A CAPITAL CITY FOR ALASKA

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INTRODUCTION

STATEMENT OF BASIC DESIGN CONCEPTS

The new Alaska state capital should be a symbol and a demonstration. It should symbolize the relationship between the people of the state and their government; it should symbolize, poetically, its three strongest environmental determinants: sun, snow and light; it should demonstrate the ways in which large-scale planning can enhance the livability of a community and improve the relationship between what people build and the natural ecology.

The new Alaskan capital must also, of course, be a community that works: that will be as economical to build as is consistent with a quality environment; that will grow smoothly to the target population size and beyond; that answers the special problems of living in Alaska.

Most important, the experience of visiting, working and living in the state capital must be enjoyable: the limitations of small size, isolated location, darkness and a harsh climate must be overcome; and the advantages of a magnificent site, freedom from past urban mistakes, proximity to nature and the opportunities for outdoor recreation must be enhanced.

All the people who have been concerned with planning and developing the Alaska state capital clearly understand that it is a rare opportunity, and the steps of the process to date have been accomplished with exemplary thoroughness and imagination.

The designs and plans outlined on these pages - and in the accompanying drawings and photographs - represent another step in this continuous process, and one which will be subject to many changes as design and implementation go forward. Our plan embodies a design concept that gives physical form to the attitude towards life that we feel should characterize this new city, and which we believe is implied by the detailed program information that has been made available to us.

What we seek to provide in this presentation are the basic concepts which, if they are selected, will guide the future development of the capital and the government buildings. We believe that these concepts are strong enough to provide a clear direction, but flexible enough to admit necessary changes and additions.

These concepts embody a philosophy about the quality of
life, environmental experience and social interaction that should be shared by the residents of this new community. Our drawings show how these concepts can be translated into the specific vernacular of Alaskan life, and the specific requirements of an Alaskan capital.

The following are some of the most important of these basic design concepts:

The form of this new city should be the result of its social systems and values. We firmly believe that this means a community is compact, strongly focussed and reasonably dense at its centers, in contrast to both clustered and more free organization in its residential and outlying areas.

Location and configuration of the buildings, roads, and public spaces should be shaped by geography, climate and orientation for sun, views and wind protection, and should work to the benefit of the best arrangements for human habitation, and social interaction. The city is designed for the benefit of people, with full respect for natural constraints and opportunities.

The plan should provide direction and unity, but it must also allow continuous opportunities for individual choice and enterprise, and be able to accommodate change without compromising the central design concepts.

Design concepts should always be measured against standards of cost effectiveness, to make sure that objectives are accomplished in the most efficient and economical manner.

The community should be sited and planned to enhance the natural landscape and limit adverse effects on the environment.

Buildings should be designed to use energy efficiently and take advantage of the most favorable orientation.

The city should also be designed to be sufficiently dense and compact that it makes efficient use of investment in roads, utilities, transportation, maintenance, and the land itself.

Public spaces inside buildings, protected exterior spaces and natural open space corridors should all be integrated into a single public open space system that unifies all important community activities. In the long winter nights, these spaces would be lighted with low-energy luminaires to create a glowing, friendly public environment.
In summer these spaces would help interconnect indoor activities and outdoor open space.

The experiences that people have walking in the center and in the village and neighborhood centers should weigh more heavily in the design than the experience of driving through these areas, although direct automobile access to all of these places is essential, as are alternate means of travel like bicycles and cross-country skis.

Buildings, new landscaping and roads should be designed to modify climate in a favorable way.

The environment of the community should feed the senses and spirit. Color, texture, light, a variety of materials, the use of modified climate spaces with their own plant ecology, the avoidance of mechanistic uniformity and straight-edge design will all contribute to a richer life for the people of the capital.

The design and location of schools, shopping, and other public activity spaces should be closely related to the public open space system, which will also bring together into a social entity public spaces that would normally be found in isolated buildings.

The arts should be an integral part of community life, part of the educational system and public activities, and used to the fullest throughout the design of the city and its landscape.

DESCRIPTION OF DESIGN AND CONCEPT

VIEW FROM THE AIR:

Normally, a visitor arriving by air would see the capital only from a distance, as the location has been chosen so that it will be outside the noise and disturbance created by airport take-offs and landings. However, if you were to fly over the new capital, you would see that it follows a simple and easily understood arrangement. The whole town is spread out along a ridge and gentle slope that runs roughly parallel to the Lilly and Deception Creek ravines. The orientation of this slope, a few degrees east of south, also provides the most favorable orientation for
town roads and buildings in this climate.

Roughly in the middle of the development, at a site bounded by lakes and the main road, which follows the ridge line, is the city center, site of the Capitol complex, other government buildings, the major shopping, and other public activities. Close by, along the lake to the northeast, is another, smaller building group that includes the high school, performing arts center, and university extension, as well as the library and major indoor recreation.

The main road along the ridge line, High Street, leads to the village centers, one north and one south of the center itself, which are each the site for a middle school, supermarket, convenience shopping, and public activities. Four residential neighborhoods cluster around each village center. Two higher density residential areas are related more closely to the center, which also includes some housing designed as part of the mix of center activities.

The two ravines are the principal open space corridors of the community, they are connected back to the neighborhoods, village centers and town center to form a complete open space network, which is also strongly related to the schools and all places of public activity.

Across the ravines to the north are individual houses on large lots.

APPROACH BY ROAD:

The main approach to the city center from the airport or the main access highway is along Willow Boulevard, which is the capital's ceremonial entrance way leading into Main Street. The visitor can see the Capitol and other buildings of the center from a distance, as they are on a hillside terracing down to a large lake. The Capitol, on the lake shore, is in the foreground, in a prominent but not dominating position, reflected in the water. All the buildings of the center are seen against the background of dome-shaped Mount Bullion. The profile of the city center is low-lying, with no buildings over five to six stories above grade; it is asymmetrical and changes informally in response to the natural contours of the land, to create a variety of places and vistas.

The alternate approach to the town center along High Street that follows the ridge line from the residential areas is varied and interesting. High Street does not approach the center in the same ceremonial way as the Boulevard, as most
people travelling this route know their destinations. The capitol and other principal buildings are visible as reference points, but in the context of the other elements of the center.

In the daytime, the dominant impression is created by low scale and compact clustering of the buildings; at night the visitor sees the glow emanating from the Wintergarden, Capitol, Arcade and other protected public spaces, which form the symbolic center of the capital and the community.

THE TOWN SQUARE:

Main Street leads between the two lakes and directly into the center of town, where it meets High Street at the Town Square after passing one side of the Capitol. The Capitol's wings are arranged to form two open courtyards: one facing towards Main Street, which the visitor passes on his way to the Square, and the second opening to the northeast to form a vehicular turnaround and ceremonial entrance behind the Square. The Town Hall, a government center for the local community, is also on the Town Square.

THE WINTERGARDEN:

The Wintergarden is a major weather-protected space that faces on to the Town Square and links the Capitol with the shopping Arcade and other major elements of the center. Multi-faceted, enclosed in glass, the Wintergarden has exposures in three directions. From the main entrance Rotunda of the Capitol it wraps around the end of the executive wing, facing south. It also forms a link westward toward the main hotel, and north to the crescent of the Town Square and its connection to the Arcade.

Following the slope on which the city center is located, the Wintergarden has several different levels. The lowest level is that of the entrance to the Capitol, the upper level corresponds to the floor of the shopping Arcade and is two stories higher. These upper floors form balconies overlooking the skating rink, which is in a main space that rises the full height of the Wintergarden. Through solar penetration and supplementary space heat, the temperature of the Wintergarden is kept at a comfortable 40 - 50 degrees in winter, making it a transition zone between indoors and outdoors. In summer, it opens up and is cooled by the prevailing winds. Within the main structure is a climate-controlled garden room,
an exhibition area, shops and kiosks.

This flexible space is designed to serve the community in a variety of ways, tying the elements of the Capitol to the other parts of the center. It is the Wintergarden, rather than a traditional capitol dome, that forms the symbolic focus of the capital city; a space used by all people, rather than a monumental structure. At night, the whole Wintergarden is softly illuminated; the glow both inside and outside creates a strong social magnet that helps counteract the gloom of the long arctic night.

THE CAPITOL:

The wings of the Capitol express the independent functioning of the executive, legislative and judicial branches of government, linked around a ceremonial entrance Rotunda that they all share. Because the Capitol serves those working in all three branches, the legislators and their constituents, state and ceremonial visitors, and the public, it is designed with accesses and entrances that provide flexibility as well as a sense of unity for the complex as a whole.

The visitor enters the Rotunda, which is a skylit space the full height of the building that links the three wings housing the three branches of government. The space is dignified but not empty or overwhelming. It gives identity to the state government while also welcoming the visitor and passing on some useful information. It facilitates the relationship between the people and their representatives. One side of this ceremonial space opens to an exhibition room, where changing displays about Alaska's history, natural resources, wilderness, current activities and developments, augment orientation information about the capital city as a whole.

The Executive Wing houses the Governor and his immediate staff. The Governor's suite on the fourth floor has a bold bay window facing into the West Court, and a reception parlor facing east. The Capitol Dining Room and Cafeteria occupy the ground floor of this wing, opened to the courtyard by a continuous canopy which leads to the Wintergarden. A visitors' reception and dining area is located at this side of the Wintergarden, so that the entire ground floor of this wing serves a second purpose as a place for important public receptions.

On the south side of the complex, along the lake, is the Legislative Wing, which has its own entrance, but may also be entered by the main Rotunda. On the lake side, a
three-story semi-circular space rises through the building. A graceful main stair leads up to Level 2, and the main gathering corridors encircling the chambers. These are arranged like a balcony, with views down to the lobby below. Offices for the legislators and staff are on the north side of this level, above the permanent offices and committee rooms on level 1.

Inside, the half circle is divided to form the two chambers, which are designed so that they may in the future be merged into one large chamber. Each room has a gallery for observers. On the other half of the circle, extending out over the water's edge, is the caucus room, with its private stairs and access. Above it, on Level 3, the legislative library enjoys a full southern exposure and views of the lake.

The Legislature is linked to the Governor's office by a second level bridge across the Rotunda. The same link continues over to the Judicial wing, where two elegant rooms are provided for the use of the Supreme Court and the Appeals Court. The State Archive is accommodated in this wing, which also has its own direct access from the auto court.

The other State office buildings are distributed according to their functional relationships within a few blocks of the Capitol. Many of these other State buildings have shops and concourses on their main floors so that they become an integral part of the rest of the town. They provide continuous covered or sheltered circulation and are also immediately adjacent to other shopping, social services, the ecumenical center, and in-town residences and hotels. The government functions are compactly organized, with room for orderly expansion, but do not appear to dominate the whole community.

PEDESTRIAN AND AUTOMOBILE CIRCULATION:

The topography of the city center permits a mixture of streets and protected concourses and other spaces for pedestrians only. The street and concourse plan has enough of a grid character that it is easy to understand whether you are driving or walking; at the same time, the views up to the mountain above the town and to the lake below, and the gently curving shapes of the streets and concourses create a variety of vistas. Parking and bus stops are immediately adjacent to stores and buildings, but hidden from view by a variety of devices, such as spaces beneath buildings along the edge of the Lilly Creek ravine.
The path of auto and bus traffic does not spoil the freedom of the shopper, visitor, or worker enjoying a lunch hour to walk about at will. There is a pedestrian area, free of cars, from the lake front and the Capitol to the Town Square crescent; interior mews and the shopping Arcade, paralleling east-west shops, give access to at least 60% of the retail space. There are sheltered pedestrian sidewalks on the streets that do carry car traffic. In warm weather, the promenade along the lake shore becomes an important part of the town center with direct access to the promenade from the Capitol complex and the majority of the shopping, part of the way in which the town center is scaled for pleasurable walking and face to face contact.

People driving to the center can circle the major core areas in their cars, so that they have a clear sense of where they are going; and there are numerous parking locations so that people can park conveniently near their destination. Both vehicle and pedestrian have their own rights and precincts, and the points at which they intersect gain, rather than lose, interest from the interaction.

DESIGNS FOR CLIMATE MODIFICATION:

Building heights in the center have been stepped down for maximum protection from northerly winds and the flow of cold air at night: from five or six stories at the top of the ridge to three and two stories close to the lake. (Some of the buildings along the ridge line are actually eight stories high, but their lower floors terrace down into the edges of the Lilly Creek ravine, so that an apparent height of five stories is maintained at street level. Buildings typically have a second level overhang forming an outdoor arcade on the north side of each structure, and enclosed overhangs or canopies on the sides benefitting from direct sun. The orientation of streets has been planned to minimize exposure to wind and deter wind tunneling. Buildings and open spaces are oriented to receive the most beneficial exposure.

NIGHTLIFE:

The Wintergarden, the Arcade and other protected public spaces, illuminated at night, also lead to the movie houses, restaurants, night spots, clubs, bowling, the Y and other activity centers. The hotels are also part of this protected open space system. The relative informality and open-ended quality of the pedestrian concourses and streets permits innovations, changes, and the growth of individual enterprises. Public attractions like the skating rink provide a recreational
lure for nightlife in the town center. Individual enterprises like coffee houses and cabarets cannot be publicly provided for, but they can be zoned and provided for in a masterplan, to assure the full range of facilities needed for a healthy community.

HIGH SCHOOL, PERFORMING ARTS, UNIVERSITY EXTENSION:

Across a lake, about six blocks from the Capitol, is a unified education campus containing the high school, a performing arts center and the university extension building. Some of the lobby and corridor space from each of these buildings is used to create a connecting protected space or inner campus. This concept assists in the integration of art, education, and the community, by putting these elements close to the town center and in full view of it, and helping them to work together and reinforce each other.

The performing arts center should have facilities good enough to be used by touring professional orchestras, theater groups, opera and dance companies, as well as to stimulate all of these creative activities within the school system and community and provide a community-wide forum. This new cultural center will complement the present Anchorage facilities.

The location, near both business and residential areas, includes large playing fields that serve also as a community recreational park. The campus is also convenient for important government events and political occasions.

The location and the combination of facilities should assure continuous use, both day and evening, by both adults and students. The school "auditorium" becomes an all-purpose theatre which is also available for community events and visiting and local production.

Athletic facilities are also handled in the "dual use" fashion that makes the high school into an adult as well as student facility. The traditional "gym" becomes a separate field house for competitive sports as well as recreation (hockey rink, basketball court, indoor tennis, track) and the pool is similarly a community area. (This intention would be supported by a separate administration, possibly under the Parks Department.)

Major concourses and lobby spaces are shared for performing arts and educational activities.

The vocational wing of the high school can share facilities with the university extension, allowing for a broad program of
of continuing education that goes beyond conventional college courses. The high school and university extension would also share a consolidated library with opportunities to include new technologies in communications.

THE VILLAGE CENTERS:

There are two village centers, each located near residential zones to accomplish several goals: to answer everyday needs for food and service within a short radius of residential neighborhoods; to create the most efficient transit pattern whereby all bus routes to the town center pass through or by the village center; to create a focus for a cluster of neighborhoods around the middle school, with extended facilities that make a unique place for recreation, creative activities and community services.

The supermarket, one of the principal magnets bringing people to the village center, is augmented by a variety of other service shops - dry cleaner, bakery, drug store, etc., for one-stop daily convenience. Another magnet is the middle school, educating 880 pupils from the region. Our plan uses the space between school and commerce to create a major space-structure enclosing what might be called a village pavillion. It houses sports (swimming, gymnastics, court games) as well as social recreation (luncheon, snacks, cocktails, pingpong, darts, pool and chess) and constructive and creative activity (workshops, study groups, classes, civic and political action). To create this central pavillion, major facilities normally in the middle school (gym, auditorium, pool) are grouped separately with the additional areas (restaurant, bar, clubrooms, classrooms). The pavillion facilities, possibly administered by the Parks Department or other local agency, are programmed so that the middle school students have their use during the day, with some time reserved for resident use; on weekends and evenings, the balance is reversed. The unique advantage is that the village pavillion offers a recreation focus for family members of diverse ages and interests, in a single convenient place.

The two village centers, known as Spruce Center and Aspen Center, are of different sizes in relation to their location. The smaller, Aspen Center (25,000 s.f. commercial) is to the west of the town center, and is the first to be built. The larger Spruce Center (50,000 s.f. commercial is to the east, which is the major area of future residential growth.
THE NEIGHBORHOOD CENTERS:

Each residential neighborhood, composed of housing clusters of different density and type, is focused on a neighborhood center, the nucleus of which is the lower school, nursery and kindergarten, adjacent to the church and its communal and social space. Because residents and families are known to each other at the neighborhood level, the city's social and human services are actively represented here in the church-related space. Although commercial services are not programmed, it is possible to consider a neighborhood general store if warranted by demand.

To create uniqueness among neighborhoods, each one may be augmented by, or related to special recreational features: a golf course, a craft center with kilns, an indoor do-it-yourself auto repair center, a stable and riding ring, a boat-building shop, a ski-jump, etc. This dispersal of features would encourage the movement of residents among and between neighborhoods, to enhance social integration. So that residents have an alternative to the car, a transit bus system picks up passengers from central neighborhood locations and takes them along the major spine road to central destinations of work, shopping and pleasure.

THE PUBLIC OPEN SPACE SYSTEM:

The outdoor open space system within the capital consists of the ravines of Deception and Lilly Creeks, areas with slopes of twenty degrees or more, and low-lying bogs. Some of the low-lying areas, where there is perched water, have been planned as lakes, or identified as potential lake sites. All of these areas have been connected together into a single open space system which also includes the protected pavillion spaces associated with village centers. The placement of major roads has also been planned in relation to this open-space system. By means of skillful, low energy-source lighting, these public areas can be knit together in darkness as well as daylight: a framework for community life.

The sharing of public spaces by schools and other agencies, and the combination of publicly supported and privately funded enterprises in a single system, is an approach that will require some new thinking about institutional relationships. In the enormous challenge of creating an entirely new community at Willow, it should be possible to take a creative approach to such new definitions.

RESIDENTIAL NEIGHBORHOODS:

There are ten residential neighborhoods, each of which is
designed for about one thousand homes or apartments. This division corresponds to the number of families per lower school suggested in the program, and corresponds roughly with the increments of growth to be expected as the capital develops. Four neighborhoods constitute a cluster around a village center; three of these have their own neighborhood center, and the fourth is integrated with the village center itself. There are two such village center groups. The remaining two neighborhoods are clustered with, and served by, the town center.

A basic decision has been made to include all the suggested building types and densities in each neighborhood, to avoid segregation by building type, which might lead to an unacceptable amount of income segregation and a monotonous site plan. (An exception are the single family houses on two to five acres of land, most of which are located north of Deception Creek). Each neighborhood thus will contain some mobile homes, as well as apartments at a density of 12 units to the acre, houses at four to five to the acre, and so on. The proportions of housing will vary from neighborhood to neighborhood, with the highest densities in the neighborhoods nearest the town center, the lowest in outlying areas.

The neighborhoods have been laid out according to the principle of planned unit development. The location of the main arterial streets and the "collector" roads is set by the plan. Access streets to individual clusters are to be laid out at the same time as the housing. The types of streets associated with each housing type are shown on the plan, but the mix and location can be varied. In this way it is possible to make adjustments in the housing mix to meet the actual conditions of the market as they are established. Such flexibility also permits development by different categories of builders and investors. A large firm could conceivably build a whole neighborhood, particularly in the early stages of development when speed is important. Later, such smaller subdivisions can be designated on a cluster by cluster basis.

Every dwelling unit has immediate access to the public open space system as well as the road network, so that people can travel by bicycle paths, or cross-country ski to other neighborhoods, the village centers, or town center. Houses are sited to be protected from winter winds by having parking garages on their north side and their living and recreation spaces opening on southern slopes. The adjacent
open space network is designed so access to trails and natural areas is achieved by minimum crossing of roads.

The neighborhoods have been designed to promote social interaction, by a number of means, in addition to the public open space system. The provision of special interest facilities in association with neighborhood centers, such as a crafts center with kilns, riding ring and stable, as mentioned above, should promote both interaction within the neighborhood and people going from their own home to another area where the golf course, ski jump or whatever is located.

Street layouts at the neighborhood level are shown as three possible types. The typical cul-de-sac road system is an available option. It is, however, an arrangement that promotes separation (even isolation) among residential groups, whereas other connected road patterns increase social interaction and personal contact within a larger neighborhood sphere, which seems a paramount consideration in this milieu. When housing conditions are defined and subdivisions executed, our plan would strongly favor two things: intensive use of all road frontage for visible housing development of various types, and development of subnetworks of residential roads that are interconnecting.

ROADS AN THE LIGHTING SYSTEM:

As can be seen on the site plan, High Street, the "spine" road, has been designed to be as compact and economical as possible, both to save on construction costs, and to provide the most efficient bus route. When the capital expands beyond a population of 30,000, the spine road can be extended and widened both east and west to reach new clusters of neighborhoods. The orientation of this road, and other principal streets, has been planned to minimize the effects of wind and weather, and to facilitate snow clearance.

Low-energy, glare-free lighting will be used on the road network, not only to illuminate the driving surface but to delineate the surrounding environment and destinations along the road. At night, the roads and the public open space network will have a luminescent quality, compensating for the long hours of winter darkness.

REGIONAL PLANNING CONSIDERATIONS:

The southernmost of the two alternative airport locations has been adopted. The capital site does not permit a lake
large enough for seaplane landings to be created at any reasonable level of costs. However, if the Nancy Lakes area can be used for seaplane landings, a terminal can be created adjacent to the airport site selected.

The airport location has affected the location of the Main Street entrance off the access highway, as shown on the regional site plan.

A possible cogeneration plant has been situated in the southeastern portion of the site away from the prevailing winds and district plants will be built as neighborhood demand increases.

A sewage treatment plant will be built during a later phase preferably on the Little Susitna River which is closer to the major areas of development. An interim solution could be local package plants to be constructed as demand increases.

Storm sewers will be used only if necessary in the built-up areas of the town center, otherwise drainage will be overland following the existing natural drainage pattern.

Further study is required to determine the best water sources and solid waste disposal methods. For the first phase, if adequate quality and quantity is obtained, well water is the most economical source.

The new capital could perform many services for existing towns in the Matanuska-Sustina Valley, and such a role would aid in the establishment of many elements of the new community, such as shopping in the town center. However, we do not believe that a clear-cut, efficient set of relationships will be created automatically. Nor do we believe that routing the access road through government property will be sufficient, in itself, to discourage uncontrolled, strip development along highways beyond the boundaries of government control.

The State should give strong consideration to a regional growth and development plan for the Matanuska-Sustina Valley, and the creation of a concommitant enforcement mechanism.
RESPONSE TO PROGRAM

RESPONSE TO ALASKAN CONDITIONS:

The physical nature of the site itself has had a very strong influence on the plan and design. The site was selected for its favorable orientation in terms of sun and wind, and the amount of available, buildable land. Roads follow contours as much as possible to minimize construction costs. Non-buildable areas: the Deception and Lilly Creek ravines, slopes of more than twenty percent and low-lying bogs, have determined the location of the open space system. Lakes have been created to open up views and turn boggy areas from a potential liability into a recreational and visual asset.

The design and placement of buildings and roads has been strongly influenced by the need to screen development from the downward flow of cold air at night, to open development up to warm, rising air in the daytime, and maximizing solar exposure.

The lighting of the roads, buildings and public open space system has been designed to make the city luminescent during long winter night. The wintergardens and environmental lighting are particularly important in this regard.

The capital's self-contained location has led to a design that emphasizes variety: in the character of individual neighborhoods, in the different kinds of public uses provided, in the enclosed wintergardens, with their potential for a different plant ecology from that of the surrounding landscape.

The neighborhood centers, village centers and the town center have all been planned to provide all-weather environments which permit leisurely strolling from place to place within these centers.

The public open space system provides a direct relationship to the natural environment from within each neighborhood. Such public open space, and particularly the lakes, create direct connections to
nature, even for the densest parts of the town center and the Capitol complex. Residents can ride a bicycle or take cross-country skis to work in the town center, independent of the road system, as well as going directly to surrounding wild areas from the open space network.

The architecture proposed has also been strongly influenced by Alaskan conditions: informal organization, low-rise buildings, dramatic use of interior light, warm earth colors are the keynote of the major structures. Orientation of each building, the provision of protected spaces in village and neighborhood centers are all direct architectural responses to conditions found in Alaska. Color, texture, variety, the opportunity for unexpected vistas and events have all been emphasized.

RESPONSE TO COMMUNITY GOALS:

The social system design guidelines and other programmatic descriptions of community goals have had a strong influence on the capital plan.

The principal response has been the public open space system which organizes and relates not only outdoor spaces, but buildings and protected spaces that connect them. The education system has been closely related to opportunities for leisure-time activities, with dual-use of the non-academic portions of school buildings promoted wherever possible. In this way the nursery-kindergarten-elementary school complexes are related to neighborhood centers, the middle schools to the village centers, the high school to town center performing arts center, university extension building, and facilities for watching competitive sports.

The public open space system and related buildings have been designed to give the whole community a sense of unity and structure, particularly in the winter, when environmental lighting and the luminescent quality of "Wintergarden" and arcade spaces will counteract the effects of long periods of darkness.

This public open space system has a role for the private developer and entrepreneur. It is anticipated that such facilities as a stable and riding ring would be privately owned and run, but locations would be coordinated with the neighborhood centers.

To help combat "cabin fever" climate controlled spaces such as the town center shopping arcade, as well as the
wintergardens, provide spacious connecting elements between individual parts of the city.

Social interaction in the residential neighborhoods is promoted by a full mix of housing types, and by the way in which street layouts are planned, as well as through the public systems described above.

COST EFFECTIVENESS:

Cost effectiveness as an important guiding principle has been kept in mind throughout the planning process.

A major method of reducing costs has been the joint use of public spaces of different program elements, and the multiple use of many facilities.

Road layouts have followed contour lines wherever possible to reduce grading and other construction costs, and the routes have been kept compact to hold down the length of major utility runs, as well as the costs of the streets themselves.

The design of the buildings has also followed cost effectiveness standards closely. The design of the Capitol complex, while dignified and suitable for a symbolic and governmental center, is not overblown or pretentious. Symbolic elements, like the Wintergarden, are designed for heavy public use as buildings and as corridors, which more than justifies cost. Shelter is created without extra cost in mews and linked walks, through lobbies, and by overhang design. Construction systems have been considered and recommended that are suitable to the building season in Alaska, and do not require excessive import costs.

A major impact on energy and cost saving is contained in the COMPACT HIGH-INTENSITY PLANNING of the town center and surrounding neighborhoods. This is achieved without high-rise construction, which would be counter-productive. The advantages of this Low-rise High Intensity planning are fivefold: 1) it allows more people to live and work in close proximity, reducing transportation demands and road requirements; 2) it allows more people to live close to the primary attractions, such as lake and town center; 3) it allows the utilities infrastructure to be reduced in size and cost, and to be completed in a shorter time; 4) it reduces the cost per unit for municipal services and allows a higher level of services to be provided; 5) it gains from construction of party walls, common areas and accesses, and from more economical maintenance and heating thereof.
LAND CONSERVATION AND ENHANCEMENT:

Road designs and the selection of building sites have all been planned to minimize disturbance to the natural landscape and adverse environmental impacts. The zoning of open space promotes the preservation of fragile elements of the natural environment, such as ravines, wetlands, steep slopes.

The proposed lake system should improve the micro-climate, making building sites near the lakes of higher quality, and will improve the drainage.

Many of the land conservation measures were program requirements, but this plan, by making "unbuildable" areas the heart of the open-space system, makes sure that these spaces have the highest possible asset value for the community.

ENERGY CONSERVATION:

Inspection of the site plans will show that major buildings and individual dwellings have all been oriented so that their bulk will screen flows of cold air and provide shelter from wind, and open up the principal building faces to the favorable southeast exposure, for maximum benefit from sunlight.

Public spaces have been oriented to receive maximum sunlight, and not to be shaded by adjacent buildings.

Planting has been used as climate modifiers wherever appropriate, providing windscreens and creating sun traps.

The general compactness of the land-use plan also aids energy conservation.

These general planning principles for energy conservation will be supplemented, when the buildings are designed in more detail, by more specific measures.

STAGING:

The staging of the construction of a new community is obviously a highly complex undertaking that will require specialized, detailed planning, and which will be subject to modifications as conditions change.

In order to promote staging and orderly growth, concepts about how the community should grow have been built into the basic design.
The town center is planned to grow incrementally, fanning out from the Capitol and Wintergarden, which form a vertex, a central point. Additional government buildings have been related to shopping and other uses in modular units. Once the Capitol is complete, the core of the town center will have its basic element. The hotel and the first units of the Arcade complete a large part of the Town Square. From then on, growth is out of the immediate view of the major public spaces and the "heart" of the city will function socially and economically.

In the neighborhoods, the street system promotes growth in planned units, with the neighborhood being a growth unit in itself. The first neighborhood to be built should be one of the higher density areas planned near the town center, so that residents can shop in the main shopping area before the first village center is constructed.

SUMMARY

"LETTERS DESCRIBING LIFE IN THE NEW CAPITAL:"
LETTER FROM LINDA LARSEN, resident of Spruce Village in Willow, Alaska
September 15, 1988

Dear Paula,

You have asked what it is like, living in this completely new community and how it compares with the old days, when we lived next door. The best answer is to describe what happened here today.

The day begins, as everywhere in the world, getting the children off to school. John (12) and Laura (15) catch the same bus, which loops by the head of our street and drops one at the Middle School in the Spruce Valley Center, and the other at the High School campus near downtown. They make it in 15 to 20 minutes.

Peter can get the same kind of shuttle bus a little later, to his office in the Commerce Department without bothering with the car, but he likes to walk or bike, and as soon as it snows and freezes, he sets out on skis, and makes it door to door, by crossing the lake, in under 20 minutes. He skis home or takes the bus, carrying his skis in the rack.

Shiela, who is 8, joins her neighbors and walks to the elementary school in a matter of minutes.

Unlike the old days, I no longer hang around home all day. I wind up my housework and cooking by noon, in order to bike over to the Spruce Village Center, where loads of things are happening. We have an unusual place called the Village Pavilion, which has a beautiful indoor pool and year-round garden and a place to eat lunch, clubrooms etc. It's like a private club in a way (which everybody belongs to) but it also has lots of active things to get involved in. I'm doing pottery right now in one of the workshops. My friends are learning to hook rugs, to upholster furniture, cook Japanese, and speak Russian.

The Village Pavilion is right next to the Middle School, part of it in fact, so we can use the auditorium for drama group rehearsals; in the evening there's a father-and-son basketball league that uses the gym. The students, of course, also have use of the pool, so it works out very well for family life, as we can all be doing something different in the same place. I see people from all over this end of town there, which keeps us all in touch and able to help out each other in hundreds of small ways. And to socialize, of course.

With the supermarket right next to the Pavilion, and other basic shops too, life is pretty convenient within a brisk walk of our house. But the Center offers other kinds of special attractions, so this afternoon I drove downtown for some errands.

The Center is amazingly compact, so after parking (under the town square) everything is within easy walking distance—the hotel, post office, town hall, good shops. On the worst days of winter you can walk the whole shopping area under sheltered walks, many of them completely enclosed. Peter's office is right in the Center, so its no trouble for him to do errands for the family.
But actually I enjoy just walking around downtown to see who's who and what's new at the middle of things. There's so much coming and going and special activity centered around the capital's feature -- the big glass Wintergarden, which is always bright, warm and alive. And it is a garden, among other things.

Today I went in to see an art exhibit from Kotzebue, and found a craft sale from the high school Vocational Program - beautiful woodwork and carvings. After ordering a perscription, getting a watchband, and shopping for ski boots, I sat down in the Wintergarden for coffee and danish, overlooking the skating rink. That's the place I meet up with Laura, when she comes over after high school for a skating lesson, or to practice her "edges" with friends.

Today Peter joined us after work, and we all headed back to the Village together. On the way past the General Store, I picked up my week's vegetable order: we have a produce cooperative that orders and "imports" unusual fresh things to keep us going until gardening time comes again.

What about the other kids? John was at the Village Pavillion, happily submerged in a swimming meet. Sheila had bussed over there with her class for a nature study group. So we adults socialized for a while (there's a pub in the adult area) with the family from up the street, and we all watched a TV showing of "Capital 88" on the big oversized screen, before heading home for dinner and homework.

By now we have pretty nearly everything we need right here, in the way of shops and services. And something we never had before. There is a super Performing Arts Center with three theaters of different size and style: U of Fairbanks Symphony performed last week, and the Joffrey Ballet comes next week, and our drama group will be performing on stage too, sooner or later. When important public figures come through (last month it was the First Lady) there is room for all of us to hear them, in style.

There is more than enough continuing education for adults. There's recreation galore -- golf for Peter, tennis for John, riding for Laura, hiking and camping for all of us in summer.

But best of all, we really look forward to winter (yes I said winter). Not just the skiing and skating, but the whole festive atmosphere of community winter activities. Curling, and dog races, and ice sculpture competitions in Capitol Square; and the mountainside torchlight parade to celebrate "First Night" on New Year's Eve. There are actually regular festivals celebrating each season, involving natural features such as the lakes, the Creek and the mountain, which gives something regular to work toward and look forward to. You have these things elsewhere in the state, but here, life seems set up to get everybody much more involved. And the enviroment is so beautiful that its often like living in a sports resort.

Oh yes - I'm being encouraged to run in a special School Board election in the spring! The new city manager is very energetic about getting novices like me involved in local politics. Heaven knows, I've contributed my share to the school population, and think I might do it.
Certainly, this started out as a "company" town as predicted, but in the last couple of years the social aspect has become much more varied and interesting - lots of professional people moving in, and entrepreneurs and merchants and working people, just the same kind of mix you'd hope for anywhere in the state. Like any town, we have our share of people with "symptoms" and problems, but the social and human services are well set up to serve those who need them. Legislators come and go, constituents and visitors come and go -- all adding to the changing texture of the place. We're growing into a real city, while managing to hang on to the atmosphere of a town. You know a lot of people, but seek your own crowd. You can live right in the center, but there's as much untouched wilderness as anyone can want right out there.

A lot of these things sound contradictory, I admit, but in many ways our desires today are contradictory: individuality yet togetherness; family life yet independence; managed community yet personal freedom; optimum technology yet the full joy of unspoiled nature; a warm sociable winter, a wide open unstructured summer. We resolve a lot of those contradictions here, and often manage to have it both ways.

So if John announces that he'll be transferred to Willow before long, don't get upset. If "Alaskan" means the search for a good state of mind and body, or if it means harmony between society and nature, then the Willow way of life may prove to be the pattern of Alaska's future. I think you'd like being part of it. Come see for yourself.

Love to all the troops,

Linda
REPORT ON OUR TENTH GRADE FIELD TRIP TO OUR STATE CAPITAL AT WILLOW, ALASKA
May, 1990

by John Brownfoot, Fairbanks High School

Our class in social studies went by bus to see the new capital of this state. We studied about it in class before the trip. Our teacher Mr. Hinsdale reviewed some facts with us on the bus trip. He talked about the three branches of government, and the "bicameral" legislature and the meaning of states rights. Some of us thought the whole thing might be boring. Or maybe scary.

When we got near Willow we turned off the highway on a fine new road and drove some miles to the entrance of the capital city. We passed the airport and knew we must be getting near. The first thing we saw was quite impressive. There was a big blue lake with the road going right across it. The Capitol building was sitting right there on the edge of the lake, with the whole town up behind. It was sunny and everything reflected in the water. It was a city alright with a tall clock tower and all, but still you could see lots of trees and grass and a mountain and sky above, so it was quite nice and made you want to go in.

Well, we drove right over a waterfall and up to the main street. The hotel was on one side and the Capitol on the other and we got a good view of it. It wasn't like the oldfashioned Capitols in our civics text, it was something quite friendly, two long sort-of-arms reaching out to the front, and one in back. Right off that's how we knew it was the Capitol, because of the three arms (like the government) and the three glass half-circles. These were clear like skylights to let sun into the lobbies. (Mr. Hinsdale explained that that's where lobbying goes on.) We could see the big bay window where the Governor's office is, and the high space where the legislators were meeting. Kind of interesting.

First off, the bus driver took us around the main part of town to show us the sights. Next to the Capitol was an amazing big glass tent ("Wintergarden" he called it) that seemed to be right in the middle of everything. It was all sparkling glass like a greenhouse, with lights and people moving inside. The hotel had a swimming pool right next to the lake, and inside we could see a fancy restaurant with a giant fire burning in the middle of the room. Next we saw the Town Hall and a tall clock tower and a longroofed-over street of shops, and drove around the whole square. People were walking everywhere because no cars are allowed inside. We saw the government office buildings and shops and quite a few restaurants, which reminded us it was time for lunch. We were starving.

-23-
Just in time the bus drove back to the Capitol, the other side this time. We got out at a rather fancy covered entrance. We went inside to a place they called the "rotunda". Why? Because up over head was a big round opening in the ceiling, and you could see right through three floors to see the sky above! (It was one of those three glass domes.) We walked through the building, (exhibitions, statues, and pictures) to get to the eating places, the state dining room, happy to discover it was inside that "Wintergarden" glass house. In a special visitor area, we ate sandwiches and soda and treats; at the same time we could watch some figure skating and people walking around and talking and other people eating lunch while a band played on the other side! Some of us found a special room with a giant TV screen where we could actually watch the lawmakers in a debate about game laws which was actually going on that very minute in the chamber across the way.

Then the teacher showed us through the Museum and took us up the tower to look out on everything, where it was explained how all the state buildings worked, etc. Finally back to the Capitol (past a lot of shops but we wouldn't stop) where we went up near the Governor's office. He has a neat view of the new high school and all. Then we saw the House and Senate chambers, and the room where the Supreme Court sits sometimes, and lots of pictures from around the whole state, and the papers that made Alaska into the 49th state. Oh yes -- the Governor's house by the lake too.

From our visit we learned a lot about our state. We got a good picture of the men and women in government. We got to see what "government" looks like. It wasn't boring or scary. I'm thinking it might be good to work in government in our new capital someday.
February 17, 1986

Dear Ed:

It really was a pleasure to be of some service to you. After the help you gave me when I first came into the legislature and our many years of service together, you couldn't possibly owe me anything for what I do in what, to me is strictly the line of public service.

In fact, taking care of your request was for me part of a broader, more important experience. For it got me to thinking of the fascinating years that we spent together in Juneau and the very interesting contrasts that I find in today's legislature. You, better than anyone I can think of, will understand my thoughts and impressions, so I will take this chance to unburden myself.

One of the things that always bugged me in the old legislative building was the way you could never get away from the lobbyists and others who wanted to bend you arm and your ear about some special interest of theirs. Well, Ed, things are different now. No longer do we have to run the gauntlet of the long narrow corridor between the House and the Senate to get to the committee rooms, lounge, stairway, or anyplace else. Instead, we have these wide open lounges outside the legislative halls; the Senate and House are adjacent to each other with special meeting rooms behind, where you can meet without interference from outsiders, and all our staff and other services are right at hand. It makes a tremendous difference both in terms of personal freedom and legislative operations.

And one thing you will certainly appreciate, old buddy, is the fact that not only do we now - as in Juneau - have a legislative lounge, but there are even separate toilets for legislators. No longer can a lobbyist get to you while your pants are down!

I also like the juxtaposition of our legislative facilities and everything else that we relate to. The governor's office is down a corridor from us, no longer over the heads of the legislators. Access to all key executive offices is real easy, while at the same time they don't sit right on top of us. Equally important, maybe more so, the "critical" facilities are within easy reach; daily lunching in an assortment of nearby spots, including the rather nifty Capitol Dining Room, and good places to be taken out to dinner when anyone asks me.

And the most critical facility in the life of the Legislature -- the new Bubble Room -- is just across the way in the fabulous hotel on West Lake. Shades of the old Bubble Room: it's got the intimacy and warmth of the old Alaska atmosphere that we lost when the Baranof remodeled everything and renamed our old hangout as the Latchstring.

One place I really like to hang out in, quite different from anything we ever experienced before, is the Winter Garden. Just a few minutes walk from the legislature area (all under cover), this place provides a phenomenal environment for sitting, talking, eating, relaxing, whatever. You sit there, surrounded by plants -- trees, hanging foliage, flowers -- and you feel as if you are in a southern clime or as if it's summer. Instead, it's cold out, and you can see snow on the ground outside, skaters twirling, kids throwing snowballs. In the spring and summer,
the so-called Winter Garden turns into a true Alaskan garden, with
gorgeous flowers everywhere, the whole place open to the elements,
breezes wafting through, and all that (though they do drop the glass
side walls when the winds start blowing hard). It's such a wonderful
place, and I just love to take constituents and other visitors over
there because they feel so at home.

Speaking of ways of dealing with the environment, one of the features
that has been built into this place is a system of protected walkways
connecting all government and related non-public facilities. So while
the winters can be a lot rougher than Juneau, a person can get from the
legislature to the Town Hall and then to, say, the Transportation Building,
without ever getting cold, or, for that matter, wet at other times of the
year. And at the same time you have the option of walking out in the open
if the weather is with you.

Speaking of weather and the outdoors, one of the great features of both
the House and Senate chambers are the tremendous glass bubbles that serve
as a roof over our heads. They provide both a physical and psychological
tie to what is happening outside, helping give one a feeling of openness,
expansiveness, avoiding the boxed-in feeling that one gets sitting in the
same window-less place for hours at a time. And the great thing is that
when we get into the end-of-session marathons (yes, we still go through
that), you can tell as day passes into day into night and into day again,
by the window that we have onto the environment outside our chamber.

Before running off to my committee meeting, I want to mention a marvel
that we certainly didn't have in the "good old days". And that is the
whole system of communication. Not only internally, where everyone here
seems to be connected to everyone and everything else for instant
communication and information retrieval. More important, our legislature
(and the whole capital) are now so much more part of the whole state than
we ever imagined could be possible. While we get many, many people coming
here for a personal look and an individual experience, we are now tied to
every community, every broadcasting facility, and -- in effect -- to every
person in the state. Thus we have not only carried on the tradition of
"Capital 77", but we have a two-way communication system where every
constituent can get personal messages to his or her legislator and count
on an almost instantaneous response from my office or that of my colleagues.
(If I don't have the answer immediately, at least I can let them know right
away that I am pursuing their matter, whatever it might be.) All of this
we might have had in Juneau, but it is my feeling that moving into a new
capital enhanced the possibilities of a rapid jump into the next generation
of communication systems.

With this, I must end this communication. Let me just say that while I
was extremely skeptical about the value of moving the capital to the Willow
area, I do think we've been able to create an environment and a government
process that carries out well the hope of those who said "If we must
move the capital, damn it, let's do the best possible job we can."

I do trust that you will be getting better in the near future and will
have an opportunity to visit our -- your -- new capital. And I can
assure you that it will be a pleasure for all legislators to grant an
old friend and colleague "the privilege of the floor".

Very best personal regards,

Jerry
APPENDIX

SYMBOLISM IN STATE AND LOCAL GOVERNMENT BUILDINGS

A Place for People and Exchange

The traditional dome of U.S. state Capitols evolved from a monumental structure of ancient Rome - the Capitolium, or Temple of Jupiter, overlooking the Roman Forum. The first "Capitol" in the U.S. colonies (Virginia, 1699) built to house the colonial assembly and council, symbolized the authority and stability of the British Crown. Its two wings were topped with a simple steeple-like spire; the full-scale Capitol dome evolved over the next century as a reflection of national liberty and independence, and of the authority and awe-inspiring monumentality of emerging state governments, spoken through public architecture.

However basic and beautiful a form in itself, the traditional formal symbol - an aloof classical building, dominated by a gilded dome - seems inappropriate for today's government, particularly in Alaska. Indeed, the idea of bricks and mortar alone seems an uncomfortable symbol for a government which is no longer a ruling body or autocratization force but rather a process occurring between populace and a few of its members chosen as representative agents. Whereas a monumental building sets government and people apart, a place for process and exchange among people brings people and government together. It is such a place, open and inviting, that we have chosen as our primary symbol of this center of self-government: The transparent Wintergarden.

A secondary symbolism, which is democratic in meaning, lies in the bi-partite nature of the legislature, and the tri-partite structure of the governing powers. People's representation in government is a trinity of forces, balances in the dynamic asymmetry of executive, judicial, and legislative powers. The people's voice in the legislative branch is of two parts, separate but in harmonious balance, acting with (and perhaps becoming) a unified hand.

These inherently democratic symbols, balanced and asymmetrical, are reflected in an overall form that houses the central functions of the legislative, judicial, and executive branches of the Capitol. Three arms reach out, each with its main rotunda, a focal space, each topped by a simple glass-domed skylight.

The two houses of the legislature are situated side by side in a divided hemisphere that, if need arises in the future, can be merged into a single chamber. Translucent and transparent materials, in combinations of flat and domed skylights and clerestories, surround and cover the chambers and adjacent Library, allowing diverse views of light and sky from various parts of the legislative area by day, a luminous glow by night.
Self-Government in the Capital City

The most important American symbol of self-government at the local levels is the Town Hall, the earliest locus of local voting and lawmaking. The "town house" or meeting house was built as a home for the earliest form of local government - i.e. town meeting. Boston's first townhouse, for instance, built in 1658, was a gathering place that sat above the marketplace, surrounded by a square that became a mixing place of government and commerce. This market-civic square became a traditional American town form that continued even as the Town Hall became increasingly diffused as a series of operating offices and departments.

Willow's Town Hall is set apart as a prominent free-standing structure in the Town Square, adjacent to commercial activity and facing on the square where local government and commerce intermingle. Anticipating the importance of local government in some form, the building itself containing a Council Chamber is also the meeting house for all manner of public functions. Linked to it are the variety of town offices, which carry around the square above the ground level shops. The offices may expand without upsetting the function or symbolic value of the separate Town Hall itself.
THE TOWN CENTER COMMERCIAL PLAN

Street character in the capital is created by small recognizable units, individualized shop fronts and entrances, rather than large continuous buildings. It is important to retain display activity, vistas, and visual interest along the frontage of all streets in the center of town; therefore, even where interior street coverings occur, the shop fronts are retained on the street side so that buildings do not turn their backs on the street.

Pedestrian Streets: There are two interior walking streets or lanes in the retail area, leading from each end of the Town Square and covered Arcade. These are for direct sheltered pedestrian travel from one end of the shopping area to the other. It is assumed that shops of full depth would have a major entrance from the street and, if possible, a secondary entrance from the Lane, with some display area also on the back. Where this is not desirable, stores can be entered from passageways at the side, or only from the front.

We have planned underground service access for the shops around the Town Square, where there is structured parking. Street servicing from High Street and Front Street is also possible. For other shops backing on the Lanes, either front or off-street servicing can be accommodated. The Lanes might be used for rear service access during parts of each day, as they are at least wide enough to accommodate both vehicles and pedestrians. Another alternative would be a delivery pull-off at the passageways between buildings, with walk-in access to the rear of shops. Ideally, the Lanes would be intimate streets reserved for pedestrians and shoppers.

Layout of Shops: A suggested layout of all basic shops and services required for a town of 30,000 has been developed, to test the workability of the layout and its commercial feasibility in relation to all the elements of a coherent town center.

The plan is developed with respect for conventional retailing wisdom. There are "anchors" of different character at the opposite ends of the shopping zone. East of the Town Square is the small department store; at the West end of Pine Lane is an all-purpose Sears with its own parking. There is some "zoning" and grouping of shops by type and interest. We have placed the smaller key shops in the most visually prominent areas -- such as the lively "General Store" on a prime corner of the Arcade. Shops serving residential areas (Drugs, Wines, cleaners) are closest to the residential area of the lake. A variety of restaurants and food shops are dispersed throughout the core, for shopping and lunch hour convenience at both sides of town. There is a clarity and directionality in the plan, but no forcing of shoppers along a single path: many options remain open.

Retail Expansion: To preserve adjacent ground level space, and make it available in future stages of growth for prime retail, we have suggested placing "secondary" and "support" type of activities behind the Town Square and on outer Main Street. Thus, there could be a private medical group,
real estate and insurance offices, utility office, banks, travel bureau, and other walk-in services along the North side of High Street, and in the walk-through lobby of the Legislator's hotel. There could be professional offices of all kinds -- lawyers, architects, graphic services, engineers, developers -- in other ground-level space, on the assumption that, when such space reached premium value for retail use, such offices would then be worth relocating in conventional upstairs space. This serves tight organization in the foreseeable stages, while allowing the commercial core to enjoy future expansion in the same commercial district, thus restricting sprawl.

VILLAGE AND NEIGHBORHOOD CENTER PROGRAM

Each Village Center is the hub of four neighborhoods (each 250 acres of housing.) Each neighborhood is made up of blocks or housing clusters representing 658 units on a total of 296 acres.

NEIGHBORHOOD CENTER:

Nursery School + Lower School + Church/Community Rooms and
Skating Pond Social Service Reference
Playyards

VILLAGE CENTER:

Middle School + Pavillion + Church + Branch Library
20 acres Swimming pool
132,000 s.f. Game Rooms
Multi-purpose Workshops
Auditorium
Gymnasium
Restaurant/Pub

+ Commercial Program (50,000 s.f.)

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<tr>
<th>Business</th>
<th>Area (sq ft)</th>
<th>Services</th>
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<tbody>
<tr>
<td>Supermarket</td>
<td>20,000</td>
<td>Hardware, Housewares, TV</td>
</tr>
<tr>
<td>Bank</td>
<td>500</td>
<td>Hobby Shop/Pets</td>
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<tr>
<td>Dry Cleaner</td>
<td>1,000</td>
<td>Novelty and Apparel</td>
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<tr>
<td>Laundermat</td>
<td>1,000</td>
<td>Specialty Food</td>
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<td>Barber and Beauty</td>
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<td>Florist</td>
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<tr>
<td>Shoe Repair</td>
<td>500</td>
<td>Family Restaurant</td>
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<td>Medical Group</td>
<td>2,000</td>
<td>Village Pub</td>
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<tr>
<td>Pharmacy/newstand</td>
<td>1,000</td>
<td>Coffee/Sandwich shop</td>
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<td>Wine &amp; Liquor</td>
<td>750</td>
<td>Bowling center</td>
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<tr>
<td>Real Estate</td>
<td>1,000</td>
<td>Other</td>
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Supplemented by home businesses: Veterinarian; legal offices; antiques; seamstress/tailor; day care. Auto Center apart from Center.

* The second Village Center has a reduced commercial program of 25,000 s.f.
**TOWN CENTER: A SUGGESTED PROGRAM**

### BASIC RETAIL SHOPS

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<td>Tools, Appliances,</td>
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<td>Furnishings, Paint,</td>
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<tr>
<td>Newscenter/Books/Cards</td>
<td>2,000</td>
</tr>
<tr>
<td>Shoes and Boots</td>
<td>1,200</td>
</tr>
<tr>
<td>Home Furnishings, Rugs</td>
<td>10,000</td>
</tr>
<tr>
<td>Kitchen and Housewares</td>
<td>2,000</td>
</tr>
<tr>
<td>Plant Life</td>
<td>2,000</td>
</tr>
<tr>
<td>Cameras, Film</td>
<td>1,000</td>
</tr>
<tr>
<td>Jewelry, Watch Repair</td>
<td>500</td>
</tr>
<tr>
<td>Package Wines &amp; Liquor</td>
<td>5,000</td>
</tr>
<tr>
<td>Super-Drugs/Cosmetics</td>
<td>4,000</td>
</tr>
<tr>
<td>Pharmacy</td>
<td>2,000</td>
</tr>
<tr>
<td>Furs/Sports Fur</td>
<td>2,200</td>
</tr>
<tr>
<td>Pet Shop</td>
<td>1,500</td>
</tr>
<tr>
<td>Men's Wear</td>
<td>2,500</td>
</tr>
<tr>
<td>Music, Hi Fi, Records</td>
<td>3,000</td>
</tr>
<tr>
<td>Office Supplies</td>
<td>2,000</td>
</tr>
<tr>
<td>Hardware/Locksmith</td>
<td>8,000</td>
</tr>
<tr>
<td>Women's Wear</td>
<td>10,000</td>
</tr>
<tr>
<td>Others</td>
<td>15,000</td>
</tr>
</tbody>
</table>

**Total:** 174,900

### FOOD

<table>
<thead>
<tr>
<th>Item</th>
<th>Square Feet</th>
</tr>
</thead>
<tbody>
<tr>
<td>The General Store: Deli,</td>
<td></td>
</tr>
<tr>
<td>Specialties, Cheese,</td>
<td></td>
</tr>
<tr>
<td>Dairy, Gourmet Items,</td>
<td></td>
</tr>
<tr>
<td>Tea, Coffee, Pickles in barrels</td>
<td>5,000</td>
</tr>
<tr>
<td>Specialty Bakery</td>
<td>1,000</td>
</tr>
<tr>
<td>Butcher/Fishmonger</td>
<td>2,000</td>
</tr>
</tbody>
</table>

**Total:** 8,000

### FOOD ESTABLISHMENTS (continued)

<table>
<thead>
<tr>
<th>Item</th>
<th>Square Feet</th>
</tr>
</thead>
<tbody>
<tr>
<td>Fine Japanese</td>
<td>5,000</td>
</tr>
<tr>
<td>Ice Cream Parlor</td>
<td>2,000</td>
</tr>
<tr>
<td>Fine Restaurant</td>
<td>4,500</td>
</tr>
<tr>
<td>Other</td>
<td>1,500</td>
</tr>
</tbody>
</table>

**Total:** 27,500

### SERVICES

<table>
<thead>
<tr>
<th>Item</th>
<th>Square Feet</th>
</tr>
</thead>
<tbody>
<tr>
<td>Dry Cleaning/Laundry</td>
<td>1,500</td>
</tr>
<tr>
<td>Barber/Beautician</td>
<td>1,500</td>
</tr>
<tr>
<td>Repair Shop, Cobbler</td>
<td>500</td>
</tr>
<tr>
<td>Banks (Four)</td>
<td>7,500</td>
</tr>
<tr>
<td>Travel Bureau, Airlines</td>
<td>1,000</td>
</tr>
<tr>
<td>Copy Center</td>
<td>1,000</td>
</tr>
<tr>
<td>Communications/W.U. Cable</td>
<td>1,000</td>
</tr>
</tbody>
</table>

**Total:** 14,000

### SOCIAL AND NIGHTLIFE

<table>
<thead>
<tr>
<th>Item</th>
<th>Square Feet</th>
</tr>
</thead>
<tbody>
<tr>
<td>Movie Houses (2 or 3)</td>
<td>14,000</td>
</tr>
<tr>
<td>Cabarets, Nightclubs</td>
<td>6,000</td>
</tr>
<tr>
<td>Taverns, Pubs, Game Rooms</td>
<td>6,000</td>
</tr>
<tr>
<td>Amusement Arcade</td>
<td>2,000</td>
</tr>
<tr>
<td>Exercise Center</td>
<td>3,000</td>
</tr>
</tbody>
</table>

**Total:** 31,000

<table>
<thead>
<tr>
<th>Item</th>
<th>Square Feet</th>
</tr>
</thead>
<tbody>
<tr>
<td>Bowling Arena</td>
<td>35,000</td>
</tr>
</tbody>
</table>

### THE COUNTRY FAIR

<table>
<thead>
<tr>
<th>Item</th>
<th>Square Feet</th>
</tr>
</thead>
<tbody>
<tr>
<td>Indoor-Outdoor Flea Market, Weekend Produce</td>
<td>10,000</td>
</tr>
<tr>
<td>Market, Auction House</td>
<td></td>
</tr>
</tbody>
</table>

**Total Retail Program:** 300,000 sq. ft.

### OFFICES AND SERVICES

<table>
<thead>
<tr>
<th>Item</th>
<th>Square Feet</th>
</tr>
</thead>
<tbody>
<tr>
<td>Private offices</td>
<td>75,000</td>
</tr>
<tr>
<td>Medical, Legal, other</td>
<td></td>
</tr>
<tr>
<td>Local Utility</td>
<td>1,000</td>
</tr>
<tr>
<td>Newspaper Office</td>
<td>5,000</td>
</tr>
<tr>
<td>TV/Radio Station</td>
<td>10,000</td>
</tr>
</tbody>
</table>

**Total:** 91,000

### LOCAL SERVICES AND GOVERNMENT **

<table>
<thead>
<tr>
<th>Item</th>
<th>Square Feet</th>
</tr>
</thead>
<tbody>
<tr>
<td>Senior Citizen Center</td>
<td>1,000</td>
</tr>
<tr>
<td>Youth Center</td>
<td>1,000</td>
</tr>
<tr>
<td>Travel Terminal</td>
<td>4,000</td>
</tr>
<tr>
<td>Town Hall &amp; Offices</td>
<td>15,000</td>
</tr>
<tr>
<td>Fire Station &amp; Rescue</td>
<td>10,000</td>
</tr>
<tr>
<td>Post Office</td>
<td>5,000</td>
</tr>
<tr>
<td>Police and &quot;Detox&quot; Center</td>
<td>20,000</td>
</tr>
</tbody>
</table>

**Total:** 56,000

**One-Stop Social Services Center also planned near Town Square.**
NOTES ON HOUSING DESIGN

The following practices would be recommended in the detailed design of all housing.

1. The typical mudroom of arctic design, which serves as a storage service room and thermal barrier between house and garage, should be utilized in units with garages.

2. For single family dwellings, a single or double (or extended single) garage should be standard in combination with mudroom; a single garage with mudroom standard for all multiple units except apartments.

3. Wherever possible, dwelling units should be placed forward on lots, to minimize front walk and driveway clearance, and maximize usable rear yards. Some staggering of actual placement is, however, desirable for visual and other reasons.

Our team recognizes the need for a comprehensive systems approach to building new dwelling units in this locale. Innovation is needed to search out and develop these systems, and its direction is not, by any means, confined to the materials and structure of housing. The development of dwelling plans uniquely suited to this climate, site, and region (rather than adaptations from suburbs or ski resorts) will require extensive experimentation to create the light, space, texture, and color qualities to sustain residents of this locale, functionally and psychologically.

Research and development can advance such house types as the atrium and hillside house to these specific climatic conditions; can develop interlocking townhouse and apartment designs with efficient corridor and parking arrangements, and can produce house prototypes with special features for indoor and nighttime living: enclosed fireplace "pits", family workshop areas for active participation in crafts, art, cooking, music; living rooms on sunnier upper levels, bedrooms below.

The most supportive possible house design for human life in the subarctic must be the objective of future systems technology.
SOME ENERGY CONSERVATIONS UNDER CONSIDERATION

Nature has given the Alaskan region the long irregular day/night cycle, but has compensated for this by giving us tools with which to overcome this handicap.

A few of these tools are summarized as follows:

1. The gradual day-night cycle, necessitating energy consuming artificial light for long continuous periods, generates a relatively flat curve of power demand. This curve has power and heat demand reaching its peak together thus making power-generated waste heat a valuable heating medium. In a well-designed energy-conscious city, waste heat can account for a major part of the heating load.

2. During the mild Alaskan summer, the mechanical cooling requirements of the city, at least in part, may be fulfilled with the use of the cool lake fresh water supply, and possibly by the waste heat of power generation to drive the refrigeration machines.

3. A preliminary analysis of the energy needs for domestic hot water heat indicates that a dual generation system, electricity and power-generation waste heat, would prove to be most efficient. Waste heat would be utilized during the heating season to generate domestic hot water on a local basis. During the cooling season, electrical heating of hot water would be used, again on a local basis. This also assists in power efficiency as power loads are expected to be lighter during the mild summer.

5. Utilization of solar energy during the long summer day to heat domestic water will be evaluated.

6. The waste heat produced from generating electricity during the summer months may be stored in an aquifer storage below the site for use during winter months. The study of the feasibility of aquifer storage may be an ERDA funded program.

7. Evaluation of use of the total energy plant as a co-generator to feedback surplus electric energy into the utility power grid.

8. Evaluation of benefits to be derived by providing glass enclosed malls which form atria to reduce transmission loss through building walls.

9. Static aspects of building construction (i.e. bricks, mortar, insulation, glass ratios, etc.) will be developed to energy conserving structures which still respect aesthetic consideration. Emphasis should be placed on materials with inherent insulating qualities. Alternative schemes, systems, and life cycle costing will be analyzed by computer.

10. Utilize computers in a central master control system to minimize energy consumption by monitoring lighting and mechanical systems. The computers would respond to time of day, time of year, light, and temperature differentials.
11. Centralize the location of the energy conversion plant, to provide a more efficient facility in terms of energy transport, maintenance and operation.

12. The building schemes should be designed to optimize solar effect during the long winter months.

13. Research alternate power sources such as geothermal, hydroelectric, solar, and wind.

14. Study economic benefits of using gas turbines for power generation. Gas turbines are light and highly mobile allowing for use during the construction phase for heat and power. As the project develops, the same turbines can be used to serve moderate to dense development areas (each plant to serve 2-3 million square feet). As the completion of the project is reached, the turbines can be moved to the total energy plant.

Design Factors Affecting Energy Consumption

1. Building orientation
2. Glass orientation
3. Solar control devices
4. Materials on which the sun falls (thermal masses)
5. Material coefficient of expansion and conductance
6. Insulation factors
7. Use of fresh air ventilation to minimize mechanical cooling
8. Landscape materials as wind and sun screens
9. Impact of building shadows
10. Decrease power consumption by:
   a. Decreasing lighting levels and light-heat in summer
   b. Decreasing heating levels
   c. Decreasing the rate of flow of domestic hot water
11. Use warm materials and colors so as to enhance the feeling of shelter and protection from the elements.
ACKNOWLEDGEMENTS

The preparation of this report was assisted by the following consultants:

Jonathan Barnett (Planning)
Richard Gern, Barton-Aschman (Transportation)
Lemessurier Associates (Structure and Engineering)
Gerald Palevsky (Sanitary and Civil Engineering)