administrative problems associated with the increased tension, hostility, and likelihood of violence associated with larger size are assessed.

The North Carolina system in particular has adopted the smaller unit, decentralized model. There are 81 different facilities to house a current population of 17,200 inmates. The general philosophy shared by Stuart Shadbolt was "smaller the better." Their new max unit dedicated this year houses 350. This system then follows the stance of John Conrad advocating the replacement of larger units with a network of smaller, more humane units.⁴

Advantages of Two Small Units

o Management Flexibility -- As stated by Roger Endell, Director, Division of Corrections, an intrinsic problem in the construction of any institutional space, and particularly those that

²Personal Communication, April, 1983.

³Moyer, F.D., "Some Essentials of Facility Planning," 1978, California Department of Corrections, Sacramento, Ca. 95814.

⁴John Conrad, "Which Way To The Revolution," in Should We Build More Prisons?, (National Council on Crime and Delinquency, 1977).

have substantial security specifications, is that its construction generally commits the State to a fixed kind of space limited in function. Should Alaska's correctional needs change in the future its ability to adapt will be shaped by the kind of space that has already been constructed.⁵ The construction of two units would allay this commitment. For example, suppose the State's max needs halved over a period of time, one unit could be more easily converted to serve some other purpose.

- o Transfer of Inmates -- An undesirable possibility in corrections is the formation of cliques and organizations among the inmate population for purposes of disruption. The most efficacious action by management is transferring key inmates, preferably to a different unit. This, obviously, can only be accomplished if there is another unit available.

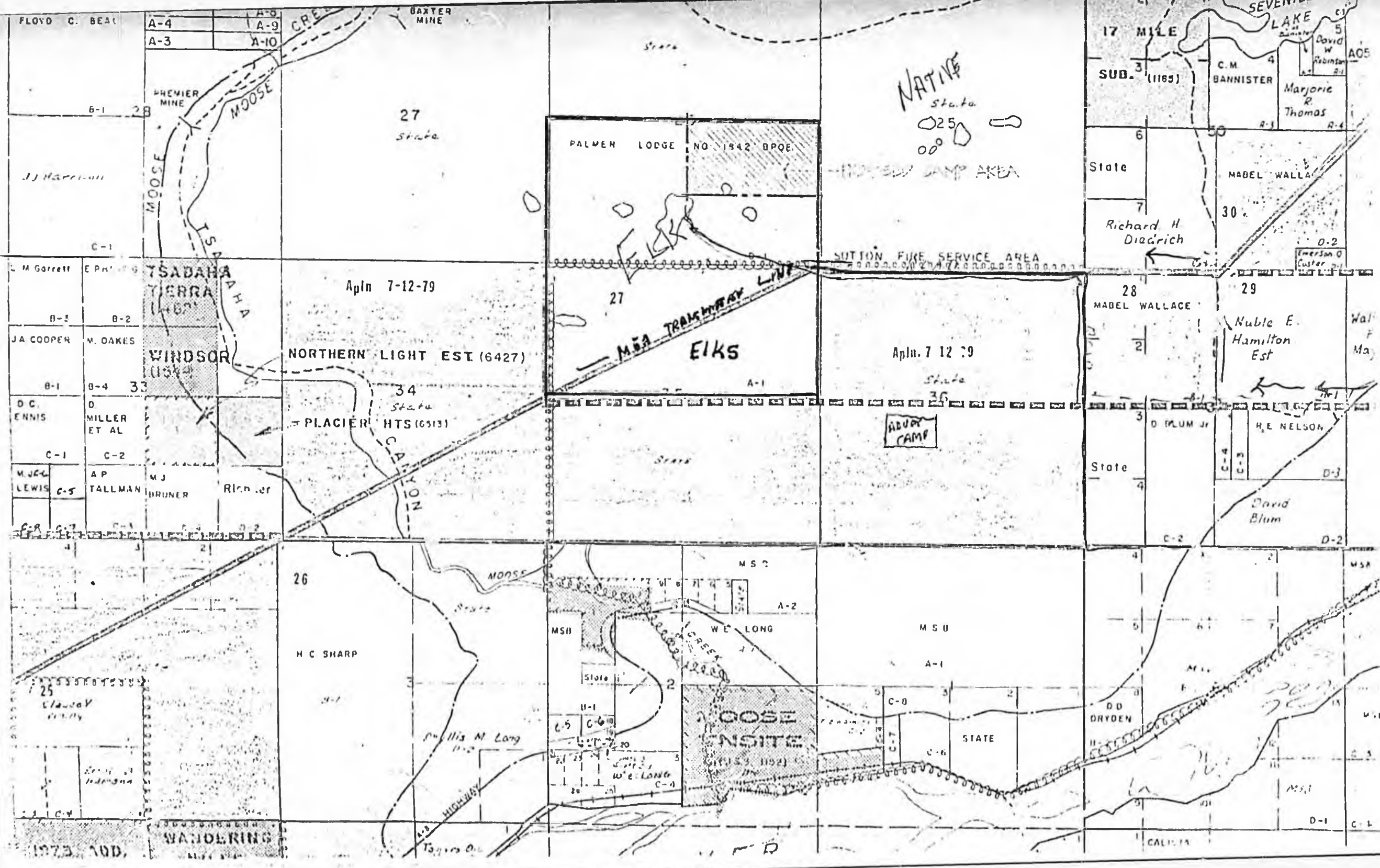
- o Control of the Institution -- From administrators contacted there was unanimous agreement that the smaller the institution the easier it is to control the inmate population, even where the same staff to inmate ratio existed. The main reason was due to the ability of staff to establish rapport with the inmates and diffuse quickly and efficiently potentially dangerous situations. In larger institutions the mere number of interactions which occur tends to inhibit this important function.

⁵Adult Corrections In Alaska, p. 41.

o Smaller Prisons Are More Humane and Safer For Staff and Community -- Conrad sees prisons as inevitable in modern society, but advocates they need not be inhumane, dehumanizing, brutal holding tanks for inmates. Rather, the solution lies in designing and building smaller institutions that would reduce the inhumanity that breeds in the larger institutions. Conrad argues that continued use of brutal maximum security prisons not only affects the inmates, but degrades all of society. This argument is supported in a study which established the inmate's perception of density was directly related to rate of assaultive behaviors by inmates on other inmates and staff. It is likely that perception of density is directly related to the size of the institution.

As Roger Endell noted, other states have found that the larger the facility the higher the incidence of prison violence. He further attributed the relative absence of violence in Alaska's prisons to its small prison capacities. Dana Fabe, head of the Public Defenders in Alaska, also concurs and stresses the need to establish several small maximum security facilities. "Ms. Fabe believes that this approach would also strengthen the Division's ability to separate dissimilar groups of maximum security prisoners; e.g., sex offenders could be housed apart from other classes of prisoners."

o Other Institutional Advantages -- In an interview with many of the staff at the Fairbanks Office of Adult Probation and parole, several additional advantages were cited. Staff and inmate attitudes would be much more positive in smaller prisons. The reasons given for positive inmate attitudes was that in smaller prisons the inmate retains his sense of individuality as opposed to simply being a nameless face and number among many. As for positive staff attitudes these would occur because of the ability among small staffs to "get to know each other" and form supportive relationships. Higher levels of face-to-face communication would also reduce the possibility of inmate manipulation of one staff member against another.



FLOYD C. BEAT

A-4
A-3
A-9
A-10

PREMIER MINE
MOOSE

27
State

PALMER LODGE NO. 1942 BPOE.

NATIVE
State
O 25
OO

SEVENTEEN MILE LAKE
17 MILE
SUB. 3 (1185)
C.M. BANNISTER
Marjorie R. Thomas
AOS
R-3
R-4

State
MABEL WALLACE
Richard H. Diarrich
0.2
Emerson O. Custer

C. M. Garrett

TSADAH
TIERRA
WINDSOR
(1884)

Apr 7-12-79

27

M&A TRAILWAY LINE
ELKS

Apr. 7 12 79
State
36

28
MABEL WALLACE
Noble E. Hamilton Est
Wal. Ma.

JA COOPER

M. OAKES

NORTHERN LIGHT EST (6427)

ELKS

ADULT CAMP

29
D. BLUM JR.
H. E. NELSON
D-3
David Blum
D-2

D. C. ENNIS

O MILLER ET AL

PLACIER HTS (6513)

34
State

M. J. LEWIS

A. P. TALLMAN
M. J. BRUNER

26
H. C. SHARP

MSB
MSU
W. E. LONG
MOOSE
SITE
(1859, 1924)

MSU
A-1

STATE
D. D. DRYDEN
D-1
C-1

25
State

W. E. Long

W. E. LONG
C-5
C-6
C-7
C-8
C-9

STATE

WANDERING

1973 ADD.