PLANNING GUIDE FOR NEW SCHOOL CONSTRUCTION

Kenai Peninsula Borough School District

INTRODUCTION

The roles and responsibilities of educational facility planners have expanded in response to the increasingly complex planning process. Fortunately, just as the scope of planning effort has broadened considerably, so has the variety of resources available to assist the planner. It is an important lesson from the past ten to fifteen years that effective school planning cannot, and need not, be accomplished in isolation.

The new era of declining resources and significant social change has forced educational facilities planners to acknowledge what should have been known all along – that schools are related to other institutions and are affected by general societal conditions. Furthermore, because each school exists within a unique milieu, there is no one solution, no definitive facility or perfect prototype. Quality is best measured in terms of responsiveness to the needs of the total community, not in terms of an absolute, extrinsic standard. These conditions add a new dimension to the planning process, and those involved in the process need to know of the sources of assistance that are available. It is the purpose of this guide to describe available planning resources and procedures and to suggest how they can be employed.

Kenai Peninsula Borough School District
Planning and Operations
July 2007

TABLE OF CONTENTS

I. SCHOOL SITE SELECTION

A. Procedures

SCHOOL SITE SELECTION PROCEDURES

PURPOSE

To provide a long range land acquisition program for future school sites, that results in more efficient and timely procurement of sites for schools at a lower cost to the borough taxpayers.

The School Board will continue updating the Six Year Plan each year. Sites must be secured no later than December of the year preceding a bond election to provide necessary site analysis, plans, specifications and budgets. This procedure would be an ongoing procedure to secure school lands far enough in advance for the required preplanning of facilities prior to going before the voters.

Step I — SCHOOL BOARD

Develop general service areas in the borough that relate to the need for physical facilities for education. This would take into account population, geographic location and transportation systems within the service areas.

Step II — SCHOOL BOARD

Develop within the Six Year Plan specific needs for the facilities required within the service areas. These specific needs will be transmitted to the borough's Planning and Public Works Departments.

Step III — PLANNING AND PUBLIC WORKS DEPARTMENT

A. The Planning Department will determine the site's availability within the service area for the following categories that meet the size requirements for the type of school.

Borough Ownership
State Ownership
Private Ownership

These will be presented to the Site Selection Committee for their review.

B. The Site Selection Committee will designate a number of sites for the Planning and Public Works departments to develop a composite of developmental cost, soils information, topographical information, and other pertinent information required for rating.

Step IV — SCHOOL SITE SELECTION COMMITTEE

The Planning and Public Works departments will provide the information on designated sites, plot plans, developmental costs and other pertinent information for the Committee to rate the sites. The rating will be completed on the established form.

Step V — SCHOOL BOARD

The recommendation of the School Site Selection Committee will be forwarded to the School Board for their approval and recommendation to the Borough Planning Commission.

Step VI PLANNING COMMISSION

The recommendation of the School Board will be transmitted to the Planning Commission for review. Its recommendation will be prepared for the Borough Assembly.

Step VII ASSEMBLY

The list of recommended sites will be presented to the Borough Assembly for approval to proceed. This will be approved or modified to allow the Planning Department to proceed with the process for the three types of ownership.

A. Borough
   Resolution to classify lands for school purposes.

B. State
   1. Negotiate acquisition, select, trade, purchase.
   2. Resolutions to classify lands for school purposes.

C. Private
   1. Option 1 – Planning Department negotiates purchase based on Assessing Department's appraisal.
      a. Assembly purchases by ordinance.
      b. Resolution to classify lands for school purposes.

   2. Option 2 – Planning Department cannot negotiate based on Assessing Department's appraisal.
      a. Enter into an agreement with owner to have two appraisals paid for by the Borough. One appraiser selected by Borough and one by the owner.
      b. Borough negotiates based on appraisals and reaches agreement.
      c. Assembly purchases by ordinance.
      d. Resolution to classify lands for school purposes.

   3. Option 3 – Borough Planning Department cannot negotiate based on formal appraisals.

      The assembly initiates condemnation procedures.

B. Site Evaluation Matrix

Site Evaluation Matrix

Project Name:
School District:
Location:

Social and Land Use Factors

Criteria	WF	Sites							
		1	xWF	2	xWF	3	xWF	4	xWF
Size of Site			0		0		0		0
Proximity to Population to be Served			0		0		0		0
Proximity to Future Expansion of Community			0		0		0		0
Proximity to Important Existing Facilities			0		0		0		0
□			0		0		0		0
□			0		0		0		0
Year-round Accessibility			0		0		0		0
Aesthetic Value			0		0		0		0
Sun Orientation			0		0		0		0
Protection from Elements			0		0		0		0
Site Drainage			0		0		0		0
Proximity to Natural Hazards			0		0		0		0
Zoning/Land Use			0		0		0		0
Proximity to Fire Response Equipment			0		0		0		0
Flooding			0		0		0		0
Existing Site Development			0		0		0		0
Access to Outdoor Recreation/Learning			0		0		0		0
Noise			0		0		0		0
Wetlands			0		0		0		0
Potential for Hazardous Materials			0		0		0		0
TOTALS			**0**		**0**		**0**		**0**

Weighting Factors (WF)
1 = not very important
2 = somewhat important
3 = important
4 = very important
5 = essential

Note: Italicized Items are also evaluated in either Construction Cost Factors or Maintenance and Operating Cost Factors

Site Evaluation Matrix

Project Name:
School District:
Location:

Construction Cost Factors

Criteria	WF	Sites							
		1	xWF	2	xWF	3	xWF	4	xWF
Soils/Foundation Conditions			0		0		0		0
Permafrost Stability			0		0		0		0
Availability of Water Utilities			0		0		0		0
Availability of Sewer Utilities			0		0		0		0
Availability of Electric Power			0		0		0		0
Availability of Fuel Storage/Distribution			0		0		0		0
Year-round Accessibility			0		0		0		0
Ease of Transporting Construction Materials			0		0		0		0
Site Availability			0		0		0		0
Site Cost			0		0		0		0
Site Drainage			0		0		0		0
Proximity to Natural Hazards			0		0		0		0
Site Erosion			0		0		0		0
Existing Site Development			0		0		0		0
Wetlands			0		0		0		0
Potential for Hazardous Materials			0		0		0		0
TOTALS			**0**		**0**		**0**		**0**

Weighting Factors (WF)

1 = not very important
2 = somewhat important
3 = important
4 = very important
5 = essential

Note: Italicized Items are also evaluated in either Maintenance Factors or Operating Cost Factors

Site Evaluation Matrix

Project Name:
School District:
Location:

Maintenance and Operating Cost Factors

Criteria	WF	Sites							
		1	xWF	2	xWF	3	xWF	4	xWF
Site Drainage			0		0		0		0
Flooding			0		0		0		0
Site Erosion			0		0		0		0
Sun Orientation			0		0		0		0
Protection from Elements			0		0		0		0
Proximity to Natural Hazards			0		0		0		0
Alternative Energy Sources			0		0		0		0
Air Inversions/Katabatic Winds			0		0		0		0
TOTALS			**0**		**0**		**0**		**0**

Weighting Factors (WF)

1 = not very important
2 = somewhat important
3 = important
4 = very important
5 = essential

C. Department of Education Site Selection Criteria and Evaluation Handbook

Alaska Department of Education

Site Selection Criteria and Evaluation Handbook

State of Alaska - Department of Education
Education Support Services / Facilities

1997 Edition

PRIMARY CONTRIBUTOR

Tim Mearig, AIA
Architect
Alaska Department of Education
Juneau, Alaska

CONTRIBUTORS

Edwin Crittenden, FAIA
Educational Facilities Consultant
Alaska Department of Education
Anchorage, Alaska

Michael Morgan, PMP
Facilities Manager
Alaska Department of Education
Juneau, Alaska

ACKNOWLEDGEMENTS

Thanks to the Bond Reimbursement and Grant Review Committee members who reviewed the publication in its draft form and to those in the Department of Transportation and Public Facilities, Division of Facilities Procurement Policy who were responsible for the predecessor to this document.

This publication was adapted from a November 1978 document published by the State of Alaska Department of Transportation and Public Facilities, Division of Facility Procurement Policy, entitled *Site Selection Criteria and Evaluation Guideline for Educational Facilities in Rural Alaska.*

Table of Contents

Introduction

Overview

The perfect school site can be envisioned as generally level with some topographic interest, having complete utilities, stable, well drained soils, excellent road and pedestrian access, protection from excessive weather patterns, with ample space for school facilities, playground and sports fields. The site would be accessible to present and future populations and be free of any natural or environmental hazards. It would be removed from undesirable business, industry and traffic hazards but be convenient to important public facilities and recreational/outdoor learning areas. In most communities, however, the perfect site is elusive and difficult to find.

School siting is also a serious public policy decision. Land availability, land use, public sentiment and other community issues can have dramatic influence on site selection. In any site selection process, local involvement and judgments regarding the relative significance of selection criteria are important.

Finally, site selection for school facilities has a direct and lasting impact on the resources of the State of Alaska. Both the economic resources and the natural resources of the state are affected by the construction and operation of public schools. Primarily in response to these factors, the state recognizes the need for careful and thorough evaluation of school sites.

Authority

The guidelines incorporated in this handbook have been developed to give assistance and direction to Alaska school districts and communities in determining the suitability of various building sites for educational facilities planning. They are based upon AS 14.11.013 and 14.11.100, which provides for department review of projects to ensure they are in the best interest of the state. This provision is further developed by regulation 4 AAC 31.025 which requires approval of educational facility sites under paragraph (a) and investigations by the appropriate local governing body for suitability in paragraph (d). This handbook establishes the basic considerations for an adequate site selection process. Other products of similar detail may be used to fill the requirements laid out in statute and regulation.

Basic Procedures

Site Selection Elements

This handbook establishes a set of basic site selection elements and offers suggested evaluation criteria for rating the elements. Although the document does incorporate an internal weighting factor (it lists a few key ranking criteria elements which have high cost impacts in more than one sub-category) it does not prescribe the importance of most selection elements but rather, incorporates a weighting system whereby a district or community can assign a range of importance to each element. It is recognized that information for all the elements cannot always be determined nor are all elements applicable to every site. However, detail and rigor in addressing the elements is important for an effective evaluation.

The selection elements are grouped into three major categories as follows:

1. ***Social and Land Use Factors***

2. ***Construction Cost Factors***
   a) *Soils/Foundations*
   b) *Utilities*
   c) *Other*

3. ***Operations and Maintenance Cost Factors***

The site selection elements form the basis for an evaluation matrix which is shown in **Appendix A** and is included as a spreadsheet on the disk included with this handbook. Step one of the process is to review these elements for applicability to the project and sites being considered.

Weighting Factors (WF)

After finalizing the site selection elements, the next step is to assign weighting factors to each element. Assignment of the weighting factors is the district/community's opportunity to apply its values to the evaluation process so that the final scores for each site reflect issues involved at the local level. This is often accomplished through community surveys, public meetings and other such forums for developing consensus among the parties affected by the school project. A suggested model for the district/community weighting factors is shown below:

Weighting Factors
1 = not very important
2 = somewhat important
3 = important
4 = very important
5 = essential

Applying Ranking Criteria

Following the assignment of the weighting factors, each selection element is evaluated according to established criteria and ranked on the simple five point scale from 0 to 4. The detailed ranking criteria to be used, which differentiates as needed between rural and urban sites, is described following this section on **Basic Procedures**. The table below gives a suggested definition of each ranking score:

Criteria Ranking Scores

0 = unacceptable (least desirable/least cost effective)
1 = poor
2 = fair
3 = good
4 = excellent (most desirable/most cost effective)

Tabulating and Analyzing Results

Using the Site Evaluation Matrix (Appendix A) enter the criteria ranking scores for each element. Compute the total score for each site by multiplying each criteria score by the weighting factor and sum them. An example of a portion of the Site Evaluation Matrix is shown below:

Maintenance and Operating Cost Factors

Criteria	WF	Sites							
		1	xWF	**2**	xWF	**3**	xWF	**4**	xWF
Site Drainage	3	4	12	3	9	3	9	n/a	n/a
Flooding	4	4	16	4	16	2	8	n/a	n/a
Site Erosion	4	3	12	3	12	3	12	n/a	n/a
Sun Orientation	2	2	4	1	2	1	2	n/a	n/a
Protection from Elements	2	3	6	3	6	2	4	n/a	n/a
Proximity to Natural Hazards	4	0	0	3	12	4	16	n/a	n/a
Alternative Energy Sources	3	1	3	1	3	2	6	n/a	n/a
Air Inversions/Katabatic Winds	2	4	8	4	8	4	8	n/a	n/a
TOTALS			**61**		**68**		**65**		**n/a**

The total scores for each site represent a detailed analysis; the highest score should indicate the most desirable site. If the district or community, based on factors not captured by the evaluation, desires to choose a site other than the site receiving the highest score, a narrative justification of this position will need to be developed for inclusion in the site selection report.

Ranking Criteria Elements

Size of Site

Criteria:
Site size varies by student enrollment and grade levels served. For very small schools, use the following minimums:

- 10-25 students 4 acres
- 26-50 students 6 acres
- 50-99 students 8 acres
- For all populations above 100, use the guidelines from the *CEFPI Guide for School Facility Appraisals - Alaska Edition:*
  - Elementary School 10 acres plus one for each 100 students
  - Middle School 20 acres plus one for each 100 students
  - High School 30 acres plus one for each 100 students
  - K-12 School 20 acres plus one for each 100 students

Evaluation:	**Scores:**
Size 40% or more below standard	0
Size within 20% of standard	1
Size within 10% of standard	2
Size equal to standard	3
Size at 10% or more above standard	4

Proximity to Population to be Served

Criteria:
Ideally, all students served by the school would be in convenient, safe walking distance to the site. In communities with roads, convenient vehicle/bus travel is also important. Evaluate this criteria using the anticipated population distribution when the school is at capacity (i.e. 5 year post-occupancy). Use the following standard, evaluating for both elements and using the lowest score:

- 50% of students served are within reasonable walking distance (i.e. ¼ mile or less) and,
- 90% of students served are within a 15 minute vehicle/bus ride

Evaluation:	**Scores:**
Proximity 40% or more below standard	0
Proximity within 20% of standard	1
Proximity within 10% of standard	2
Proximity equal to standard	3
Proximity at 10% or more above standard	4

Ranking Criteria Elements (cont.)

Proximity to Future Expansion of Community

Criteria:
Occasionally, schools are constructed on sites that within 20 years are no longer adjacent to population centers and/or residential areas. This criteria assesses long-range planning and land use factors related to school sites. Use a subjective evaluation of how well the site corresponds to future expansion and land use in the community to score this criteria. Answer the question, "Is this a good long-term site for a school?"

Evaluation:	Scores:
Incompatible with future expansion	0
Significant variances with future expansion	1
Some variances with future expansion	2
Corresponds well with future expansion	3
Corresponds ideally with future expansion	4

Proximity to Important Existing Facilities

Criteria:
In some instances, a district/community can identify an existing facility (e.g. swimming pool, food service, etc.) which is shared between multiple schools and to which close proximity is essential or desired. If more than one facility is important, this criteria may have to be scored multiple times. In most cases the adjacency is important because it involves student transit. Use the following standard:

- students served are within a short walking distance (i.e. 1/8 mile [660ft.] or less)

Evaluation:	Scores:
Proximity 40% or more below standard	0
Proximity within 20% of standard	1
Proximity within 10% of standard	2
Proximity equal to standard	3
Proximity at 10% or more above standard	4

Ranking Criteria Elements (cont.)

Year-round Accessibility

Criteria:
Ideally, the site should be easily accessible during all times of the year regardless of weather and temperature effects on paths, walks or roads. In some communities, access may improve during winter due to frozen water/wetlands. In other communities, winter may cause the most difficult accessibility problems. Evaluate this criteria assuming standard amenities for site accessibility are provided (i.e. walks, roads, bridges, etc.). Costs for providing these amenities should be covered in other criteria.

Evaluation:	**Scores:**
Site is inaccessible during certain times of the year	0
Access is routinely interrupted by weather/temperature conditions	1
Access is periodically over swampy, unstable soils	2
Typically year-round well drained ground/road access	3
Fully accessible; only severe storms may temporarily hinder access	4

Aesthetic Value

Criteria:
Sites can be assessed for the quality of their surroundings such as vegetation, topography, views and surroundings. Because aesthetic value is subjective, it is important that the local residents establish the aesthetic criteria considering each of the categories mentioned above. Use a subjective evaluation of the aesthetic merits of the site and answer the question, "What would it take to make this site aesthetically pleasing?"

Evaluation:	**Scores:**
Will never be aesthetic	0
Has few natural aesthetic features and little potential	1
Has some aesthetic features; potential for more with considerable effort	2
Could have many aesthetic features with minimal efforts	3
Has many aesthetic features naturally	4

Sun Orientation

Criteria:
The site should allow designs to take full advantage of available sun angles. Locating outside play areas to receive sunlight normally makes them a more desirable place for activity. A facility can benefit from the solar gain of winter sunlight. Large stands of trees, north-facing slopes and adjacent structures can be detrimental. Evaluate this criteria based on the year-round use of the facility.

Evaluation:	**Scores:**
Site is in constant shadow during fall, winter and spring months	0
Site is mostly in shadow during winter months with some fall/spring sun	1
Site is mostly exposed winter sun	2
Site is exposed to year-round sun with some obstructions	3
Site is exposed to full year-round sunlight; no obstructions	4

Protection from Elements

Criteria:
The site should provide protection from prevailing winds which intensify cold temperatures, dust, driving rain and drifting snow. Topography, orientation and site vegetation relative to cold winter winds can be important both for indoor and outdoor educational activities. Sites with some type of wind protections are desirable over those exposed to harsh winds (this is especially critical in coastal areas). Evaluate this criteria based on natural features. Costs of compensating for inadequate protection should be covered in other criteria.

Evaluation:	**Scores:**
Site is fully exposed to prevailing winds; no obstructions	0
Site is mostly exposed to prevailing winds	1
Site is partially protected from prevailing winds; some natural barriers	2
Site is mostly protected from prevailing winds	3
Site offers full protection from prevailing winds	4

Ranking Criteria Elements (cont.)

Site Drainage

Criteria:
Sites with good drainage are easier to develop and maintain. Good drainage reduces the chance of water or ice collecting around a facility which could cause undermining, decay and/or frost heave leading to structural damage. It could also make general use and occupancy of the site difficult. Evaluate this criteria based on natural features. Costs of compensating for inadequate drainage should be covered in other criteria.

Evaluation:	**Scores:**
Site is a generally low; surrounding areas drain into it	0
Drainage collects in some areas within the site	1
Drainage collects in areas adjacent to the site	2
Site has positive drainage; water contribution from surrounding areas is easily accommodated	3
Site has positive drainage; no water contribution from surrounding areas	4

Proximity to Natural Hazards

Criteria:
Ideally, the site would have no susceptibility to damage (facilities, utilities, etc.) from natural disasters. These would include "acts of God" such as earthquakes, avalanches/landslides, volcanic activity as well as health and safety hazards such as bluffs/steep cliffs, bodies of water and sewage/garbage disposal areas. Evaluate this criteria based on natural features and the historical occurrence of those hazards listed above. Costs of compensating for hazards should be covered in other criteria.

Evaluation:	**Scores:**
Site in proximity to five or more hazards	0
Site is in proximity to four or fewer hazards	1
Site is in proximity to three or fewer hazards	2
Site is in proximity to one hazard	3
Site free of any potential damage/injury from natural hazards	4

Zoning/Land Use

Criteria:
Current and projected zoning and land use should be compatible with the use of the site for a school. If local regulations do not currently permit educational facilities, it could be a lengthy process to obtain a change in zoning or a conditional use permit. Evaluate this criteria according to the difficulty and associated risk.

Evaluation:	Scores:
Present/future zoning does not permit use of the site for a school	0
Not zoned for schools but change or exemption can be requested	1
Current zoning will allow schools as conditional use	2
Currently zoned for schools; not likely to change	3
Present/future zoning permits schools or no zoning restrictions exist	4

Site Soils/Foundation Conditions

Criteria:
Ideal sites contain well graded, stable soils with high soil bearing pressure. Soil conditions should allow conventional, economical foundation systems which can meet or exceed a 50 year life expectancy with little maintenance. Soil conditions which can adversely affect construction include, discontinuous permafrost, silts and clays, substantial surface or sub-surface organic and high water contents (all susceptible to frost heave). Sites should be assessed for the quality of their soil based on known conditions or on-site investigations.

Evaluation:	Scores:
Unstable soils throughout; highly specialized foundation required	0
Mostly unstable soils; specialized foundation required	1
Isolated area of the site have unstable soils, some specialized found. likely	2
Most areas of the site have stable soils; conventional foundation possible	3
Stable soils; conventional foundation system possible	4

Ranking Criteria Elements (cont.)

Availability of Water Utilities

Criteria:
Connection into an existing, reliable water supply system with adequate capacity is preferred. Sites closest to the existing system would be rated highest. When considering adequacy, don't forget fire suppression system requirements. If a new water system is required for the site, then sites should be rated as to their potential to support/provide the system. For new systems, proximity to wells, lakes or rivers may be a factor. Evaluate this criteria based on known improvements and/or natural features as described above. Costs of providing water utility should be covered in other criteria.

Evaluation:	**Scores:**
No existing system; no known/potential water supply near site	0
No existing water system; potential water supply near site	1
No existing water system available; known water supply at site	2
Adequate, reliable water system is available adjacent to or near the site	3
Adequate, reliable water system is available within the site	4

Availability of Sewage Utilities

Criteria:
Connection into an existing, reliable waste/sewer system with adequate capacity is preferred. Sites closest to the existing system would be rated highest. If a new sewer system is required for the site, then sites should be rated as to their potential to support/provide the system. For new systems, perking soils, space for lagoons and availability of effluent outfalls may be a factor. Evaluate this criteria based on known improvements and/or natural features as described above.

Evaluation:	**Scores:**
No existing system; no known/potential waste handling area near site	0
No existing sewer system; potential locations for sewer system near site	1
No existing sewer system available; known location/method avail. on site	2
Adequate, reliable sewer system is available adjacent to or near the site	3
Adequate, reliable sewer system is available within the site	4

Ranking Criteria Elements (cont.)

Availability of Electrical Power

Criteria:
Connection into an existing, reliable electrical system with adequate capacity is preferred. Sites closest to the existing system would be rated highest. If a new electrical system is required for the site, then sites should be rated as to their potential to support/provide the system. For new systems, space for generators, space for fuel storage and availability of fuel may be a factor. Evaluate this criteria based on known improvements and projected requirements.

Evaluation:	**Scores:**
No existing system; known difficulties for generation on site	0
No existing power system; good potential for power generation near site	1
No existing power system available; known power generation at site	2
Adequate, reliable power system is available adjacent to or near the site	3
Adequate, reliable power system is available within the site	4

Availability of Fuel Storage/Distribution

Criteria:
Connection into an existing, reliable fuel storage/distribution system with adequate capacity is preferred. Sites closest to the existing system would be rated highest. If a new fuel system is required for the site, then sites should be rated as to their potential to support/provide the system. For new systems, proximity to delivery points, available land for tankage, etc. may be a factor. Evaluate this criteria based on known improvements and/or natural features as described above. Costs of providing fuel utility should be covered in other criteria.

Evaluation:	**Scores:**
No existing system; known difficulties for fuel storage on site	0
No existing fuel system; good potential for fuel system near site	1
No existing fuel system available; known fuel system location on site	2
Adequate, reliable fuel system is available adjacent to or near the site	3
Fuel system is not required or is available on site	4

Proximity to Fire Response Equipment

Criteria:
This may or may not influence site selection in rural areas since many villages have no organized fire protection. In areas which would have fire hydrants with a continuous/reliable water supply and/or a fire station, sites may be rated by response time or whether a site is within the service area. In facility design, sprinkler systems may be specified which become part of the fire protection equipment which is independent of site location except as it relates to water supply. Use the following standard:

- site is within a service area and is in close proximity to a fire station (i.e. 4 miles or less)

Evaluation:	Scores:
Proximity 40% or more below standard	0
Proximity within 20% of standard	1
Proximity within 10% of standard	2
Proximity equal to standard	3
Proximity at 10% or more above standard	4

Ease of Transporting Construction Materials

Criteria:
Proximity to transportation routes which can support heavy equipment and loads can affect the usability of a site for construction. This criteria is not to measure the cost of getting construction materials to a community or geographic area but evaluates the local impact of transporting materials to the site. Sites closest to the transportation route will be most easily serviced. Evaluate based on the following:

Evaluation:	Scores:
Site is inaccessible	0
Transporting materials/equipment will be very difficult	1
Transporting materials will be difficult	2
Transporting will be fairly easy, routes will need upgrading	3
Transporting of equipment/materials will be simple; on established routes	4

Ranking Criteria Elements (cont.)

Site Availability

Criteria:
Land status availability is one of the most fundamental criteria for locating capital improvements. The title to the site should be free of legal encumbrances, platted and surveyed with an accurate legal description and have a single owner. Evaluate as follows:

Evaluation:	Scores:
Clear or unclear title, owner/seller not interested	0
Uncertain title/boundaries; multiple owners	1
Some encumbrances/easements, etc., multiple owners	2
Clear title, recent survey, possibly available	3
Clear title, recent survey, definitely available	4

Site Cost

Criteria:
Land parcels should be available at an affordable cost. The most favorable situation is one in which the parcel is public land available at no cost to the district or available by donation from a private entity. Obviously, the cost of some parcels may be totally beyond the available funds. Evaluate as follows:

Evaluation:	Scores:
Site is cost prohibitive	0
Site is above fair market value but within reach	1
Site is available at fair market value	2
Site is available below fair market value	3
Site is available at no cost or has a nominal administrative fee	4

Alternative Energy Sources

Criteria:
In some cases it may become feasible/cost effective to use the waste heat from an electrical generation plant, or some other low-cost alternative energy source for heating the new facility. All other criteria being equal, this may become an important factor. Evaluate as follows:

Evaluation:	**Scores:**
Site has no possibilities for alternative energy systems	0
n/a	1
Site is adjacent to alternative energy systems; significant effort to develop	2
n/a	3
Site is adjacent to alternative energy systems; easily developed	4

Permafrost Stability

Criteria:
The best method in dealing with permafrost is to avoid it if possible. If the whole area is underlain with permafrost, then a site with well drained, non-frost-susceptible soils is preferred since there is less chance of encountering an ice wedge/lens, which, when melted will cause unstable soil conditions. Evaluate as follows:

Evaluation:	**Scores:**
No soils testing; obvious signs of discontinuous permafrost	0
Soils test silt and clay, known permafrost conditions	1
Undetermined soil conditions; no obvious signs of permafrost	2
Limited soils information; most of site free of permafrost	3
Site soils tested, no permafrost present	4

Flooding

Criteria:
Flooding potential from adjacent bodies of water should be considered. Ideally, the site would not be located within a flood plain of flood-prone area.

Evaluation:	Scores:
Site floods routinely	0
Site is within flood plain boundaries	1
Site is in close proximity to flood prone areas	2
Site is in proximity to bodies of water but well above flood plain	3
Site is not in flood plain; no nearby bodies of water	4

Site Erosion

Criteria:
Sites which border on eroding river banks and eroding sea spits should be evaluated on how much and how often erosion takes place to determine if a facility would be endangered. Slopes which have been cleared of vegetation can also erode due to heavy rain. Evaluate this criteria based on natural features and the historical occurrence of those hazards listed above. Costs of compensating for hazards should be covered in other criteria.

Evaluation:	Scores:
Known erosion potential	0
n/a	1
Moderate erosion potential; mostly during construction	2
n/a	3
No erosion potential; not near water or at toes of slopes	4

Air Inversions/Katabatic Winds

Criteria:
During winter under clear sky/no wind conditions, cold air flows down hillsides settling in low-lying areas. This causes temperatures to be colder at low-lying sites (especially in the Interior where there may be little wind). In regions where this occurs often during the winter, sites which are on a hillside are preferred over sites in low-lying areas. Evaluate as follows:

Evaluation:	**Scores:**
Site has continuous winter Katabatic accumulations	0
Site is routinely affected by Katabatic accumulation; annually	1
Site is in areas of occasional Katabatic wind; not every season	2
Site is adjacent to areas of known Katabatic accumulation	3
Site is on a hillside above cold air accumulation areas	4

Existing Site Development

Criteria:
Vacant, undeveloped land is preferable; if developed or currently used, alternative sites must be available for existing uses. Evaluate based on the magnitude of existing uses requiring relocation and/or demolition and the simplicity of the action.

Evaluation:	**Scores:**
Site has many existing uses; will all be problematic to relocate/demolish	0
	1
Has 2000 square feet or less in existing uses; all relocatable/demo	2
	3
Site has no existing uses	4

Access to Outdoor Recreation/Learning

Criteria:
Students benefit when complimentary park and recreation resources are located near public schools. Recreation and nature areas available by walking provide opportunities to use the outdoors as an extension of the classroom. Evaluate according to the following standard:

- site is contains or is adjacent to outdoor recreation/nature area (i.e. 1/8 mile or less)

Evaluation:	**Scores:**
Proximity 40% or more below standard	0
Proximity within 20% of standard	1
Proximity within 10% of standard	2
Proximity equal to standard	3
Proximity at 10% or more above standard	4

Noise

Criteria:
Incompatible noise such as from air traffic, vehicle traffic, industrial uses, etc. is detrimental to educational delivery. Evaluate this criteria based on actual or anticipated noise factors according to the following standard:

- sound decibel level is below 65db sustained and 75db peak

Costs for mitigating these factors will be covered in other criteria.

Evaluation:	**Scores:**
Sound level 40% or worse than standard	0
Sound level within 20% of standard	1
Sound level within 10% of standard	2
Sound level equal to standard	3
Sound level 10% or more better than standard	4

Wetlands

Criteria:
Wetlands should be avoided due to the adverse impact on cost and schedule. Evaluate as follows:

Evaluation:	Scores:
100% of site is classified as wetlands; significant impact to building	0
Most of the site is wetlands; considerable impact to building likely	1
Some of the site is classified as wetlands; some impact to building likely	2
Some of the site is classified as wetlands; little or no impact to building	3
Site has no wetlands	4

Potential for Hazardous Materials

Criteria:
The site should be free of evidence of past use by industrial functions, unregulated storage of items containing hazardous materials or know disposals of hazards. A site assessment may be required. Evaluate as follows:

Evaluation:	Scores:
100% of site has known hazmat; significant impact to building	0
Most of the site has known/probable hazmat; considerable impact likely	1
Some of the site has known/probable hazmat; some impact likely	2
Some of the site has known/probable hazmat; little or no impact likely	3
Site has no known/potential hazmat issues	4

The Evaluation Report

There are many formats for reporting the results of a site investigation. Reports can range from basic tabulations and narratives with a few maps showing the sites being evaluated to high-powered multi-media presentations incorporating aerial photography, video footage, color graphics and detailed site plans. Appendices can range from a few simple support documents to detailed reports covering everything from archeology to zoning maps. Regardless of the visual and graphic development, a good site investigation report should include the following:

Introduction and Executive Summary

The introduction should describe the purpose and scope of the investigation listing the type and size of planned facilities which the site would need to support and a brief description of the sites. Toward the front of the report, a summary which indicates which site was selected and the basic rationale for the selection should be provided.

Maps and Graphics

Because of the type of information normally processed in a site investigation, graphic representations are almost essential. For instance, a metes and bounds narrative of the property may very well be an accurate description of the site's boundaries but a site plan with a graphic representation of those bearings and distances communicates more effectively, the shape and size of the site. Similarly, the sentence, "a stream crosses the property from the north to the south," offers a general description of a key site feature where the same stream drawn on a site plan offers an instant evaluation of its impact on placing a building on the site.

It is helpful not only to have graphic representation of each site and its immediate surroundings showing roadways, vegetation, adjacent structures, etc., but also a smaller scale map showing each of the potential sites and their relationship to one another as well as to key area landmarks. Appendix B shows an example of a site graphic for a rural village. On one simple sheet the following items are indicated: each site, bodies of water, compass directions, roads/paths, vegetation, topography, existing structures and site improvements, utility systems, prevailing winds, winter sun angles and natural and man-made hazards.

Aerial photographs, site cross sections, and photographic panoramas are all useful and fairly standard graphic tools which assisting not only in describing the results of the site investigation but are often instrumental in making the evaluation itself.

Evaluation Matrix and Narratives

In addition to graphics, tabulated data is often one of the best ways to condense information and allow comparison across a specific category. The tabulations shown in Appendix A and/or the spreadsheet provided on disk with this publication offer suggested formats for this type of information.

Appendix A
Site Evaluation Matrix

Social and Land Use Factors

Criteria	WF	Sites							
		1	xWF	2	xWF	3	xWF	4	xWF
Size of Site									
Proximity to Population to be Served									
Proximity to Future Expansion of Community									
Proximity to Important Existing Facilities									
•									
•									
Year-round Accessibility									
Aesthetic Value									
Sun Orientation									
Protection from Elements									
Site Drainage									
Proximity to Natural Hazards									
Zoning/Land Use									
Proximity to Fire Response Equipment									
Flooding									
Existing Site Development									
Access to Outdoor Recreation/Learning									
Noise									
Wetlands									
Potential for Hazardous Materials									

TOTALS

Note: Italicized Items are also evaluated in either **Construction Cost Factors** or **Maintenance and Operating Cost Factors**

Appendix A - Site Evaluation Matrix (cont.)

Construction Cost Factors

Criteria	WF	Sites							
		1	xWF	2	xWF	3	xWF	4	xWF
Soils/Foundation Conditions									
Permafrost Stability									
Availability of Water Utilities									
Availability of Sewer Utilities									
Availability of Electric Power									
Availability of Fuel Storage/Distribution									
Year-round Accessibility									
Ease of Transporting Construction Materials									
Site Availability									
Site Cost									
Site Drainage									
Proximity to Natural Hazards									
Site Erosion									
Existing Site Development									
Wetlands									
Potential for Hazardous Materials									

TOTALS

Note: Italicized Items are also evaluated in **Maintenance and Operating Cost Factors**

Appendix A - Site Evaluation Matrix (cont.)

Maintenance and Operating Cost Factors

Criteria	WF	Sites							
		1	xWF	2	xWF	3	xWF	4	xWF
Site Drainage									
Flooding									
Site Erosion									
Sun Orientation									
Protection from Elements									
Proximity to Natural Hazards									
Alternative Energy Sources									
Air Inversions/Katabatic Winds									

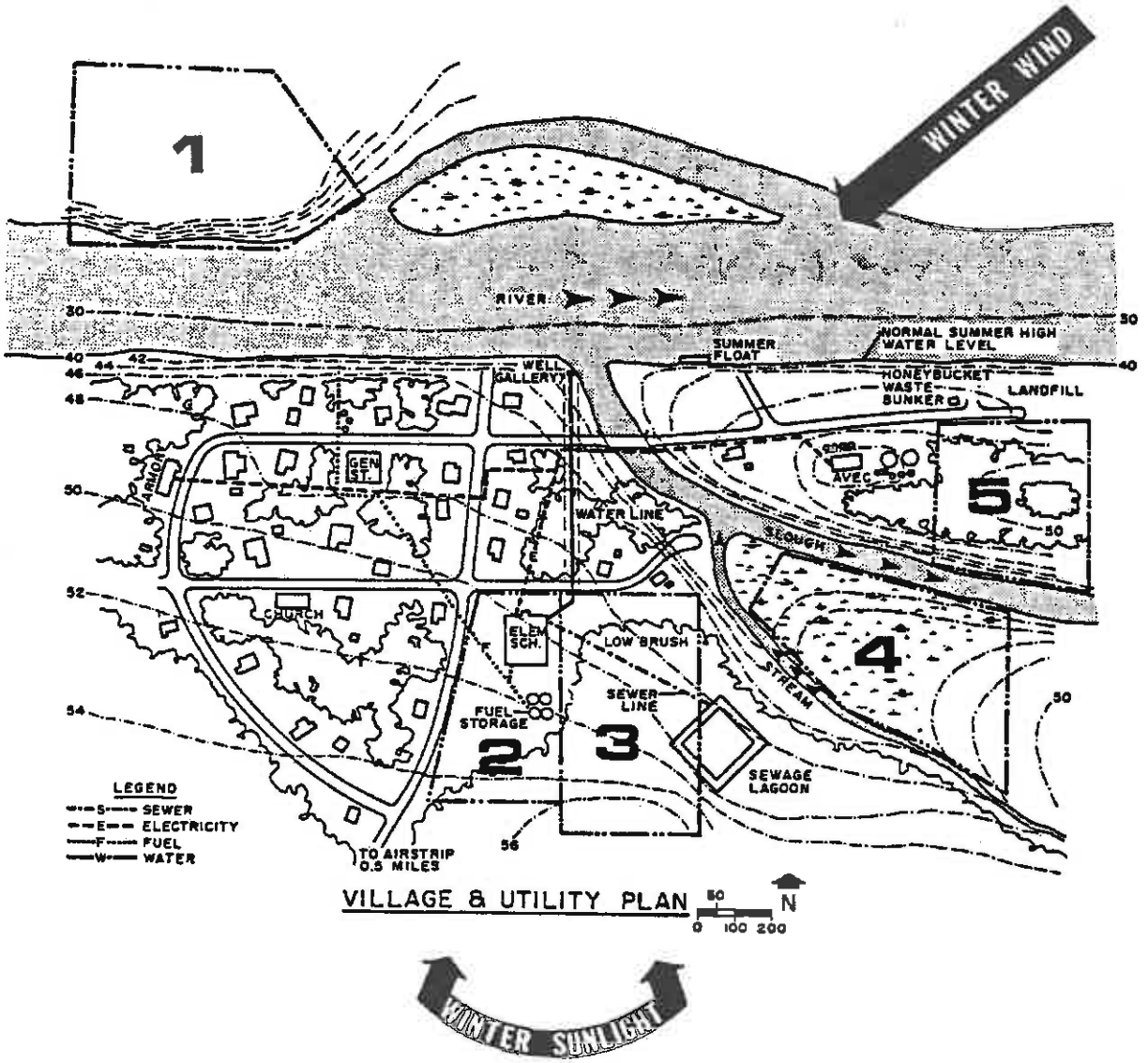
TOTALS

Site Evaluation Summary Table

Criteria	Sites			
	1	2	3	4
Social and Land Use Factors				
Construction Cost Factors				
Maintenance and Operating Cost Factors				

GRAND TOTALS

Appendix B
Sample Site Graphic Analysis



II. PLANNING

A. Steps I - XII

STEP I

Education Specifications

- Need
- District curriculum
- Number of teachers
- General room size
- Overall size
- Borough design criteria
- Graduation requirements
- District general specifications
- Buildings must meet state guidelines for program square feet
- Building site selected
- Board approval
- Alaska Department of Education and Early Development approval

STEP II

Architect Selection

- Architect selected – Board of Education and Borough
    - Size of firm
    - Qualifications
    - Similar work experience
    - History of company
    - Consultants used

STEP III

Program Verifications
Program Review Team

- Architect
- Teacher,
- Administrator,
- Custodian
- Maintenance
- Parents
    - Review education specifications
    - Program requirements

STEP X

Contract Document Development

- Final construction committee report
- Final PRT review

STEP XI

Board and Assembly Sessions

- Approve final contract documents
- Put out to bid

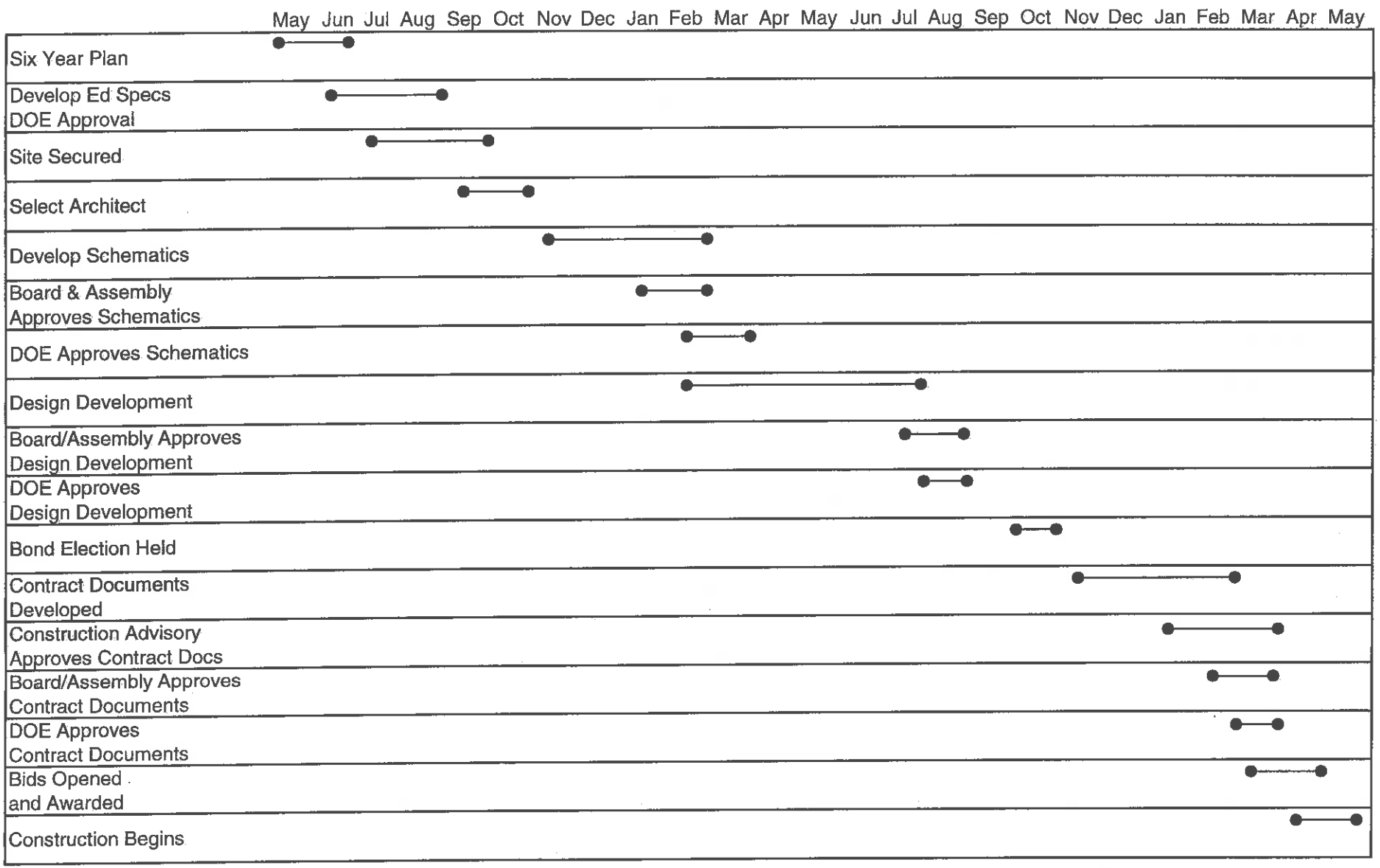
STEP XII

Board and Assembly Sessions

- Bid opening
- Approve award of contract
- Issue notice to proceed

B. Planning Schedule

Planning Schedule



C. General Responsibilities

- Kenai Peninsula Borough and School District
- Project Manager
- Architect

GENERAL RESPONSIBILITIES – PLANNING PHASE

I. **Kenai Peninsula Borough School District**

General education specifications
Project specific education specifications
Program requirements
Site selection
Architect selection
Program verification and review – Program Review Team
Building and room layout and site plan requirements
Review design for program, plans, and equipment
Equipment list and budget
Design, budget, and schedule approvals
Public education of projects for bond election
Occupancy requirements

II. **Kenai Peninsula Borough Public Works**

Facility design material and equipment criteria
Site selection technical assistance and acquisition
Project manager selection and contract negotiations
Project budget and schedule development
Design budget and schedule approval – Assembly
Architect contract negotiations
Design material and equipment review
Bid document and general provisions
Project Management Consultant contract administration
Change order approval

III. **Project Management Consultant**

Design contract administration
Budget and schedule analysis and update
Program and construction review meeting coordination
Detailed project schedule development
Design review for constructability and program verification
Building safety plan check and other review coordination
Construction bid and award coordination
Construction contract administration and onsite inspection
Project reports
Building safety, Architect/Engineer and agency inspection coordination
Substantial and final inspection coordination
Record documents
Design and construction contract closeout

IV. **Architect**

Concept preparation
Design development to meet program and construction requirements
Construction document preparation
Design safety, health and other code requirements
Cost estimate within budget
Construction submittal review and approval
Design clarifications and changes
Progress and periodic inspection of construction
O & M Manual review
Substantial and final inspections
Warranty inspection

KENAI PENINSULA BOROUGH AND SCHOOL DISTRICT
Role Definition Statements

Construction Documents Bidding and Construction Administration

1. Information will be provided regarding their requirements for the project.

2. The Borough mayor or his authorized deputy will examine design documents presented by the architect and shall render decisions pertaining to the documents.

3. The Borough shall furnish:
   a. Certified land survey for each site in accordance with the agreement between the Borough and architect.
   b. Written soils test report in accordance with the agreement between the Borough and architect.
   c. Structural, mechanical, chemical and other laboratory tests as well as inspections and reports required by law or the contract documents.
   d. Standard Borough general conditions, supplementary general conditions and other bidding and contract requirement instructions.
   e. Legal, accounting and insurance counseling services as may be necessary for the project as well as auditing services for determining how or for what purposes construction contractor has used the moneys paid to him under the contract.

4. The Borough shall provide a construction budget for the projects as well as include funds for a construction contingency.

5. The Borough shall drill both on-site wells based on A/E furnished criteria – flow, location and cased opening size. Borough drills and develops well. Borough provides and sets screen. (Well driller usually provides used pump which is replaced with new pump by the Contractor.)

6. Payment of A/E invoices as well as contractor invoices after they have been approved for payment by PMC will be made.

7. School District will provide a list of all owner furnished equipment. The Borough shall schedule delivery of all owner furnished equipment so as not to impede construction progress and substantial completion inspection.

ARCHITECT

Role Definition Statement

Construction Documents

1. The architect shall be responsible for preparing contract documents (construction drawings and project manual including technical specifications) suitable for reproduction and public bid. These documents are to affect the design of the design development documents as approved by the owner. This service includes assisting the Borough in preparation of bidding forms, conditions of the Contract and the form of agreement between the Borough and contractor.

2. The architect shall be responsible for providing contract documents complying with OSHA, state building, fire and other codes in affect at the time the documents are turned in for plan check review.

3. The architect shall be responsible for an update of the statement of probable cost which should not exceed the original construction estimate.

4. The architect shall be responsible for obtaining all necessary approvals needed for construction from State government authorities having jurisdiction over the projects.

5. The architect is responsible for coordinating all professional sub-consultants' work so as to present a coordinated set of contract documents.

6. Architect shall provide services when requested by the PMC, as defined in the Agreement Between Borough and Architect.

Bidding

1. The architect shall assist the Borough in preparing the construction contract and obtaining bids in order to award the construction contract to the successful low bidder. This phase is to include evaluation and recommendation/rejection of contractor proposed substitutions as well as preparation of formal addendum where required to clarify documents, and to identify substitution requests which have been approved for incorporation into contract documents.

2. Architect shall provide additional services when requested by the PMC as defined in the Agreement Between Borough and Architect.

Construction Administration

1. The architect and the architect's professional consultants shall examine all correspondence including reports, contractor requests for clarification, proposals, shop drawings and other documents presented by project manager to the architect

and promptly render written decisions or comments on the correspondence within seven (7) working days except where the architect has previously requested additional turn around time for specific shop drawings/submittals.

2. The architect and the architect's consultants shall make trips to the job sites as determined by the Agreement Between Borough and Architect for the purpose of familiarization generally with the progress and quality of the work and conformance with design intent. The architect and sub-consultants shall also review "as-built" documents for future completion of record drawings. Each visit shall be followed by a report on the site visit including sub-consultant observations if they were present. Special job site visits shall be made by the architect and/or sub-consultants at the request of the owner if it is felt necessary by the owner and project manager to make additional observations on the progress of the contractor's work.

3. The architect shall provide a complete set of mylar reproducible record drawings and specifications to the owner in accordance with the requirements of the Agreement Between Borough and Architect.

4. The architect shall conduct a warranty inspection in accordance with the requirements of the Agreement Between Borough and Architect.

5. The architect shall perform contractual duties according to sound professional standards and shall make available to the project manager PMC all available written data affecting the design and/or construction of the project.

6. Architect shall provide additional services when requested by the PMC, as defined in the Agreement Between Borough and Architect.

PROJECT MANAGER PMC

Role Definition Statements

Construction Documents

1. Act as agent of the Borough.

2. Coordinate architect's responsibilities with activities of the Borough and School District.

3. Appraise architect's performance for compliance with terms of Agreement Between Borough and Architect, and bring any deficiency to attention of the architect and Borough.

4. Process and approve invoices and changes in services.

5. Perform design review of contract documents, and coordinate and moderate continuing Construction Advisory review meetings.

6. Coordinate extension of all required off-site utilities to agreed upon points of connection with on-site utility system.

Bidding

1. Act as agent of the Borough.

2. Coordinate architect's responsibilities with activities of the Borough and School District.

3. Appraise architect's performance for compliance with terms of Agreement Between Borough and Architect, and bring any deficiency to attention of architect and Borough.

4. Process invoices and changes in services.

5. Advertise notification of projects in Anchorage AGC bulletin and in local newspapers in Anchorage, Kenai, and Soldotna throughout the first three weeks of the bid period.

6. Mail complete sets of contract documents to a minimum of then (10) AGC and plan bureau offices in Alaska and in the Northwest in time for review by contractors and suppliers.

7. Monitor the distribution of documents so as to always have adequate number of sets available for prospective bidders and suppliers.

8. Record a complete plan holders list and reissue updated list with each addendum or at least twice during the bid period.

9. Serve as convener of the pre-bid conference and provide minutes of the meeting to all the attendees.

10. Assist the Borough in running the bid opening meeting. Provide adequate supply of bid tabulation sheets for public.

Construction Administration

1. Act as agent of the Borough.

2. Coordinate architect's responsibilities with activities of the Borough and School District.

3. Appraise architect's performance for compliance with terms of Agreement Between Borough and Architect and bring any deficiency to the attention of the architect and Borough.

4. Process invoices and changes in services.

5. Administer as the agent for the Borough the construction contract between the Borough and contractor, including maintaining competent supervisory staff at the job site to assure conformance with the general conditions, general requirements, technical specifications and contract drawings.

6. Ensure record drawings and record specifications accurately reflecting building and site changes will be provided to the Borough. (Assure contractor is maintaining as-built prints and specifications at the job site.)

7. Coordinate all A/E visits to the site. Moderate biweekly construction meetings at the job site. Take minutes and distribute to attending parties.

8. Maintain communication between the Borough and contractor.

9. Coordinate extension of all required off-site utilities to agreed upon points of connection with on-site utility system.

10. Provide job site inspection of the work for the Borough. Check progress and quality to assure Borough and architect that construction work is in accordance with the contract documents and applicable building codes.

11. Review contractor's request for progress payments. Advise owner as to PMC's recommendation for payment based on progress of work and extent of work

complete. Issue certified contractor's payment request to the Borough. PMC is to verify contractor's progress as it relates to contractor progress schedule.

12. Manage all claims requests from general contract keeping the Borough and architect appraised of claims status. Make recommendations to the Borough on all claims relating to execution and construction work progress.

13. Notify A/E and the Borough of all nonconforming permanent work. Prepare a written report on the same. Make recommendation to the Borough of its correction. Have corrections carried out at the Borough's direction.

14. Prepare change orders for Borough approval.

15. Conduct a construction progress review related to date of contractor's completion, receive written guarantees/warranties from contractor and issue to the Borough a certificate of final payment.

16. Assume responsibility for documentation of the quality and quantity of work accomplished by the contractor in accordance with accepted engineering and accounting practices.

17. PMC will not make design decisions nor be final judge of design intent. PMC will solicit such interpretation and direction from A/E and provide documentation supporting design interpretations to A/E and the Borough.

18. PMC will not be responsible for latent defects or latent omissions caused by contractor or his subcontractors or employees, unless such defect or omissions resulted from failure of PMC to properly perform their duties as specified herein.

III. ED SPECS/DESIGN CRITERIA

A. Department of Education Handbook to Writing Educational Specifications

A Handbook to Writing Educational Specifications

State of Alaska - Department of Education & Early Development
A Handbook to Writing Educational Specifications – 2005 Edition

PRIMARY CONTRIBUTOR

Edwin Crittenden, FAIA
Educational Facilities Consultant
Alaska Department of Education & Early Development
Anchorage, Alaska

CONTRIBUTORS

Tim Mearig, AIA
Architect
Alaska Department of Education & Early Development
Juneau, Alaska

Nathan Coffee
Architect Assistant
Alaska Department of Education & Early Development
Juneau, Alaska

Michael Morgan, PMP
Anchorage, Alaska

ACKNOWLEDGEMENTS

Thanks to the Bond Reimbursement and Grant Review Committee members who reviewed the publication in its draft form and to those in the Department of Education & Early Development who were responsible for the predecessor to this document.

Table of Contents

Introduction

The initial step in the creation of a school facility that effectively meets the needs of students, teachers, administrators, and community members is the formation of a clear, concise, written facility program statement. This written program statement is the educator's opportunity to articulate the educational program of the school to the professional designer. The written program statement, through further development, becomes the "program for design" that articulates the scope and requirements for a completed facility. Educators have come to call this program for design an "educational specification." The success of the educational specification in communicating the school facility's needs to the professional designer plays a large part in the overall success of a school facility construction or improvement project.

The development of educational specifications is more a process of pre-design problem definition than a process of problem solving. It is important that the educational specifications, as thoroughly as possible, describe the facility's anticipated uses and identify the specific physical characteristics that will be required to house and promote the proposed activities. The educational specifications should provide detailed parameters to guide the design professional's design, rather than describe how the facility is to be constructed. A further discussion of the problem-definition process can be found in the *Guide for Planning Educational Facilities* published by the Council of Educational Facility Planners International.

The elements that all educational specifications should contain are fairly exact, however the processes used to develop the educational specifications and the manner in which the information is presented may vary. These differences in the development and presentation of the educational specifications can be attributed to a number of factors including, variations in community involvement, educational programs, and school sizes. However, it is important that all educational specifications attempt to:

- Involve educators and community representatives in the definition of educational needs;
- Enable school planners to better understand the purposes of the facility;
- Help the designers to create a building that fits the educational program and needs of the community, and;
- Eliminate oversights that are expensive to correct once construction is complete.

A well-prepared educational specification is an integral part in the creation of a building that enhances the learning environment, accommodates learning activities, and provides pleasant surroundings for occupants and visitors. A poorly developed educational specification generally results in a mediocre facility, or one that is marginally functional for education. It is the intent of this publication, *A Handbook to Writing Educational Specifications – 2005 Edition*, to provide a resource for school districts and educators that:

- Identifies the essential elements which all educational specifications should contain;

Introduction (cont.)

- Outlines approaches and techniques utilized in the creation of educational specifications and overall project planning;
- Improves the quality of educational specifications and their effectiveness in communicating to the architect the current and envisioned program;

State Requirements

By regulation 4 AAC 31.010, the Alaska State Department of Education & Early Development requires the chief school administrator, under the direction of the local school board, to be responsible for preparation of educational specifications for all new public elementary and secondary schools, as well as additions and renovations of existing facilities, for which state aid is sought. The question of whether a capital project requires educational specifications often arises for there are many capital projects, such as a roof replacement or mechanical upgrades, that do not require educational specifications. It is the department's policy to require educational specifications on any project that alters the configuration of the building's spaces or the manner in which those spaces are to be used. Therefore all new school construction projects, additions, and renovations typically require educational specifications that include, at a minimum, the following elements:

- The current year and five-year post-occupancy projected attendance area enrollments in the grades *(grade levels)* affected by the facility;
- A statement of educational philosophy and goals for the facility;
- The curriculum to be housed by the facility;
- The activities that will be conducted in the facility;
- The anticipated community uses of the facility;
- The general and specific architectural characteristics desired;
- The educational spaces needed, their approximate sizes in square feet, their recommended equipment requirements, and their spatial relationships to other facility elements;
- The size, use, and condition of existing school spaces in the facility *(additions and rehabilitations only)*;
- The recommended site and utility requirements;
- The proposed budget and method of financing, and;
- The technology goals of the curriculum and their facility requirements.

Additional regulations in 4 AAC 31.020 identify guides for planning educational facilities as well as the method of determining allowable square footage for a school facility. Regulations 4 AAC 31.021 and 31.060 stipulate the process of application for state aid for school capital projects. Regulation 4 AAC 31.022 outlines the requirements for review of capital project applications. Further information regarding the review and scoring of capital project applications is available with the CIP Application & Instruction packet that is distributed to all school districts each year. Regulations 4 AAC 31.030 and 4 AAC 31.040 address the review and

approval of school construction plans. Copies of the school facility regulations are available in electronic form online as well as print form through commercial vendors.

A school district's six-year capital improvement plan (CIP) is closely related to the educational specifications for a given project. The requirements of the six-year CIP plan are identified in statute AS 14.11.011 and regulation 4 AAC 31.011. Regulations 4 AAC 31.021 and 4 AAC 31.022 address the six-year CIP plan's relationship to and integration with a school district's CIP request. The six-year CIP plan is also a component of the overall district master plan. As such, it serves as support for individual programs for design and educational specifications.

The Process

Programming is the process that elicits and systematically translates the mission and objective of an organization, group, or individual into activity settings. Facility programming, through the process of educational specification development, precedes the traditional architectural design phase in the building delivery process. The primary resources for this programming task are the building occupants or users. It is their objectives and needs that the planning team must utilize to shape the educational specifications. The ultimate success of a school capital project rests on the effective communication between those who design and those who will use the built environment. The educational specifications are the communication tool that must bridge the gap between the building's users and designers.

An essential requirement of the process is to allow adequate time for the development of educational specifications prior to the initiation of architectural design. Time is needed for people to envision, review, revise, and re-think programmatic desires that will be translated into conceptual design. A "hurry-up" process does not allow for reflection by parents, students, faculty, and community members. Without sufficient lead-time, project elements and parameters may be set too quickly that may later prove undesirable.

After the need for a project is identified, the first step in the educational specification process is to establish a school building planning team or committee. The planning team should be kept small enough so that it can function as a group and not become unwieldy, yet the planning team should be large enough to include a cross section of students, teachers, administrators, parents, and community members. A team of eight to twelve members is probably sufficient for the task, however this may vary within each community. Membership on the planning team should be voluntary. Team members should have the interest and desire to be involved in the planning of the school project and should have a stake in the outcome.

The planning team will be required to formulate, organize and prioritize all ideas and input regarding what the school should be. They will serve as the impetus in the collection of information, as a review body of what is proposed, and as a communicator regarding the educational specification effort with the school staff, the student body, and the community. It is essential that people who are going to work in the facility (building principal if known, teachers, maintenance and custodial support staff, and students), if not serving on the committee, be invited to provide input in the process that shapes the facility. These are the people who will spend the bulk of their time in the facility after it is constructed. Desirable or undesirable building features will impact their daily lives. Although all community members may eventually be affected by the project, it is the responsibility of the school building planning team to ensure the successful programming of the facility.

The task and responsibility presented to the planning team may appear daunting, and in truth a good deal of thought, time, and hard work is to be expected. It is for this reason that the team may wish to employ an experienced school planning professional to assist in the development of the educational specifications. Many times the school planning professional can provide an established structure for the educational specifications and can serve as a facilitator to convert the team's ideas and concerns into a presentable final product. If budget constraints limit the

ability to hire a consultant or when a qualified individual is available from the school district staff, a local or in-house person may fill the position of facilitator.

There are advantages and disadvantages to either approach. The local person has intimate familiarity with the community, understands the school district and its educational programs, and may be well known to the members of the planning team. However, the local individual may hold provincial views and biases that could reduce their effectiveness in resolving issues where planning team members hold conflicting views. The planning professional, "the expert from out of town," can point out provincial thinking without fear. The out of town expert can also bring new ideas for the group's consideration from planning experiences in other locations. However, the expert may not be intimately familiar with the community's social and political makeup, thus they may not be able to fully understand the community's perspective.

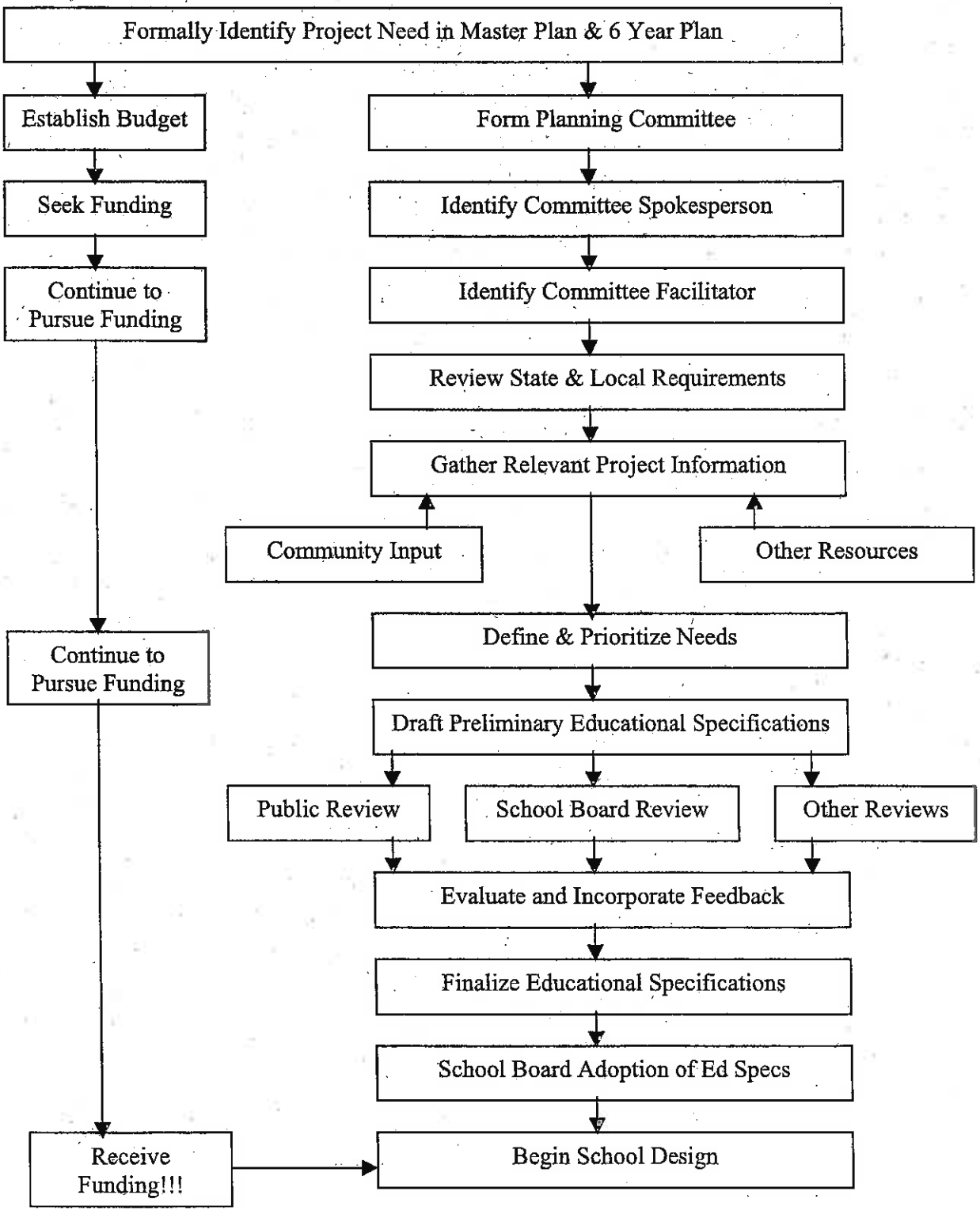
Regardless of the planning team's approach to the development of the educational specifications, the planning team and school planning professional, if used, must consider the following essential factors influencing educational specifications that are discussed in detail on the following pages:

- Project Rationale
- The Community
- Student Population Projections
- Educational Philosophy & Instructional Plans
- The School Site
- Environment for Learning
- General Design Considerations
- Activity Setting Descriptions
- Spatial Relationships
- Space Requirements Summary
- Furnishings & Equipment Summary
- Project Budget & Financing
- Scheduling & Assignment of Responsibility

The Process (cont.)

These essential factors mirror the required elements of an educational specification as defined in 4 AAC 31.010; however, the last factor noted is excluded from the regulatory requirements. This omission is not due to lack of importance for this factor is imperative in getting all the involved parties on the same page as to their role in the project. Early definition in the planning process of all participants and their responsibilities not only facilitates the smooth execution of the project, but can oftentimes save money and enhance the project by capitalizing on partnering opportunities within the community. It is for these reasons that the department believes this is an essential step in the process.

The Process (cont.)



Project Rationale

The project rationale is a statement explaining why a project is being undertaken. Projects considered essential to conduct the educational program need a summary statement of justification. In other words, the project rationale defines the problem and answers the questions of "Why are we doing this project?" and "What is the project's intended use?"

An educational master plan that includes changes in the educational program, instructional plans, and future facility construction is important for all planning, whether for funding, scheduling, or facility design. The project rationale should be based upon documentation in the district's educational master plan and the current six-year CIP plan. The planning team should thoroughly review the data in these documents, revise it if necessary, and use it to reinforce the need for the proposed project.

The school district may or may not have a current master plan that addresses facility growth or change. If available, the master plan should be referenced in the educational specification, as should the six-year CIP plan. These documents should show the relative importance of the specific facility to the district as a whole and should also include the district facility policy. If an educational master plan is not available, the planning team should take additional steps necessary to ensure that the proposed project is coordinated with the district's long-range goals, rather than just the goals of a single facility. The project rationale may be expanded to explain the role the specific facility is intended to play in the achievement of current district goals or the future of the school district.

For additional assistance in developing facility master plans or examining issues related to long-range planning, reference should be made to the *CEFPI Guide for Planning Educational Facilities*, Unit C.

Examples of Project Rationales:

- Problem Definition: John Doe High School was constructed in 1910 and no longer functions adequately to deliver contemporary educational program offerings. Studies have shown that, for the intended use, the cost of adequate renovation would be greater than new construction and the existing building can be adapted for other use. Therefore, a new facility is deemed necessary.

  Intended Use: The envisioned facility will house the delivery of a technical and vocational educational program for 1,000 students in Grades 10-12.

- Problem Definition: The State Fire Marshal has condemned the Bureau of Indian Affairs Day School that was constructed in 1931 for elementary school children. The cost of renovation is estimated to be nearly the cost of new construction on a life cycle cost analysis basis. Therefore, construction of a new facility is proposed.

  Intended Use: This facility is intended to provide a comprehensive elementary and secondary educational program for 140 students in Grades K-12. It will also serve as a community educational, recreational, and civic center.

Project Rationale (cont.)

The above examples constitute brief and direct summaries of a project. They offer factual information (e.g., "this high school was constructed in 1910," and "studies have shown . . ." etc.). The information supports the conclusions drawn and the proposed solution that will be detailed by the remainder of the educational specifications.

The Community

A design team from outside the community or region may be retained to design the school project. For purposes of this section, a "community" is defined as the students, their parents, and the citizens of the proposed geographical area that the facility is intended to serve. To provide for that possibility, background information on the community should be provided. The educational specifications should describe the physical characteristics of the community, its cultural history, and its support infrastructure.

The socioeconomic characteristics of its citizens, employment opportunities, and anticipated growth in the community may also assist the designers in better understanding and meeting local needs. It is critical that the designers are aware of the current support infrastructure available in the community. Are sewage, potable water, and fire water utilities available or will they need to be developed on site? It is especially important to note the electrical generation capacity of the local power provider so that the designers may determine whether it will be able to provide sufficient power to the new facility.

Information on the surrounding terrain and the climatic conditions is necessary to design a facility that is responsive to the local environment. What are the extreme winter and summer temperatures? Is the community located in a flood plain? What is the direction of prevailing winds? Any social or environmental information that could help the design team establish parameters to guide their design should be provided, especially if it is information that the community feels strongly about.

Example:

> John Greenwood, founder of Greenwood Industries, established Greenwood, located in the Northwest Riverville Borough, in 1939. Most of the inhabitants of the community are of Southern European descent, mostly Italian, and are employed in skilled crafts at Greenwood Industries, a diversified manufacturer and the community's main employer. An abundance of available natural resources and increased trade beyond regional boundaries indicate strong economic growth. In addition, the service sector of the community has experienced a steady increase in employment. The community's population of 30,000 is concentrated in an area of approximately six square miles. However, commercial, industrial and residential areas are clearly demarcated because of strict planning and zoning requirements. Figures from the last U.S. census indicate an annual growth rate of 2%. The city's planning office is currently projecting a five-year growth rate of 2.2% annually.
>
> The average low winter temperature is 10 degrees, while the average high summer temperature is 81 degrees. The wind blows from the north/northeast approximately 92 percent of the time with an average speed of 12 miles per hour. Greenwood is located on relatively flat ground and 85 percent of the city limits are in the flood plain of the Green River.

The Community (cont.)

Important considerations beyond geographic and topographical data of the community include a description of the school district and the role that it, and its facilities, plays in the community. Are there other private schools, charter schools, or technical schools serving the community? Are there special schools for special learners? Consider the role the school facility will play and what local residents will expect of it. Will it double as a community center? Community activities expected to be accommodated in the facility should be listed as specifically as possible. Community involvement in programming for design is often incorporated in the educational specification process. This can be done informally with community meetings or more formally with survey instruments and community research. To the extent practicable, a compilation of this data along with some analysis should be incorporated into the educational specification in either the Community section or in an appendix.

Much of the information suggested in this section can be obtained from previous planning documents and from the planning offices of the local government. There is also information available on the Department of Commerce, Community and Economic Development's web page at: www.dced.state.ak.us/dca/commdb/CF_CIS.htm. It is important that the community members, school district, and local government agree on this data.

Student Population Projections

The State of Alaska has established guidelines for the maximum eligible space a project may include for a given student population. These guidelines are applicable to projects receiving state funding that propose to add or replace space and are outlined in regulation 4 AAC 31.020. The regulations utilize four different calculations to address four different population groups: Elementary, Secondary, Mixed Grade, and Combined (K-12) school populations. While the eligible space calculations are somewhat complex in regulation, the department has published a spreadsheet to facilitate their use. The spreadsheet is available on the department's web site at:

www.eed.state.ak.us/facilities/FacilitiesCIP.html

For projects that propose to add or replace school space, the five-year post occupancy projected student populations provide the basis, in conjunction with the aforementioned regulations, for determining the maximum eligible school space that the State will provide funding for in a given attendance area. Thus, the student population projections are the cornerstone of project planning as they directly establish the design capacity and maximum eligible square footage of the proposed facility. The importance of accurate student population projections cannot be overstated.

Prior to addressing how student populations can be developed, it is important to define several terms that influence how a project's eligible square footage is determined in the State of Alaska.

- Elementary refers to student groups in grades kindergarten through six.
- Secondary refers to student groups in grades seven through twelve.
- Mixed Grade refers to a combination of elementary and secondary students that doesn't include all grades of either.
- Combined refers to student groups in grades kindergarten through twelve.
- Attendance Area refers to the education service area in which the student population is located based on the location of high schools and feeder schools (ref. 4 AAC31.016).
- Five-year post occupancy refers to the date five years after the proposed project is occupied. For the purposes of calculating eligible space, student populations are projected to this point.

For more information on determining a project's eligible square footage, please refer to regulation 4 AAC 31.020, contact department's Facilities Section, or visit the department's Facilities web site at:

http://www.eed.state.ak.us/facilities/home.html#Pub

The most common process used to project student populations is the survival ratio projection method. This method can be used effectively for both urban and rural schools; however, it is not

as accurate for very small schools due to the large impact a single student can have on overall growth percentages. The basic premise of this projection technique is that future student populations can be derived from applying the ratio of students that historically advance from one grade to the next to the current student population. The ratio of student advancement from grade to grade is called the survival ratio and a different survival ratio is established for each grade transition. A ratio can also be established between live births in the attendance area and the student enrollment in kindergarten five years later. This ratio can be applied to recent live birth data in the attendance area to predict future kindergarten enrollments. Rather than go into the specifics on how to create a tool to apply this population projection method, the department has published a spreadsheet on its web site that calculates survival ratio projections based on user furnished student population data.

Although less rigorous as a statistical model, the department has seen reasonable population projection results from the annual percentage of change in student populations averaged over a period of 5 years or more. As a comparison to straight line growth projections and survival ratio methods, this model can provide another tool with which to analyze historic trends. As with the survival ratio method discussed above, the department has published a spreadsheet on its web site that uses the average annual change method to provide a projection based on user supplied historic population data. The spreadsheet also includes a section that, when provided with student population projections, will calculate a resulting average annual change percentage for use in comparison with historic data.

Inherent in the survival ratio projection method, and other statistical projection techniques (i.e. straight line growth, regression analysis), is the assumption that past growth trends will be repeated in the future. This assumption may be fine when applied to a controlled environment, but when statistical projection methods are strictly applied to actual school projects without consideration of other factors, the results can be deceiving. Therefore, it is important that the results of a statistical population projection be cross-examined and analyzed with all pertinent data to determine that it represents a realistic student population projection.

There are many factors that could influence future student populations; however, it is important to note that only if these factors are anticipated to *change in the future*, is it necessary to adjust a survival ratio calculation. For example, a district may see an increase in 7th grade student populations as students leave the private elementary schools. There is no need to adjust the survival ratio projection because of this factor. However, if the private school were to begin offering 7th grade, this could reduce the historic increase typically experienced by the school district's 7th grade. Thus, the historic survival ratio between 6th and 7th grade should be reduced to reflect the changes in the private school program.

The difficulty in incorporating these factors into a student population projection is, first, determining the likelihood that a *change* in a factor will actually be realized and, second, assessing what sort of impact the *change* in the factor might have on the student population. If no change is anticipated for a particular, then the survival ratio population projection need not be adjusted. Below is a list of some factors that could affect school populations:

Student Population Projections (cont.)

- Housing Availability – apartments, housing developments, dormitories, any where that students might live;
- Land Availability – is land available for future development of housing and business;
- Alternative Educational Programs – home schooling, cyber schools, charter schools, private schools, etc.;
- Success of Educational Program – pupil retention, school transfers, test scores;
- Employment & Economic Opportunities – development of business and industry can affect migration and family growth;
- Government Policy – from funding decisions to military development, decisions made by distant governments can greatly impact communities, and;
- Migration – often accompanies to one or more of the factors listed above.

It is important to reiterate that if no changes in the community are anticipated during student projection period, then an unaltered survival ratio student projection should adequately reflect future populations. If, and only if, there is some reason to suspect that future trends will change significantly from historic trends, then one may want to consider further evaluation of the factors that may change and how their change may impact future student populations.

Educational Philosophy & Instructional Plans

Educational specifications should be driven by the educational program offered and those educational activities planned to be offered in the future. The document should include the school board's philosophy, along with the educational goals and objectives of the program that the facility is expected to house.

A well developed curriculum, instructional and supervision plan, and ongoing system of curricular and instructional evaluation should be referenced for inclusion as appendices. If they do not exist, it may be necessary to validate how well the district's goals are being achieved. Validation may consist of public opinion regarding the educational program offered and soliciting suggestions for changes or improvements. Surveys should be carefully constructed to elicit accurate and useful information. Remember, it is the educational program that drives the educational specifications.

Predicting future program offerings and curricular needs that the facility will house is a bit more difficult because it is necessary to separate educational faddism from sound educational practice. However, it can be done by careful assessment of general educational trends validated by the community members, the school board, current and former students, and the professional teaching staff. Including a statement of present and expected use of technology is also an essential requirement in describing a school's programmatic and curricular needs.

This section of the document should also describe the instructional support and general administrative support staff plans. Include an organizational chart to assist in this description. This alerts the design professional to the number of personnel that the school is expected to house, and in general terms, indicates the types of spaces they are likely to occupy. Also, include a statement of the teaching philosophy and methods advocated.

The School Site

Site selection is a separate, independent process that may precede or follow preparation of educational specifications. However, the educational specifications need to describe outdoor activities and their site requirements regardless of whether a school site has been selected or not. If a school site has already been selected, the planning team should visit it to evaluate its compatibility with the proposed outdoor activities and to determine if the site offers any special educational opportunities that the educational program may want to incorporate. If the site has not yet been selected, the planning team should identify the specific requirements that the envisioned site should have to promote the outdoor educational activities as outlined in the educational program.

Whether or not a site has been identified, the educational specifications should attempt to address the following site characteristics and development concerns:

- Desirable features that enhance the school's educational program;
- Natural features that should be preserved to enhance the aesthetic qualities of the learning environment;
- Treatment of pedestrian and vehicular traffic flows around and on the site;
- Community uses of the site or nearby open space sites that could be used to enhance both the community's and the school's needs;
- Location of site, centrally located in community versus outlying so that student transportation is required;
- The ratio of the attendance area which will be served by the school;
- The site's access to water, sewer, electrical power, arterial roads, and police and fire protection;
- The required onsite utilities. Will design and construction resources need to address onsite water acquisition and treatment, sewer treatment and disposal, bulk fuel storage, and power generation?
- The desired site development. What recreation areas and equipment are desired? What is required in the way of parking, student drop-off, and bus loading areas? To what extent is landscaping and planting desired?
- Potential demolition or relocation requirements of existing site structures and utilities.

The chosen site or sites should be reviewed with local community planning departments for area growth patterns, future expansion, and other land use factors. Also, the Department of Education & Early Development cites two publications in its planning guidelines that deal specifically with

site selection: The CEFPI *Guide to Planning Educational Facilities,* Unit F, and a department publication, *Site Selection and Evaluation Criteria.* The planning team and site selection team may find these publications helpful in the evaluation of potential school sites and complying with the department's site review and approval procedures.

The Environment for Learning

Harold Hawkins, of Texas A & M University, identifies three types of environment that affect a facility's occupants in Unit I, *Environment for Learning,* of the CEFPI Planning Guide. These environments are the:

- Physical, both the natural and built environment;
- Social, the relationship between and among students, staff, teachers and parents, and;
- Institutional, the organization of the school, its rules and regulations.

The educational specifications primarily define the physical environment. However, it is important to be cognizant of the relationships between all environments when developing the educational specifications. How the physical environment is defined can greatly impact the other environments. Hawkins identifies a number of features to consider when defining the physical environment and discusses how these features can impact the other environments.

The physical environment for learning as well as the social environment of a school building should be conducive to the teaching and learning process. The Department of Education & Early Development, in writing a program of studies with and for the Alaska regions, has stressed the necessity of preserving cultural pluralism in the schools and maintaining a meaningful cultural identity among rural Alaskan inhabitants. Though they are speaking to the necessity of designing curriculum for such purposes, there is also a crucial need to design school buildings and learning environments that reflect and support such program goals.

Curriculum improvement goals view the students as "goal seeking"; problem-solving bodies with the power to get meaning out of direct experience. This means that the learning environment must be an active support system to the teacher and learner. It must be designed and equipped to nurture knowledge acquisition. Architectural space can actively support or be passive to learning. Alaskan schools and the educational specifications that guide their design should necessitate a process to:

- Access the developmental needs of students, kindergarten through twelfth grade;
- Include important cultural determinants;
- Include community needs and wishes for a multi-purpose structure;
- Design buildings which reflect an architectural response suitable for the local Alaskan conditions, and;
- Provide space on an activity level encouraging teaching and learning.

The idea of providing dynamic spaces that actively support learning and can be integrated into or enhance the curriculum is not a new one, however, educational planners and school designers

could do a better job providing environments that actively support learning, rather than just house students. As a philosophy for design, one may want to consider taking the idea of the school environment actively supporting learning a step further by utilizing the built facility as an additional learning tool. Examples might be the overall ambiance of a space as conducive to the planned activities, graphics as direct teaching, exposed plumbing and heating as physics.

The general ambiance of a school has a strong effect on the learning and teaching environment. The educational specifications should carefully review and explain this ambiance or distinctive atmosphere that is desired for the school. This is one of the most important guidelines for the designer, but it is also one of the most difficult for the educational specifications to communicate. The educational specifications should address attention to detail, variety of experiences, the building as a teacher, fitting into the environment, thoughtfulness in design, adequate space and flexibility, and sense of community as a means of describing the ambiance desired in the facility. A good deal of thought and research may be required to develop educational specifications that fully consider the impacts of the learning environment and effectively communicates the district's vision to the design professionals.

General Design Considerations

The general design considerations should be a set of instructions that the planning team requests the design professional to consider in the overall design of the facility. These considerations are meant to serve as a basic framework for the design and should not be too specific. The detailed requirements of the individual school spaces are to be addressed in the Activity Setting Descriptions section of the educational specifications, which will build upon the general considerations with design criteria applicable to the specific activity setting. The planning team should identify and briefly describe, at a minimum, the following general design considerations:

- Building design capacity and maximum eligible square footage;
- Desired focal point or features of the school, including primary and secondary focal points, i.e., commons, media center, auditorium, lobby, etc. Discuss the expression of these features as they relate to the exterior and interior of the building;
- Aesthetic qualities – Alert the design professional to desired/undesired textures, colors, shapes, ambiance, graphics, etc. Give clues as to the image the planning team wants the building to project, such as traditional, contemporary, rustic, etc.;
- Building construction standards – If the school district has established construction standards for their facilities, they should be referenced here. If not, then the desired physical characteristics of the building's construction should be developed in this section. These should be developed on a building system basis. The following is a brief overview of the building systems: Site, Foundation, Superstructure, Exteriors, Roof, Interiors, Conveyances, Mechanical, Electrical, Equipment, and Special Construction. Please refer to the department's *EED Cost Format* publication for a more detailed account of these building systems;
- Building performance requirements – This may be part of a school district's construction standards document and incorporated in the educational specifications by reference, or they may need to be developed in this section. Building performance requirements can range from the level of control over the HVAC system given to the buildings occupants to the life expectancy of the roofing system. This should also be structure on a building system basis;
- Lighting requirements – Identify minimum lighting levels in the facility, preferred lighting configuration and controls, and the use of natural light in the facility;
- Communication requirements – Identify communication, public address, and technology services that must be provided throughout the facility;
- Security and visual access requirements – Outline security and supervision requirements for the facility. If the school district has a security plan, it should be referenced here. Coordinate these descriptions with those furnished in the Equipment and Technology section of the educational specifications;

General Design Considerations (cont.)

- Site development requirements – Describe parking, circulation, service, outdoor activity, signage, and lighting requirements. Coordinate these descriptions with those furnished in the School Site section of the educational specifications;

- Describe other facilities or accessory structures that need to be considered in the placement of the school on the site, i.e. teacher houses, utility and storage buildings, and existing facilities to remain, and;

- Describe any building value considerations, such as consolidation of like spaces, cost effective design on a life cycle basis, low maintenance and operation cost considerations, etc.

Obviously, not all of the different school spaces will directly adhere to the general design considerations. For example, the level of finishes in vocational shop space will differ from the general level of finishes throughout the remainder of the facility. One must attempt to identify the desired general characteristics that the design is to adhere to for the majority of the time. This eliminates the need to restate these general considerations in each activity setting description.

It may be helpful to both the planning team and designers, to divide this section into two parts. A broad base set of general considerations that addresses the overall building design and another, more detailed set of general considerations that addresses a group of similar spaces, such as classrooms or administrative offices. This sort of two-tiered approach allows for more specific detail that is pertinent to a group of like spaces to build on the general information that is provided for the building as a whole, thus reducing the redundancy of effort in the Activity Setting Descriptions section.

Activity Setting Descriptions

Educational specifications are premised on the belief that schools should be responsive to the curriculum to be taught in the new facility, as well as the needs of the students and staff that will occupy the building. Educational specifications should also provide for the desired community use of the facility without negatively impacting the primary educational use of the facility. To accomplish this end, it is necessary for the educational specifications to provide detailed descriptions of the uses and requirements of each space or "activity setting". The descriptions of the activity settings are the heart of the educational specifications and they are the basis of building design.

The school will be a collection of different activities or actions that are designed to meet various objectives that were identified during the planning process. These objectives may be in response to curriculum; to federal, state or local educational priorities; to staff analysis of the learner needs; to school administrators; or to the sentiment expressed by members of the community. Often, questionnaires are distributed among community members, school staff, and students in an effort to gather local input. It is important that these survey instruments are structured so that useful information can be distilled from the responses. It is also important that sufficient time is allowed so that a comprehensive list of objectives can be established that accurately defines the overall purpose of the school.

After the process of defining the school's objectives is complete, the planning team should identify the activities or actions that are required to satisfy the objectives. Each activity will suggest a set of "needs" that must be met in order for the activity to be successful. From these activities the physical requirements of the facility can be derived. In order to promote understanding and organization of these requirements, the planning team may want to consider and group the needs into the following three categories:

- Health and Safety Needs – the response to code requirements, hygiene considerations, and the protection from hazards;

- Functional Needs – the response to physical necessities or determinants and to the specific uses of each setting, and;

- Psychological and Aesthetic Needs – the response to the needs for physical comfort, sensory satisfaction, psychological support, and cultural adaptation.

The health, safety, psychological, and aesthetic needs of users are combined with the educational goals, the corresponding curricular methodology, and the related needs of the community. All of these elements together form the pre-programming database that defines the functional needs of each activity setting. While many of the required school spaces are known prior to the educational specification exercise, the process of identifying each activity area's needs validates the need for each space. The planning team may even discover that an unforeseen activity area is required to fulfill the facility's identified activities and objectives.

Activity areas include the various spaces, such as classrooms, libraries, etc., that comprise the school facility. Activity areas are not limited to interior spaces so it is important that the

educational specifications identify and define the requirements of outdoor activity areas as well. Activity areas should be described with a high degree of specificity and exactness. The descriptors that are essential to provide sufficient detail to the architect of the activity areas planned are as follows:

- Describe the activities that are anticipated to be conducted in the instructional plan. If the instructional plan is referenced, include specific page numbers that can be reviewed by the design professional. Describe small, individual and large group activities that will be conducted within a space;
- State the number of users, teachers, aides, and target student populations;
- Suggest the approximate size of the activity space in terms of square footage;
- Based on a desired group size, state the number of like spaces required by the student population;
- Describe requirements for large and small groups, as well as individual student and staff spaces;
- Describe the internal spatial relationships and the area's relationship to the school as a whole, and;
- Describe the general ambiance desired in each, and potential modifications or alternates that might be desired for different teaching methods.

Space does not necessarily mean a "room." It can also mean an area within a room where a specific activity will be conducted, such as a messy activity, i.e., finger painting, which may require sink and different floor surfaces for ease in cleaning. It may be necessary to illustrate the internal spatial relationships of different spaces within an activity area using a bubble diagram or matrix .

It is important to consider the functionality of each space and activity setting. Each area must be closely examined to insure that it is programmatically functional. Identify the minimum area required to serve a given student population, and the maximum area. How many teaching stations are needed, given a specific staffing pattern (i.e. pupil-teacher ratio)? Various mathematical methods may be used to make this determination. For example, what number of students will be participating within a program area during the class day/week, how often will the class meet and for what length of time during the class day/week, and the desired pupil-teacher ratio. How many periods of the day can the space be utilized? One hundred percent efficiency is impossible for an entire facility. However, many areas, such as general classrooms, can be programmed for every hour during the school day.

Activity Setting Descriptions (cont.)

In writing the descriptions, the specific language is of particular importance in providing the designer direction. An example is the difference between the verbs "provide" and "provide for" as they relate to equipment, furnishings and casework.

"Provide" means the designer will provide the space and the specifications calling for the equipment, furnishings and casework in the contract documents and drawings.

"Provide for" means the designer will accommodate in the design of the space requirements for the equipment, furnishings and casework that will be acquired by the owner. Avoid general descriptions such as "adequate," "some," "somewhere," "enough," "near," and "many."

Below are some other factors that should be considered when defining each activity setting. This is by no means a comprehensive list but rather a minimum list of considerations:

- Describe specific utility requirements. Include the number of electrical outlets needed and their desired locations. Identify specific water, gas, compressed air, and dry and wet waste disposal requirements as applicable to the specific space;
- Identify special acoustic and lighting requirements;
- Identify specific surface material requirements, floors, walls and ceilings;
- Identify bulletin board, writing board and tack board requirements. Mounting height should be specific for size of students. For bulletin boards and tack boards, it may be desirable to specify that all wall space not used for something else be covered with tack surfaces;
- Identify requirements for wall maps, projection screens, chart rails and other fixed teaching aids. Describe relationships of teacher activity to student activity areas and note teacher demonstration areas if required;
- Note specific environmental requirements such as special ventilation, natural lighting, special heating and heat control;
- Note specific safety and health features required such as emergency eyewash stations in shops and chemistry laboratories. Note requirements where the instructor controls gas, compressed air and water. Note where automatic shutoff to specialized equipment is required, i.e., saws, lathes, planers, grinders;
- Explain audio-visual, television access and public address requirements as well as computer equipment and stations;
- Specify equipment, furnishings and casework to be located within the activity area. Often, instructors envision more equipment and furnishings than will fit within the instructional area. The burden of prioritizing should be upon the educator and spelled out in the educational specifications;

Activity Setting Descriptions (cont.)

- Identify and describe internal areas and support spaces needed. Once again, the specific language used is important. There is a vast difference between the terms "adjacent to" and "in the proximity of";
- Identify special colors, textures and shapes required within an area. This is of particular importance for kindergarten, special education, pre-school, and primary classrooms;
- Identify area needed for display of student projects and project storage, large and small. Also, identify general storage requirements of each space, and;
- Identify and describe any other requirement that may be unique to the activity setting.

The planning team may want to organize the activity setting descriptions in a standard format to facilitate their use and clarity. Appendix B offers a possible format for organization of the activity setting's activities and needs. This chart or matrix should build upon the general design information and may address many of the same topics, but in greater detail. If a particular activity setting's general characteristics vary from those defined in the General Design Considerations, the variations should be identified. This chart may also be used as a checklist during the planning team's review of the project drawings and specifications to insure that the design professional has included those things that the educational specifications required.

Spatial Relationships

The educational specifications should include a summary of spatial relationships. This should be illustrated through either a bubble diagram or a matrix showing the desired spatial relationships of the entire facility. This is not intended to be a scaled school design plan; it is merely intended to demonstrate the desired adjacencies among the activity settings. Conceptual or schematic drawings should be left to the design professionals who will translate the educational specifications into a tangible building plan.

One may find it helpful to dissect the comprehensive relationship diagram for the school into a number of smaller, more detailed diagrams. An example of this would be defining the administrative area as a single entity in the comprehensive diagram of the school and then providing a second diagram that identifies the individual activity settings within the administrative area and their desired relationship to one another. It is important that the more detailed diagrams not lose sight of the broader spatial relationships that are defined in the comprehensive diagram.

It is important that the following factors are considered when establishing the spatial relationships for the facility:

- Public vs. private spaces – typically some parts of the school are desired to be more accessible by the public than others. Grouping public spaces together and providing direct relationships between them makes it easier to keep the private spaces private.

- Noisy vs. quiet spaces – again the grouping of like spaces will enhance the overall effectiveness of a buildings ability to provide spaces that facilitate learning. Obviously, it doesn't make a lot of sense to have a gym and library directly adjacent to one another, even if they are both public spaces.

- Consolidation of like spaces – it is more efficient to construct a design that consolidates mechanical intensive areas such as restrooms, kitchens, etc. than one that spreads them out. This consideration may not be readily apparent in the spatial relationship diagrams, but it is something that should be kept in mind when evaluating a design professional's proposed building design.

- Joint-use spaces – oftentimes a space can fulfill two or more purposes in a school design. Some examples of this are a small group room located adjacent to two or more classrooms or a community room that also houses music and home economics activities. Grouping spaces and providing direct relationships between activities that may be able to take advantage of a joint-use space enhances a building design's efficiency.

It is also necessary to illustrate complex, individual activity and/or academic discipline spatial relationships. For example: science suites composed of classrooms, laboratories, chemical storage, specimen storage, animal rooms and a plant room; or metal shops composed of multiple task areas such as welding, forging, storage, finishing, grinding, instruction, clean-up, student project, tools, etc. These detailed spatial diagrams that depict the intra-relationships within a complex activity setting should be provided in the Activity Setting Descriptions section for the

specific activity setting. However, the relationship of the complex activity setting to other activity settings in the school should be included in the Spatial Relationship section.

As the planning team develops the spatial relationships between activity settings, they may note a basic division of the building into four types of spaces: Instructional or Resource, Support Teaching, General Support, and Supplementary. Appendix C provides a breakdown of different school spaces and their categorization within the space structure. The Instructional or Resource areas are learning environments that are designed to house students and teachers involved in learning activities. The Support Teaching and General Support areas provide an infrastructure that supports the Instructional or Resource areas' achievement of educational goals. They do not necessarily house students. Some of the Support Teaching and General Support areas are more directly related to the learning and teaching functions than others; for example the Auditorium serves more as a teaching area than the Kitchen. The Supplementary spaces are areas that support the overall function of the building; these are necessary building spaces that are required for the operation of the building not just as an educational facility, but also as a suitable, habitable structure.

It may be desirable to group some of these spaces in a particular category together in a zone of the facility; for example Supply Storage & Receiving and Mechanical/Electrical areas may have many of the same building requirements that would make it desirable to locate them close to one another even though there is not a direct relationship between the two space types. Often, overlap between categories occurs based on the functional needs of a building, such as the direct relationship between corridors and classrooms. Other times, overlap occurs in response to the aforementioned factors that influence the spatial relationship of a building; for example a facility's Gym, Auditorium, and Entry may be related because of their common inclusion in a community-use zone. The use of building zones may help in depicting the desired relationships between the school spaces.

Space Requirements Summary

The Space Requirement Summary is a statistical square foot summary of all program spaces identified in the detailed activity area requirements. This summary provides a quick reference to the design professional to the space requirements of each activity setting. It also assists the planning team in determining whether functionality and balance have been maintained throughout the facility by enabling the comparison of space requirements between activity settings. Coordination between this section and the Activity Setting Description section is imperative.

The space guideline regulations define eligible space in terms of gross square footage that includes partition footprint area. Typically, educational planning documents state spatial requirements in terms of net square footage that excludes partition footprint area. The planning team needs to be aware of this distinction when preparing the space summary and clearly state how space is defined in the summary. If the planning team chooses to utilize a net square footage tabulation, then a percentage of the eligible project square footage must be set aside for the partition footprint area. Eventually, the conversion between net and gross square footage must be made. It is the department's belief that identifying spaces in terms of gross square footage in the educational specification facilitates the transition from educational specifications to an actual building design, the generation of a project construction budget, especially if the department's Cost Model estimating tool is utilized, and the subsequent evaluation project design solutions.

The Space Requirements section should also define how "assignable" and "non-assignable" square footage is to be calculated. Non-assignable or supplementary space is primarily composed of circulation, restroom, mechanical, and partition footprint areas. Appendix D contains a breakdown of space categorizations. Categories A through C are assignable spaces, whereas Category D contains non-assignable spaces. The desired ratio or percentage of instructional assignable space to total square footage, generally a 70% to 80%, should be defined. While the department does not regulate assignable and non-assignable space, it provides a good indication of the efficiency of a particular design solution, and as such, merits consideration by the planning team in the creation of the educational specifications and subsequent design evaluation.

Adjustments to the activity settings may be necessary to ensure conformity to state space requirements and budget allowances. This is the most critical activity in the entire programming effort for the schools. Priorities may have to be established that balance the educational program and community use needs. The planning committee should keep in mind that it is planning a school facility that can accommodate the educational program rather than a "community center". Design of the school, however, should provide for use of the facility by the community to the extent possible.

Furnishing & Equipment Summary

Regulation 4 AAC 31.020 (a) (4), by means of reference to the department's publication entitled *Guidelines for School Equipment Purchases*, provides for and identifies equipment and furnishings that can be included in a school capital project budget. Generally, equipment and furnishings required for the facility to provide the intended educational program are eligible. However, the purchase of extra consumable supplies, such as toner cartridges, copier paper, light bulbs, etc., are not eligible capital project costs. Please keep this in mind when defining the Furnishing and Equipment requirements of a facility in the educational specifications.

The general scope of necessary equipment purchases should be a part of the educational specifications developed for the project. The document should provide the recommended equipment requirements for each space identified. Good educational specifications include a tabular summary of the project's equipment and furnishing requirements. This summary should be coordinated with the equipment and furnishings requirements noted in the Activity Setting Description section. The school district's project manager will use this equipment summary to make initial budget projections for the project and to begin the process of equipment procurement based on the design team's design development (DD) documents. Final purchasing lists will also identify any existing equipment serving the educational program that can be used in the new, remodeled or expanded facility.

If the district has equipment and furnishing standards, it is important that they are either referenced or included in the educational specifications. This is especially important if the project architect's professional services include responsibilities for preparing furnishing, fixtures and equipment documents, often referred to as FF&E documents. The identification of desired brand names and model numbers is an invaluable tool in communicating district needs and ensuring their inclusion in the project. While a complete list of furnishings and equipment may not be feasible until final design is complete, a thoughtful and thorough analysis of the project's FF&E requirements is essential in effective educational specifications.

Project Budget & Financing

The Department of Education & Early Development has prepared a tool entitled the *Program Demand Cost Model for Alaskan Schools* that is useful for conceptual construction cost estimates. Construction costs are established based on the project's type and size of the school spaces, the proposed foundation system, the site development requirements, the geographic project location, and the date of construction. A reasonable estimate of the building's base construction cost can be calculated by consolidation of the project's Space Requirements Summary into the Cost Model's space type categories. Additional assumptions regarding foundation systems, site development costs, and date of construction are required to complete the cost estimate.

Based on the estimated construction cost, an overall project budget can be established. The project budget should address the following budget categories:

- Construction Management (CM) – Construction management is divided into two categories: CM accomplished by a private contractor and CM accomplished by district/borough staff. Costs may be incurred for one or the other and in some cases both. Estimates for "in-house" construction management should include actual staff time allocated to the project, staff travel and per diem and direct costs of telephone, etc. It should include construction management costs done by staff and all on site representation. For private contractors it should include costs as anticipated to include oversight of any phase of the project. Construction management includes management of the project's scope, schedule, quality, and budget during any phase of the planning, design and construction of the facility. The maximum for construction management by consultant + 'in-house' = 5%. The cost of construction management furnished by a private contractor is limited from 2% to 4% the cost of construction based on AS 14.11.020 (c). The recommended budget for In-house construction management is 2% to 5% of the construction cost.

- Land – Site acquisition costs are a project cost variable that is unrelated to construction cost. Budgets for site acquisition should include the actual purchase price plus title insurance, fees and closing costs. Land value is established as the appraised value of the land not to exceed the amount for land in the project agreement. The eligibility of site acquisition costs is governed by 4 AAC 31.023 (c)(2)(B) and 4 AAC 31.025. Land costs are excluded from project percent calculations.

- Site Investigation – Site investigation costs are also a project cost variable unrelated to construction cost. Budgets for site investigation should include land survey, preliminary soil testing, environmental and cultural survey costs, but not site preparation. Site investigation costs are excluded from project percent calculations.

- Design Services – The design services budget should include full standard architectural and engineering services as described in AIA Document B141-1997. Architectural and engineering fees can be budgeted based upon a percentage of construction costs. Because construction costs vary by region and size, so may the percentage fee to accomplish the same effort. Additional design services such as educational specifications, condition surveys, and post occupancy evaluations may increase fees beyond the recommended percentages. The

recommended range for the standard design services is between 7% and 9% of the construction cost. Renovation design budgets might run 2% higher.

- Construction – The construction budget should include all contract and force account work for facility construction, site preparation and utilities. This is the base cost upon which other category's percentage costs are estimated.

- Equipment/Technology – The equipment and technology budget includes all moveable furnishings, instructional devices or aids, electronic and mechanical equipment with associated software and peripherals. Consultant services necessary to make equipment operational may also be included. It does not include installed equipment or consumable supplies, with the exception of the initial purchase of library books. Items purchased should meet the district definition of a fixed asset and be accounted for in an inventory control system. Equipment/Technology budgets have two benchmarks for standard funding: percentage of construction costs and per-student costs as discussed in EED's *Guideline for School Equipment Purchases*. If special technology plans call for higher levels of funding, itemized costs should be presented in the project budget separate from standard equipment. The recommended budget for equipment and technology is the lesser of either 0-7% of the construction cost **or** between $1850 - $3050 per student depending on school size and type.

- Indirect/Administration – The indirect/administration budget includes an allocable share of district overhead costs, such as payroll, accounts payable, procurement services, and preparation of the six-year capital improvement plan and specific project applications. It also includes the Department of Education & Early Development overhead charges for projects funded by state grants. The recommended budget range for indirect/administration expenses is between 2% and 4% of the construction cost.

- Percent for Art – This budget category addresses the statutory allowance for art in public places. Eligible project expenses in this category may fund selection, design and fabrication, and installation of artwork. The required art budget is 1% of the construction cost, except for REAA projects that require only 0.5% of the construction cost.

- Project Contingency – The project contingency is a safety factor to allow for unforeseen changes in the cost of the project. Standard cost estimating by A/E or professional estimators includes a construction contingency in the estimated base bid. Because that figure is included in the construction budget, the project contingency is intended to address project changes and unanticipated costs in other budget areas. The project contingency is fixed at 5% of the construction cost.

As a general rule, the overall project budget should not exceed 130% of the construction cost. However, the project budget defined in the educational specifications is a preliminary planning budget so many assumptions regarding the estimated scope of work and cost of the budget categories is required. It is important that these assumptions are documented in the educational specifications so that the design professionals are better able understand the scope of the project and assess the reasonableness of the budget. To formulate an accurate project budget the

planning team may need to draw from a number of resources such as past project experience, professional publications, and the EED Cost Model, etc. All relevant back up for the project budget should be included in the educational specifications.

While there is little federal funding available for school construction or major school renovation projects, the State of Alaska has two funding mechanisms that provide financial aid for these types of capital improvement projects. Below is a brief overview of the eligibility requirements, application process, and fund allocation process of the two mechanisms:

- Grants – Capital improvement project grants are available to all school districts and municipalities. School construction and renovation projects are typically funded through direct legislative funding allocations to the Department of Education & Early Development. The Bond Reimbursement and Grant Review Committee establishes the department's CIP grant review process that determines eligibility, defines budget, and prioritizes the projects submitted annually by the school districts. The product of the department's review is furnished to the Governor and Legislature, as is a recommendation of funding levels. Ultimately, the Legislature determines project funding levels. Refer to 4 AAC 31.021 and 4 AAC 31.022 for the regulations that govern the grant application process. Upon receipt of legislative grant appropriation, the department establishes a project agreement with the recipient entity that defines the scope and budget of the project. Grant funds are distributed from the department to the recipient entity based on the achievement of predefined payment milestones identified in the project agreement. Participating share or local contributions for the grant projects varies by school district ranging from 2% to 35% of the total project cost.

- Debt Reimbursement – The debt retirement mechanism is available to all school districts and municipalities that have the ability to sell bonds. Thus, the Regional Education Attendance Area school districts are not eligible to receive state aid through this funding mechanism. After debt authorization is issued by the legislature with an amendment to AS 14.11.100, the department accepts capital improvement project applications from the school districts. If the legislative debt authorization is broad enough to allow competition between school districts for debt funds, then the department evaluates and prioritizes projects following the same process identified for the grant mechanism. Otherwise, the department determines a project's eligibility based on statutes and regulations. A project agreement between the department and the school district or municipality is developed that defines the scope and budget for the project. After local approval of bond issuance to fund the approved projects, the project is undertaken. The department reimburses a percentage (typically 70%) of the bond principal, interest, and transaction costs incurred by the school district or municipality based on their annual debt reimbursement request to the department. Refer to 4 AAC 31.060, 4 AAC 31.061, and 4 AAC 31.063 for regulations that govern bond projects.

It is important that the planning team identify the funding mechanism that the project intends to utilize to secure funding for the project. This will facilitate compliance by the design professionals with the pertinent regulations that may limit the eligibility of project costs. It is also important for the planning team to identify the required local contribution to the project and identify some methods that may be utilized to satisfy their contribution. It should be noted that

nothing precludes school districts or municipalities from funding 100% of a project; however, with state assistance available, most entities choose to pursue the aforementioned funding mechanisms.

Scheduling & Assignment of Responsibility

The educational specification should include a schedule or timeline for the proposed project. While the project schedule is most likely not set in stone at the educational specification stage of the planning and design process, it should provide a goal that the planning team deems reasonable and achievable in a best case scenario. The schedule will enable design professionals to determine the most reasonable and effective solution to meet the project's requirements. For example, if the project schedule establishes the substantial completion date of a new facility to be in fifteen months time and architectural selection has yet to occur, respondents to a design RFP may offer creative design solutions, such as use of a prototype design or a design build contracting methodology, that they may not have provided had the information regarding the desired project schedule not been provided. It is also important to define the project schedule to determine the date of five-year post occupancy that is used in calculating the project student design population, and ultimately, the overall size of the facility.

The project schedule should identify at a minimum the following project milestones:

- Application for funding assistance;
- Design selection Request for Proposals (RFP);
- Award of design contract;
- Schematic design submittal, review, and approval;
- Design development submittal, review, and approval;
- Construction and bid document submittal, review, and approval;
- Advertisement for construction bids;
- Opening of construction bids;
- Award of construction contract;
- Notice to proceed with construction;
- 50% construction completion;
- Substantial construction completion;
- Building occupancy;
- Final construction completion; and
- Final project closeout and termination of project agreement.

Scheduling & Assignment of Responsibility (cont.)

If diligent thought and effort is put into drafting a project schedule, there will probably be a good deal more milestones established than those listed above. As these milestones are established, the planning team may want to identify whose responsibility it is to reach each milestone. The more effort and study dedicated to this effort, the more individuals and entities that will be drawn into the project's web of responsibilities. One can then begin to appreciate the magnitude and complexity of their undertaking. The educational specifications stage is not too early to alert persons involved to their anticipated schedule and duties.

Bibliography

Council of Educational Facility Planners, International, *Guide for Planning Educational Facilities*, Columbus, OH: Council of Educational Facility Planners, International, 1991.

The State of Alaska, *Alaska Administrative Code, Title 4 Education and Early Development*, Charlottesville, VA: LEXIS Publishing, 2000.

Alaska Department of Education & Early Development, *Guidelines for School Equipment Purchases*, Juneau, AK: Alaska Department of Education & Early Development, 1997.

Alaska Department of Education & Early Development, *Site Selection Criteria and Evaluation Handbook*, Juneau, AK: Alaska Department of Education & Early Development, 1997.

Appendix A – Population Projection Tools

Survival Ratio Average Daily Membership Projection

School District: Pacific Rim
Attendance Area: North Star
School Name: Lone Wolf K-12
Birth Growth Rate: 2.00%

BIRTH YEAR	LIVE BIRTHS	SCHOOL YEAR	ACTUAL AVERAGE DAILY MEMBERSHIP															
			K	1	2	3	4	5	6	7	8	9	10	11	12	K-6	7-12	TOTAL
FY 1991	8	FY 1996	13	8	6	9	9	9	6	6	4	5	1	9	9	58	15	83
FY 1992	8	FY 1997	11	6	4	7	7	8	7	6	4	5	1	3	5	49	14	73
FY 1993	8	FY 1998	7	4	5	6	6	6	6	7	1	6	7	1	1	42	16	66
FY 1994	8	FY 1999	6	7	5	5	6	6	8	8	6	4	1	2	1	43	18	75
FY 1995	8	FY 2000	3	3	7	5	5	5	6	7	6	6	7	5	1	34	19	66
FY 1996	3	FY 2001	11	1	3	6	6	7	3	7	7	0	6	3	6	40	20	74
FY 1997	0	FY 2002	14	3	1	3	3	5	8	10	6	9	3	4	1	40	35	75

SURVIVAL RATIO											
B-K	K-1	1-2	2-3	3-4	4-5	5-6	6-7	7-8	8-9	9-10	10-11	11-12
122.92%	47.57%	98.61%	108.73%	97.25%	101.64%	97.54%	117.36%	76.39%	167.26%	108.61%	99.48%	70.93%

BIRTH YEAR	LIVE BIRTHS	SCHOOL YEAR	PROJECTED AVERAGE DAILY MEMBERSHIP															
			K	1	2	3	4	5	6	7	8	9	10	11	12	K-6	7-12	TOTAL
FY 1998	8	FY 2003	10	7	3	1	3	6	5	9	8	13	10	3	3	34	46	80
FY 1999	7	FY 2004	9	5	7	3	1	3	6	6	7	13	15	10	2	33	52	85
FY 2000	8	FY 2005	10	4	5	7	3	1	3	7	4	12	14	14	7	33	59	91
FY 2001	8	FY 2006	10	5	4	5	7	3	1	3	5	7	13	14	10	35	53	88
FY 2002	8	FY 2007	10	5	5	4	5	7	3	1	3	9	8	13	10	39	44	82
FY 2003	8	FY 2008	10	5	5	5	4	5	7	4	1	4	10	8	9	41	36	76
FY 2004	8	FY 2009	10	5	5	5	5	4	5	8	3	2	5	10	6	39	32	71
FY 2005	9	FY 2010	11	5	5	5	5	5	4	6	6	5	2	5	7	40	30	69
FY 2006	9	FY 2011	11	5	5	5	5	5	5	5	4	10	5	2	3	41	30	70

ADM Projection Comparison

School District: enter district name
School Name: enter school name
Project Number: enter project number
School Type: Elementary, Secondary, Mixed or K-12
Attendance Area: community

Historical Attendance Area ADM by Fiscal Year

	FY1996	FY1997	FY1998	FY1999	FY2000	FY2001	FY2002	FY2003	FY2004	Average Annual ADM Change	Overall ADM Growth
Attendance Area											

Future School ADM Projections by School Year

		2004-2005	2005-2006	2006-2007	2007-2008	2008-2009	2009-2010	2010-2011	2011-2012	Average Annual ADM Change	Overall ADM Growth
District's K-6 Projection	--										
District's 7-12 Projection	--										
EED's K-6 Projection	--										
EED's 7-12 Projection	--										

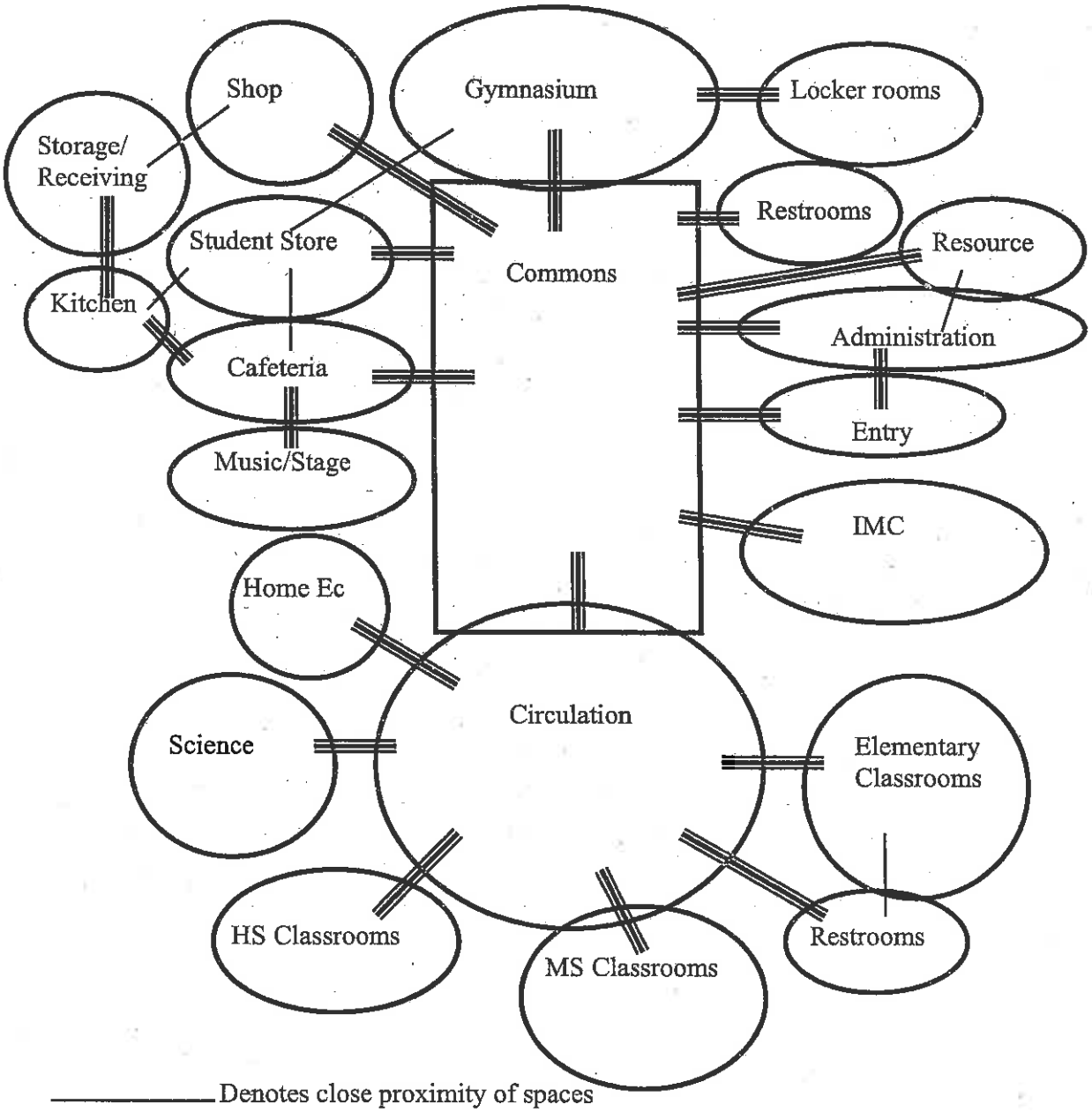
Future school projections based on school ADM population for the 2003-2004 school year of: K-6 students, 7-12 students

MS Excel files for these student population projection tools are available at the department's website: http://www.eed.state.ak.us/

Appendix B – Activity Settings

Activity Setting: Kindergarten Classroom
Occupancy: 24 students, 1 teacher, 2 teacher's aides or parents
Area (SF): 1200SF including toilet room
Height: 9' minimum
Natural Light: Minimum 5% of floor area with at least 10LF window seat for exterior viewing.
Floors: Entry, sink, and water closet areas to be a resilient sheet vinyl and the remainder of the floor to be carpeted. See district's construction standards for material specifications.
Walls: 1 storage wall, 1 teaching wall, 1 exterior wall, and 1 display wall. Teaching wall to have 12LF white board with tack rail above. Display wall to have tackable surface.
Ceiling: Acoustical treatment of ceiling desired.
Acoustics: Room to meet RC-25N as defined by ASHRAE. Acoustic treatment at ceiling.
Storage: Storage wall along corridor wall. Coat hooks, book cubbies, and boot shelf provided for 24 students. Lockable teacher's wardrobe and full height storage cabinet. Child height counter and sink with upper cabinets at adult height. Base cabinets along window wall with standard counter height and open shelves below.
Fixed Furnishings: 6' x 6' projection screen, paper towel and soap dispenser @ sink, ~96SF of white board, ~64SF of tackboard.
Signage: ADA compliant
Plumbing: Sink with bubbler and anti-scald valve.
Heating: In-floor radiant heat desired.
Ventilation: System should be designed to meet reasonable requirements not maximum. Maintain 68F to 75F temperature range
Lighting: Natural light desired. Fixtures should have 3 switch settings for varied light levels. Maximum of 70 foot-candles at work surfaces.
Communications: Phone/intercom located near teaching station and TV monitor.
Security: Visual supervision of all areas from teaching station desired.
Audio/Visual: Cable outlet, TV bracket, and 27" TV/VCR combination unit.
Technology: Wireless hub to connect 27 users to school network.
Equipment &Furnishings: (2) 72"l x 48"w x 24"d storage cases on rollers with pull-out bins, (6) 42" x 60" child height tables, (24) child chairs, (1) 36" x 60" teacher desk and chair, (1) 36" x 72" adult height table with (2) adult chairs, black.
Special Construction: 10LF window seat.
Flexibility: Geometry of the space should allow for flexible use of the space.
Durability: Painted wall surfaces to be washable & mildew resistant. Floors to mar, stain, and slip resistant
Functionality: Geometry of the space should enhance uses of the space.
Ambiance: Playful not sterile, kid friendly not institutional.
Colors: Primary colors, avoid white and low chroma colors.
Adjacencies: Near: exterior access, other young student classrooms, private area. Not near: secondary students, primary circulation or gathering points.
Activities: Art, music, lettering, story time, show and tell, naptime, class instruction, small group, computer learning games, science projects, see kindergarten curriculum for additional information.

Appendix C – Spatial Diagram



Appendix D – Space Types

Category A - Instructional or Resource

Kindergarten
Elementary
General Use Classrooms
Secondary
Library/Media Center
Special Education
Bi-Cultural/Bilingual
Art
Science
Music/Drama
Journalism
Computer Lab/Technology Resource
Business Education
Home Economics
Gifted/Talented
Wood Shop
General Shop
Small Machine Repair Shop
Darkroom
Gym

Category B - Support Teaching

Counseling/Testing
Teacher Workroom
Teacher Offices
Educational Resource Storage
Time-out Room
Parent Resource Room

Category C - General Support

Student Commons/Lunch Room
Auditorium
Pool
Weight Room
Multipurpose Room
Boys Locker Room
Girls Locker Room
Administration
Nurse
Conference Rooms
Community Schools/PTA Administration
Kitchen/Food Service
Student Store

Category D - Supplementary

Corridors/Vestibules/Entryways
Stairs/Elevators
Mechanical/Electrical
Passageways/Chaseways
Supply Storage & Receiving Areas
Restrooms/Toilets
Custodial
Other Special Remote Location Factors
Other Building Support

DEPARTMENT OF EDUCATION

Checklist for reviewing and evaluating educational specifications

As the educational specifications for a given facility are revised and evaluated, a systematic method of analyzing the document has been devised so that the document anticipates all requirements of the architect.

The checklist that follows is designed to provide such a systematic method.

Check if included:

- ☐ Project rational

Community Profile

- ☐ Demographic Data
- ☐ Geographical Data
- ☐ Census Date
- ☐ Climate Data

Enrollment Date

- ☐ School Age Population
- ☐ Projection (Base year plus four years)
- ☐ Design Enrollment

Educational Plan

- ☐ District Philosophy of Education
- ☐ Individual School Philosophy of Education
- ☐ Educational Goals
- ☐ Course of Study
- ☐ Staffing Plan
- ☐ Support Plan
- ☐ Summary Statement of Educational Plan

B. Kenai Peninsula Borough School District Educational Specifications

EDUCATIONAL SPECIFICATIONS

I. Project Rationale

II. Community Profile
- A. Demographic Data
- B. Geographic Data
- C. Census
- D. Climatic Data

III. Enrollment Data
- A. Present School Age Population
- B. Projections
  1. Base Year _____
  2. 4th Year _____
- C. Design Enrollment

IV. Education Planning and Program

A. District Philosophy – Board Policy 0100:
The mission of the Kenai Peninsula Borough School District, in partnership with its richly diverse communities, is to develop creative, productive learners who demonstrate the skills, knowledge, and attitudes to meet life's challenges, by providing stimulating, integrated learning opportunities in a safe, supportive environment.

The School Board is committed to providing a program of instruction which offers each child an opportunity to develop to the maximum of his/her individual capabilities.

B. Goals for the School District – Board Policy 0200:
The School Board is committed to excellence and self-evaluation and believes that the public schools exist to meet the educational needs of students. It is, therefore, important that citizens may express their expectations of the schools. The Board encourages students, parents, teachers, and other community members to participate in educational planning for the district.

Annually, the Board shall adopt written goals for the school district which reflect local needs. These goals shall be consistent with the District's strategic plan and Board Policy. The Superintendent or designee shall develop objectives for meeting these goals. The development and adoption of the budget shall be consistent with district goals and objectives.

The Superintendent or designee shall annually file with the State Department of Education and make available to the public a report which includes the adopted district goals and priorities, plans for achieving these goals and priorities, and the means of measuring the district's success in reaching its goals and priorities.

C. Goals for Student Learning – Board Policy 0210(a):

The School Board believes that a quality education develops in students competencies in the following areas of performance:

1. Arts: Apply knowledge of language arts, fine arts, creative arts, and performing arts.
2. Civic Responsibility: Participate responsibly in their school, community, country, and the world.
3. Collaboration: Work with others willingly, respectfully, cooperatively, and effectively.
4. Communication: Communicate effectively in reading, writing, listening, speaking and numbers.
5. Creativity: Utilize creative thinking and expression in varied situations.
6. Life Planning: Apply knowledge of economics, personal finance, goal setting, and career planning.
7. Mathematics: Apply mathematical principles and operations to solve a wide range of problems.
8. Problem Solving: Make decisions and apply solutions in real-life situations both independently and collaboratively.
9. Sciences: Apply skills and scientific concepts to explain the world, find solutions for its problems, and suggest improvements.
10. Social Sciences: Apply knowledge of history, geography, and government to the present and future.
11. Technology: Use technology as a tool for learning and expression.
12. Wellness: Integrate into everyday life an awareness of health, wellness, and leisure-time activities.

D. Individual School Philosophy

E. Individual School Educational Goals

F. Course Offerings

1. Grade Level
    a. Basic Objectives
        (1) Types of Learning Styles

V. Staffing Plan – Based on Enrollment Start up _____ Design _____

A. Regular Teachers
B. Special Services Teachers
C. Administrators
D. Secretaries
E. Custodians
F. Cooks
G. Aides
H. Other

VI. Community:

A. Activities/Programs
B. Civil Defense/Emergency Use

VII. Extracurricular Activities/Programs

VIII. General Space Requirements – Square Feet

	K-6	7-8	9-12
A. General Purpose Classrooms:			
English, Math, Social Studies	1,000	850	720
Kindergarten	1,300		
B. Teachers' Office/per teacher		90	90
C. Media Center /per student		8	8
Stock area — Periodical Storage			
Reading — Media Work Room			
Typing — AV Storage			
Office Work Area — Teacher's Work Room			
Conference Room — Computer Center			
D. General Office			
1. Principal's Office	200	200	200
2. Reception Area	100	100	100
3. Per Secretary	100	100	100
4. Assistant Principal	150	150	150
5. Community School	100	100	100
6. Work Room/Mail Room	200	250	250
7. Conference Room	200	250	300
8. Activity Office			150
9. In-School Detention		100	100
E. Science Laboratory			
1. Biology			1,200
2. Chemistry/Physics			1,500
3. Prep/Storage		300	450
4. General Science		1,000	1,200
5. Office/per teacher		90	90
F. Fine Arts			
1. Band			1,400
2. Choral			1,100
3. Band/Chorus		1,200	1,400
4. Practice Room/per room		80	80
5. Ensemble Room			350
6. Storage/Instrument and Uniform		250	600
7. Office/Music Lab/per teacher		90	90
8. Pottery Lab			1,400
9. 2D Studio			1,200
10. Pottery/Art/Crafts		1,500	2,000

11. Officer/per teacher		90	90
12. Kiln		300	300
13. Storage		200	300
G. Business Education			
1. Typing/Machines		1,200	1,100
2. Computer/Data Processing			1,100
3. Simulated Office			260
4. Classroom			720
5. Student Store			250
6. Office/per teacher			90
	K-6	**7-8**	**9-12**
H. Trade and Industrial Arts			
1. Metal/Welding			3,000
2. Material Storage			300
3. Project Storage			250
4. Office/per teacher			90
5. Auto-Small Engine			3,200
6. Tool Storage			100
7. Office/per teacher			90
8. Wash Up Area			250
9. Lock Up Area			250
10. Wood Shop/General Shop		2,800	3,000
11. Finish Room		150	200
12. Project Storage		200	250
13. Material Storage		300	300
14. Office/per teacher		90	90
15. Drafting			1,000
16. Office/per teacher			90
17. Electronics			1,500
18. Storage			200
19. Office/per teacher			90
I. Home Economics			
1. Foods Area			1,200
2. Fabrics			950
3. Child Development			600
4. Office/per teacher			90
5. Storage			150
6. Fitting			50
7. Foods/Fabric Combination		1,300	1,500
J. Foreign Languages			
1. Foreign Language		850	850
2. Office/per teacher			90
K. Physical Activity			
1. Gymnasium	4,500	10,000	12,000
2. Laundry/Tub		250	250

3. Uniform Storage		200	450
4. Equipment Storage		1,500	3,000
5. Exercise Deck			6,000
6. Weight Room		1,000	1,500
7. Boys' Locker Room		1,500	1,800
8. Hydrotherapy			
9. Sports Locker Room			1,300
10. Tape Room			100
11. Girls' Locker Room		1,500	1,800
12. Sports Locker Room			1,300
13. Tape Room			100
14. Swimming Pool			6,600
15. Filter Room/Chemical Storage			500
16. Equipment Storage			500
17. Balcony Seating			1,600
	K-6	**7-8**	**9-12**
18. Pool Director's office/Shower			180
19. Boys' Lockers/Life Guard Office			1,300
20. Girls' Lockers/Life Guard Office			1,300
21. Public Entry/Ticket Counter			200
L. Auxiliary Space			
1. Special Education			
a. Speech Therapy	100	100	100
b. Resource	1,000	850	720
c. Language Preschool	700		
d. Handicapped Preschool	400		
e. Severely Handicapped	500	500	500
f. Physical and Occupational Therapy	100	100	100
g. Quest	1,000	850	720
h. Emotionally Disturbed	410		
2. Tutor	120	120	120
3. Custodial Storage/General (per student)	4	4	4
4. Custodial Office/Receiving	1,000	1,000	1,000
5. Teachers' Lounge	700	700	700
6. Teachers' Work Area	300	300	300
7. Conference Room	300	300	300
8. Nurse	600	600	600
9. Kitchen/Satellite	800	800	800
10. Kitchen/Central			3,000
11. Counseling Office		120	120
12. Career Center			500
13. Student Records Office			200
14. Testing	180	180	180
15. Computer Room			100

M. Outdoor Space

1. Tennis Courts
2. Hockey Rinks
3. Football Fields
4. Asphalt Play Areas
5. Grass Play Fields – Soccer, Softball, Practice Field
6. Parking Lots
7. All Weather Tracks – 8 Lanes
8. Storage Building 1,000 1,000 1,000

IX. General Equipment Allocation

A. Typical Media Center – Elementary

1. One check-out counter approximately 180 square feet total; with one section 26"H for computer and typewriter, 18-24 lineal feet, "U"-shaped
2. Approximately 36 each wall mounted shelving 36"W x 12"D x 60-72"H
3. Approximately 18 each moveable floor stacks 36"W x 12"D x 48-60"H
4. Must be able to house 19 volumes per student
5. Six tables 30" x 60", approximately 150 square feet total
6. Two donut tables, round, 66" diameter
7. Thirty-five chairs
8. Two display cases, 24" x 60"
9. One reference table, 48" x 72" x 29"H
10. Two lateral files, 24" x 36"
11. Two card catalogs (60 drawer total) with center table, 36" x 48"
12. One map case, 28" x 52" x 48"H
13. One dictionary stand, 24" x 18" x 42"H
14. One atlas case, 30" x 24" x 42"H
15. Two computers with carts, 24" x 48"
16. Six study carrels, wet 24" x 36"
17. One record bin, 44" x 36"
18. One copy machine on stand, 30" x 40"
19. One lounge area approximately 250 square feet in main area (various seating types for 12-15 students)
20. AV storage room
    a. 24"D shelving on two walls
    b. Floor space to hold up to 55 AV carts
    c. Approximately 300 square feet
21. Conference room
    a. One table
    b. Twelve chairs
    c. Approximately 140 square feet
    d. White board on wall
    e. Bulletin board

22. Office area approximately 120 square feet
23. One desk, 36" x 72" w/return 18" x 40"
24. One chair
25. Two files, 18" x 42"
26. One computer cart, 24" x 48"
27. Two side chairs
28. Media work room
    a. Counters with cupboards upon one wall, including single o.p. sink
    b. Work table, 36" x 84"
    c. White board on end wall
    d. One AV cart, small 18" x 26"
    e. One AV cart, large 24" x 36"

B. Typical Elementary Classroom
1. 2/3 carpeted, 1/3 tiled
2. Floor plug in the front, rear, and center of room
3. Thirty individual desks, 15" x 18"
4. Thirty individual chairs
5. One double pedestal desk, 30" x 60"
6. One secretarial chair
7. One four-drawer vertical file cabinet, 15" x 27" x 58"H
8. One two-drawer vertical file cabinet, 15" x 27" x 29"H
9. One bookcase, 42"H x 36" x 12"D
10. Two storage cabinets (unless part of case will work), 18" x 36" x 72"H
11. One kidney-shaped table, 48" x 60"
12. Two rectangular folding tables, 24" x 48" for work and reading, with or without carrels
13. One computer table with outlets, 24" x 60"
14. One display case/aquarium/terrarium on stand, 24" x 60"
15. Three audio carts with outlets, 18" x 24"
16. 16MM, overheard filmstrip
17. One video cart with outlet, 24" x 30"
18. One book truck, 24" x 36"
19. One group built-in shelving on exterior wall approximately 30" x 36"W x 18"D at least 9' long
20. One wall mounted white board in between bulletin board and chalkboard with map rail and 1" tack board over (behind teacher's desk area)
21. Bulletin boards on side wall and back wall as required
22. One group overhead storage compartments, open coat/boot shelf and hook racks

X. Bubble Diagrams (Space Relationships)

C. Department of Education Space Guidelines

State of Alaska

Department of Education & Early Development
School Finance/Facilities

By: Tim Mearig

Date: July 12, 2005

Phone: 465-6906

File: History & Overview

For: Bond Reimbursement and Grant Review Committee

Subject: EED Space Guidelines

BRIEFING PAPER

Background

In 2003, the department was contacted about contributing an article to an issue of an education journal focusing on the role of state departments of education in school facilities. Since Alaska has a long history of intimate state involvement in school funding both in school operations and in school construction it seemed appropriate. In fact, Alaska has become somewhat of a front-runner. Its policies and practices for balancing state involvement and local control are generating interest and are receiving significant scrutiny. The remainder of this paper covers the essential elements of the article in order to provide the committee an overview of state involvement in space guidelines.

Discussion

One of the first questions to deal with in establishing a resource allocation tool is which allotment to regulate. Since the resource being allocated in this discussion is primarily dollars, it might seem intuitive to establish guidelines regarding the allowable cost per square foot for schools. However, recent construction costs for schools in Alaska have ranged from $141/sf for a suburban elementary to $338/sf for a rural K-12 school. This range illustrates the difficulty of allocating school construction resources on a cost per square foot basis. Differing climatic conditions and their impact on building systems, difficulties in transportation and mobilization and varying needs to import skilled labor are just some of the variables that would have to be weighed in establishing a cost-based allocation tool. For this reason, Alaska allocates a resource more common to all schools and school types—the amount of space needed to provide for delivery of a quality educational program.

The second question to deal with in an allocation tool is how to find the most workable level at which to make the allocation or set of allocations. It's really a question as to how much involvement or how much detail the state needs to establish in order to see that the allocation is being used as intended. It is at this point that Alaska establishes a strong local-control component. The state's allocation of space is established at the gross-square-feet-per-student level versus an allocation of square feet per program area of a school. This offers great flexibility to local districts.

Having established these two mechanisms of Alaska's current structure: a space-based versus a cost-based allocation and an allocation per student versus many allocations per education program area, let's take a brief look at the history of allowable space guidelines in the state.

The record of formal space guidelines for schools in Alaska begins in the mid '70s about 15 years after statehood. Prior to that time, in territorial days and in the early years of statehood, a formal program of statewide school construction aid had not been established. By 1970, a program to provide partial reimbursement of school construction debt issued by municipal districts was initiated. State funding for schools in unorganized areas of the state was handled through designated appropriations of the legislature. Often, federal funding was also involved.

In 1974, the state began to examine the sizes and types of educational spaces needed to house various numbers of students based on curriculum delivery and graduation requirements.[1] This effort accelerated when in 1975 a suit was brought against the state seeking equal access to all grades of K-12 education for rural areas of the state. The Tobeluk vs. Lind consent decree included a commitment by the state to provide a secondary (i.e., 9-12) program in every community of the state in which an elementary school was established if it was the desire of the community. Finally, in 1978, the Department of Education published a series of guidelines for small high schools and small elementary schools and established allowable square footages for elementary, secondary and combined elementary-secondary schools of various enrollment groupings. Each population range was given a minimum, optimal and maximum number. The guidelines came under immediate criticism contending a lack of adequacy for storage needs in rural schools many of which received annual deliveries of curriculum supplies and food. A yearlong review by an independent committee occurred in 1981 which resulted in revised standards being codified in 1983. An excerpt from this document for the population ranges 81-99 and 400-499 is shown in Table 1. For school populations greater than 500, the maximum allowed became 100sf/student for elementary and 150sf/student for secondary.

School	Enrollment	
	81-99	400-499
Elementary (min. GSF)	9,200	34,900
Elementary (opt. GSF)	11,300	42,900
Elementary (max.GSF)	12,400	50,000
Former guideline max.	*9,750*	*49,900*
Secondary (min. GSF)	15,200	72,500
Secondary (opt. GSF)	18,400	75,000
Secondary (max. GSF)	20,300	80,000
Former guideline max.	*16,125*	*74,850*
Combined (min. GSF)	16,500	74,000
Combined (opt. GSF)	20,000	80,000
Combined (max. GSF)	22,500	82,500
Former guideline max.	*21,250*	*74,850*

The 1983 space guidelines stood for 10 years without a significant updating. However, during that period, Department of Education personnel began to apply an extrapolated calculation to the population groupings and square footage ranges that was to be the precursor to the shift to a per-student allocation.

As part of an overhaul of its capital grants for school construction and major maintenance program. The state legislature, in 1993 created a bond reimbursement and grant review committee to establish a grant application and ranking process. One of the significant components of this competitive grant process was to determine which schools had insufficient space. Introduced by the committee in 1994 and adopted in 1995 was a new space allocation guideline. Substantive provisions included:

- a continuously graduated allocation per student, seamless from 10 to 500 students,
- a single maximum "gsf" allocation vs. minimum/optimal/maximum
- a re-confirmation of adequacy for current educational delivery models.

The basis for the allocation came in two components, a base square footage amount and a supplemental square footage amount. Supplemental square footage accounted for space that responded to non-instructional building requirements such as restrooms and mechanical areas that took a proportionally greater amount of the total GSF as the student population housed decreased. At 500 students, supplemental space was projected to be 25% above the base allocation whereas at 10 students, this category grew to 35% above base allocation. In addition, base allocations, which held steady at 85sf/elementary student and 120sf/secondary student at populations greater than 250, also climbed as much as 100% for schools serving a population of just 10 students. In all, it was an elegant depiction of how space needs per student change with regard to size of population. Once the graphs were developed for each of the major school types (elementary, secondary and K-12) a mathematical expression was developed to capture an exact allocation per student.

It took four years of using the new guidelines before the staff at the Department of Education noted an anomaly in space computation that occurred in schools with around 300 students. This was due to the fact that every school was entitled to a unique allocation of space based on its projected population and it just took some time to encounter the flaw. Also a cause of considerable difficulty was establishing an appropriate method by which to count existing and new space. The department's unique "net gsf" method of counting space which excluded exterior wall thickness and counted upper level spaces and covered areas at partial amounts, among other variables, was cumbersome. It even resulted in designers projecting to suspend HVAC units from roof structure and other questionable solutions in order to squeeze out additional gymnasium space.

As a result, action was taken in 2000, and formalized in 2001, adopting revisions to the space allocations to correct the anomaly and accomplish a no- net-gain/loss conversion to counting

gross square feet. Prior to this point the baseline allocation for elementary was 106.25sf/student and secondary was 150sf/student for schools larger than 500. Following the conversion to GSF, the numbers became 110sf/student and 157sf/student respectively.
Having established a rather detailed history of Alaska's work with space allocation guidelines. I'd like to close with some illustrations of our latest efforts to ensure the adequacy of our standards. Although the space guideline revisions formalized in 2001 appeared to increase space four square feet for elementary and seven square feet for secondary, those increases only accommodated the determination to count the complete gross footprint area of buildings versus a previous partial counting method. In practice, this meant that a test of space allocation adequacy had not occurred since 1995. Therefore in 2001, the department, with the assistance of the state chapter CEFPI, undertook to assess the adequacy of the current guidelines. We joined to conduct the review on two fronts: a technical requirements review and an educational requirements review.

The technical review was an analysis to ensure that the "purchasing power" of a SF of 1995 space had not diminished by 2002. It incorporated a comparison to recent school projects across the United States from various sources, an analysis of building service and code requirements that occurred within the period 1994 to 2001 and looked at evidence in recent Alaska schools that our net-to-gross conversion was indeed providing no net loss. A Tabulation of the results of the building service/code analyses is shown in the following table.

Conformed Analysis for Building/Code Increases

Building Increase	Uplift Factor	Avg. % GSF	Proposed % Increase GSF	Sf/student increase K-6	Sf/student increase 7-12
Mech. Ventilation	1.90	6.15%	2.77%	2.94sf	4.15sf
Mech. Boilers	1.15	1.50%	0.23%	0.24sf	0.35sf
Data Hub Rooms	1.50	0.15%	0.08%	0.09sf	0.12sf
Toilet Fixtures	1.10	2.00%	0.20%	0.21sf	0.30sf
Totals			3.28%	3.48sf	4.92sf

The educational adequacy review was an analysis to ensure that educational requirements (i.e., content standards for Alaska's students) could be achieved within the space allocated for schools. This proved to be significantly more challenging to codify than the technical requirements analysis. Our main tool for the analysis was a web-based questionnaire for school facility planners and users. We notified planners, A/Es, district project managers, superintendents, and facility directors for every state funded school project that made significant use of the space allocation guideline of the availability of the survey and received a respectable response. Questions asked included, "If you had to reduce the space for some area or program in the school due to the space guidelines, what was it and how much was the reduction? Did you

have to eliminate any functional areas completely?" All responses were collected via the on-line instrument into a database. We strove to format the questionnaire to yield discrete computational data (e.g., rooms, square footage, etc.) but also allowed open-ended "comments". While the effort was worthwhile, little concrete data emerged regarding space and educational adequacy. In the end, it was agreed to move ahead with increases associated with technical concerns while continuing to collect evidence on educational adequacy issues.

The final recommendations to the state board of education and early development were presented in a joint briefing with CEFPI. The states per-student baseline allocations were revised to:

- 114sf/student elementary (+4sf)
- 165sf/student secondary (+8sf)
- inclusion of 6th grade as secondary space in middle schools

One final element of a balanced and effective space allocation guideline is a set of variances to handle unique conditions. Without these variances, application of the standards to schools built during times of no standards or substantially different standards would generate space scenarios that are overly bureaucratic in the worst sense of the word. With the last revisions to the per student allocation, the state also updated its standing variances and added an additional variance for over-sized core areas. Currently our variances accommodate three conditions: unique educational programs--these may accumulate to a 20% increase to the allowable space; building inefficiencies resulting from additions and renovations –these may increase the calculated GSF by 15%-new projects and 20%-existing schools; and oversized core areas already constructed or for which it would be cost effective to implement for the future.

For the state of Alaska, the ultimate purpose of our space allocation guideline is to provide adequate space while being fiscally responsible. As a reality check, we modeled some calculations of the potential fiscal impact on the most recent revision to Alaska's guidelines. You'll recall that at the base level the change was only 4sf for elementary and 8sf for secondary. When all attendance areas are considered, the amount of potential exposure for the state is approximately $80 million in additional funding.

Allocations of space have proven to be an equitable way to consider allocation of resources for school construction in Alaska. While we've settled on several main issues in the space allocation debate that work for Alaska—a per-student allocation of gross square footage that varies by school population served—the state continues to analyze and advance the finer points of the process to accommodate the future change.

[1] South East Regional Resource Center (Jan 1986). *Education Facilities Space Guideline Analysis.*

Title 4 . Education and Early Development

Chapter 31 . (Repealed)

Section 20. Guides for planning educational facilities

4 AAC 31.020. Guides for planning educational facilities

(a) The following are the basic guides for educational facility planning:

(1) for a school capital project application submitted to the department

(A) before January 1, 1996, *The Guide for Planning Educational Facilities* , as published by the Council of Educational Facilities Planners, International, 1982 Edition (Revised); and

(B) on or after January 1, 1996, *The Guide for Planning Educational Facilities* , as published by the Council of Educational Facilities Planners, International, 1991 Edition (Revised);

(2) repealed 4/17/98;

(3) repealed 4/17/98;

(4) *Guidelines for School Equipment Purchases* , as published by the Alaska Department of Education and Early Development, 1997 edition;

(5) deleted 8/31/90;

(6) repealed 4/17/98;

(7) *Swimming Pool Guidelines* , as published by the Alaska Department of Education and Early Development, 1997 edition; and

(8) *Site Selection Criteria and Evaluation Guideline* , as published by the Alaska Department of Education and Early Development, 1997 edition.

(b) In the event of a conflict between publications incorporated by reference in (a) of this section, the publication prepared by the Department of Education and Early Development controls.

(c) Notwithstanding (a)(1) of this section, for the purpose of determining funding for a school capital project under AS 14.11, the square feet allowable must be determined under this subsection based on the grade levels offered in the school. The base square feet allowable per average daily membership (ADM) and supplemental square feet allowable per ADM are calculated, and additional square footage is approvable, as follows:

(1) the base square feet allowable per ADM for an elementary school is 114 square feet;

(2) the supplemental square feet allowable per ADM for an elementary school is 130 X 10 *(-ADM /f/ 250)* ;

(3) the base square feet allowable per ADM for a secondary school is 165 square feet;

(4) the supplemental square feet allowable per ADM for a secondary school is 300 X 10 *(-ADM /f/ 300)* ;

(5) the base square feet allowable per ADM for a combined elementary and secondary school is 114 square feet per elementary ADM and 165 square feet per secondary ADM;

(6) :QL the supplemental square feet allowable per ADM for

a combined elementary and secondary school is 213 X

10 *(-combined ADM /f/ 483)* ;

(7) a district may request the commissioner to approve a variance for additional space for a school; the request for each variance must be in writing; all requested variances, taken together may not exceed 20 percent of the gross square feet allowable for the school; the commissioner will approve the request, subject to (g) of this section, and will apply the variance to both planned and completed schools, if the commissioner finds

(A) that a unique educational program not envisioned by the educational facility planning guides set out in (a) of this section is required to meet the needs of the population to be served by the school; and

(B) at least one of the following:

(i) that the district has demonstrated that additional space is required to adequately house the unique educational program and that the effect of accommodating the additional space without a variance prohibits the remainder of the population served by the school from having sufficient space for standard

educational programs;

(ii) that the added space is necessary to meet the needs of the educational program and is in the best interests of the state;

(8) the commissioner, at the request of the district, may approve a variance for additional space of not more than 15 square feet per projected ADM for new projects that propose the rehabilitation of or addition to an existing facility and not more than 20 square feet per current capacity for existing schools that have, at some previous point, experienced a rehabilitation of or addition to an existing facility; the commissioner will approve a request under this paragraph only if the district's request is supported by an explanation of the reasons for the request that demonstrates

(A) the specific cause of each impact;

(B) the square feet affected by the cause of impact; and

(C) the reason for this condition merits an exception;

(9) the base square feet allowable per ADM for a mixed grade school is 114 square feet per elementary ADM and 165 square feet per secondary ADM, except that for a mixed grade school that includes grade six in conjunction with two or more secondary grades located in a separate school facility, the base square feet allowable per ADM is 165 square feet per grade six ADM;

(10) the supplemental square feet allowable per ADM for a mixed grade school is 250 X 10 *(-combined ADM /f/ 250)* .

(d) The department shall reduce a project budget in proportion to the amount that the project's design exceeds the square feet allowable as determined under (c) of this section. This subsection applies to a project that has not received a grant under AS 14.11, a project that has received money from the department for planning, and a project that has not secured the approval of the commissioner under 4 AAC 31.040. This subsection does not apply to a project that has secured the approval of the commissioner under 4 AAC 31.040.

(e) For the purposes of this section, the space of a building is the sum of the areas of the floors of a building in gross square feet. The floors of a building include a basement, a mezzanine, an intermediate floored tier, and a penthouse of headroom height. Space is measured from the exterior face of an exterior wall or from the centerline of a wall that separates a building. For the purposes of calculating a building's gross square footage, the

(1) building's gross square footage does not include

(A) a utility distribution area with

(i) a ceiling height below seven feet; and

(ii) a floor assembly not sized to support an occupant load according to applicable state and municipal building codes;

(B) a pipe chase;

(C) an exterior terrace or steps;

(D) a chimney; or

(E) a roof overhang; and

(2) following allowances above the gross square footage calculated in (c) of this section are permitted:

(A) covered exterior areas not conditioned with heating or cooling

(i) equal to the greater of 15 percent of a building's gross square footage or 3,000 gross square feet; and

(ii) to a maximum of 9,000 gross square feet;

(B) space to support water storage, water treatment, or sewer treatment to a maximum of five percent of a building's gross square footage.

(f) The provisions of

(1) subsections (c)(1) - (7), (d), and (e) as they read on and after October 10, 1995 and until April 17, 1998 do not apply to an application for a former school construction grant submitted under this chapter to the department before January 1, 1996;

(2) subsections (c) - (e) and (g) of this section as they read on and after April 17, 1998 do not apply to an application for a former school construction grant submitted under this chapter to the department before January 1, 1996.

(g) A request to approve a variance for additional space made and approved under (c)(7) of this section expires on the first day of October following the one-year anniversary of the commissioner's approval of it unless the district certifies to the department, no later than that date, the continued existence of the unique educational program described in (c)(7)(A) of this section for which the additional space was approved.

(h) Notwithstanding (c) of this section, the commissioner will deny or disallow a determination of allowable space under (c)(1) - (6), (9), and (10) of this section and will deny a request to approve a variance for additional space under (c)(7) and (8) of this section if the commissioner finds that the space determination or approval of the request is the result of a choice in educational delivery by the school district that could be eliminated by a redistribution of school age populations between attendance centers in the attendance area.

(i) Notwithstanding (a) - (h) of this section, the commissioner shall approve a variance from the limitations on allowable space in a school set out in this section for space that is jointly used by the school and another entity, if the request meets the requirements of this subsection and the department determines that the sharing entity is able to participate as specified in the agreement. The request must be made by a district, in writing, and meet the following:

(1) the space that is jointly used is subject to a formal binding agreement between the district and the entity sharing use; the agreement must cover allocation and method of sharing between the district and the entity of the following:

(A) the operating costs for the jointly used space for the life of the facility;

(B) future capital costs for the life of the facility;

(C) the initial capital costs for a new or remodeled facility only;

(2) the variance requested is limited to the amount of square footage that the entity sharing space accepts responsibility for in the agreement described in (1) of this subsection;

(3) a copy of the agreement described in (1) of this subsection is submitted with the request for variance.

(j) A variance approved under (i) of this section is no longer valid if the agreement upon which the variance was based is amended or terminated. If the agreement is amended or terminated, the district shall immediately notify the department and submit any new request for a variance in accordance with (i) of this section.

(k) Notwithstanding (a) - (h) of this section, the commissioner will approve a variance from the limitations on allowable space in a school set out in this section for space that is provided in oversized core areas, if the request meets the requirements of this subsection. The request must be made by a district, in writing, and meet the following:

(1) the district requesting the variance has an established standard for educational delivery that

(A) defines a specific school program;

(B) establishes a standard student population to be served by the program; and

(C) has an educational specification approved under 4 AAC 31.010 for that program;

(2) the oversized core areas for a future project are sized proportionate to that size required in the project's educational specifications to accommodate a student population projected in accordance with 4 AAC 31.021(c) (3), and projected for an additional five years at the growth rate accepted for the initial projection, not to exceed 130 percent of the initial projection;

(3) the individual core areas of an existing facility, when combined, exceed the square footage of that core area stated in the educational specification to a maximum of 10 percent of the gross square footage of the facility.

History: Eff. 3/1/78, Register 65; am 6/9/83, Register 86; am 12/2/83, Register 88; am 8/31/90, Register 115; am 10/7/95, Register 136; am 4/17/98, Register 146; am 2/18/99, Register 149; am 7/13/2000, Register 155; am 8/23/2001, Register 159; am 12/20/2002, Register 164

Authority: AS 14.07.020

AS 14.07.060

AS 14.11.011

AS 14.11.020

AS 14.11.100

AS 14.11.132

Editor's note: The guides and charts mentioned in 4 AAC 31.020 may be obtained from the Department of Education and Early Development, 801 W. Tenth St., Suite 200, Juneau, Alaska 99801-1894.

As of Register 151 (October 1999), the regulations attorney made technical revisions under AS 44.62.125 (b)(6) to reflect the name change of the Department of Education to the Department of Education and Early Development made by ch. 58, SLA 1999, and the corresponding title change of the commissioner of education.

Note to HTML Version:

The Alaska Administrative Code was automatically converted to HTML from a plain text format. Every effort has been made to ensure its accuracy, but neither Touch N' Go Systems nor the Law Offices of James B. Gottstein can be held responsible for any possible errors. This version of the Alaska Administrative Code is current through June, 2006.

If it is critical that the precise terms of the Alaska Administrative Code be known, it is recommended that more formal sources be consulted. Recent editions of the Alaska Administrative Journal may be obtained from the Alaska Lieutenant Governor's Office on the world wide web. If any errors are found, please e-mail Touch N' Go systems at E-mail. We hope you find this information useful.

Last modified 7/05/2006

D. Facility Design Criteria

Facility Design Criteria

TABLE OF CONTENTS

FACILITY DESIGN CRITERIA MANUAL

NOTE TO THE USER:

Over the years Borough personnel have gained a store of valuable experience and date relating to building design and function. It is our intent that this manual compile the experience and information of Borough and School District personnel to define desirable and undesirable design features proven over the years. It is not presumed to be complete or authoritative, and will be added to and changed as time goes by.

We have attempted to address function as it relates to physical use, maintenance and operation of the facility. The evaluations are subjective and specific life cycle costs have not been determined.

The manual focuses primarily on school facilities, but should be flexible enough to include other construction. We have attempted to avoid tunnel vision and not restrict creativity. We certainly do not claim to have a corner on any design features or ideas and welcome your additions, comments, and experience in an effort to continually improve this manual. The manual is intended to be easily updated and should be periodically reviewed.

Both prescriptive specs (specified items or brand) and performance specs (quality of end result or feature) have been used, however, we have attempted to use performance specifications as much as possible. Items in the manual have been ranked accordingly to desirability but are not to be considered cast in concrete.

We have attempted not to be nit picky, but include items that have a significant importance to the cost and function of the end product. We would appreciate your careful review of this manual with the hope that all of us will benefit from our collective previous experiences and reinvent wheels or recreate headaches.

Designers must specify the best, expect the best, and inspect the best if we are to receive the best. In other words, clearly define the work, expect the performance and properly inspect the product.

Conditions and products are forever changing, therefore, this manual is designed to be at best a draft and will hopefully be continually updated. If not, it will quickly and assuredly lose its value.

Ed Hakert, AIA (1985)
Public Works Director
Kenai Peninsula Borough

Mike Tauriainen, P. E. (1985)
Consultant

Updated April 1993
Maintenance Department
Kenai Peninsula Borough

Updated October 2003
Maintenance Department
Kenai Peninsula Borough

The criteria on the following pages are organized according to the Construction Specifications Institute (CSI) 16 Division Format for Construction Specifications (see attached appendix). Each division is a separate unit and is subdivided into broadscope section titles. Additional broadscope or narrowscope section titles may be added as necessary.

"CODE" Reflects Desirability As Follows:

A - Required (or have a good reason why not)

B - Prefer

C - Prefer Not

D - Not Acceptable (or be able to show why we should be stuck with it)

The following is an example of the format:

DIVISION 13
SPECIAL CONSTRUCTION

Code	13100 AUDIO METRIC ROOM
A	Wenger, Industrial Acoustic or KPB approved equal.
	13850 SWIMMING POOL
A	Prefer tiles concrete pool, must be thick set tile. Deck must be concrete, broomed finish and not painted.
D	Aluminum pools not acceptable.
A	Require maxiflex diving boards. Require KDI Paragon stanchions.
A	Install eye wash and shower in Filtration Room.
A	Require Strantrol pool chemical control system.
A	Lighting must be accessible from pool deck (i.e. not over pool).
B	Prefer dry chlorine system.
A	Prefer sand filter system.

13100 AUDIO METRIC ROOM is a broadscope section title of DIVISION 13, SPECIAL CONSTRUCTION.

A Review and enclose as part of specifications the latest KPB boiler plate for general conditions. Any modifications must be approved by the Borough's Legal Department. Include copy with Design Criteria.

01200 PROJECT MEETINGS

B Preconstruction meeting in the Owner's office. In addition to general contractor, representatives of the mechanical, electrical and other major subcontractors shall attend. Review all materials that might require long lead times, schedule, communications, chain of command, etc.

B Prefer weekly job site meetings.

01010 SUMMARY OF WORK

B Clearly define project and work limits.

A Provide schedule of owner-furnished equipment. Provide for coordination of owner-furnished-contractor-installed items. Blocking, inserts, templates, etc., storage and staging of equipment furnished by Borough.

A Identify construction schedule for completion of spaces, fire alarms systems, sprinkler systems, etc, and responsibilities for partial occupancy.

A Designers shall review project with and obtain approval from state and local agencies such as State Department of Education, Fire Marshall, Fire Departments, Departments of Health, Education, Environmental Conservation, etc. Review list with Owner during preliminary phase.

01150 MEASUREMENT AND PAYMENT

B Make judicious use of unit prices. Suggest for over-excavation and backfill. Quantities to be determined by cross sectional analysis.

01400 QUALITY CONTROL

A Owner will pay for and provide construction testing. Contractor shall coordinate with Owner for testing schedules. Contractor shall pay for all failed tests, expenses, and reinspections.

01500 TEMPORARY FACILITIES AND CONTROLS

A All projects shall require a project sign, review, content, and location with KPB.

B KPBSD orders permanent power installation. Contractor coordinates with KPB/Electric Utility for temporary power. For additions to existing buildings, KPBSD will supply contractor with power if existing services is sufficient. Contractor to pay difference over historic usage. Be sure this is caught and billed prior to end of warranty period. Secure historic data from Kenai Peninsula Borough School District.

B Temporary lighting by contractor.

B Temporary heating by contractor. Except in remodel contractor to pay difference in historic useage.

B Telephone: KPBSD will initiate order for phone. Contractor to provide phone for construction.

B Temporary Water: Each project unique, review with KPB.

B Temporary Sewer: Each project unique, review with KPB.

B Construction Barriers: Review with KPB, and school principals, specify types of barriers and provide details for construction if required.

A Security: Contractor responsible, especially with existing facilities. Master keys will be provided by Borough Maintenance as required.

B Noise Control: Contractor coordinate with Owner.

B Dust Control: Essential where adjacent to existing facility. Specify methods and materials to be used.

A All temporary connections shall be made in an approved manner, meeting all applicable codes. Caution should be taken so systems are not overloaded. During normal school hours the school shall have priority use of these facilities. The contractor shall take special precautions to keep his temporary connections and lines from being damaged. Temporary connections shall be disconnected and removed prior to completion of the project and returned to original conditions.

01600 MATERIAL AND EQUIPMENT

A Changes made after the project is bid and awarded should be avoided. We have had a problem with unacceptable changes made at the submittal state. Review 4.4.7 and 4.4.8 of the General Conditions KPM-IBM February 1983, substitutions.

Also include in boiler plate a form for request for substitution. See example form attached.

SUBSTITUTIONS

A 4.4.7 If the plans or specifications permit the Contractor to furnish or use a substitute material, equipment or detail specified, such substitution is subject to approval by written addendum ten (10) working days prior to the time of bid closing and if the Contractor desires to use a proposed substitute, then the Contractor shall certify to the Architect that the proposed substitute will: (1) perform adequately the functions required by the plans and specifications, (2) be similar and equal in performance to that specified, (3) be suited to the same use and function as specified, and (4) equal or exceed all other specifications.

4.4.8 The Contractor shall indicate to the Architect any deviation in performance, appearance or quality from the specified material, equipment or detail. No substitute shall be ordered or installed without the written approval of the architect, who shall be the judge of quality and who may require the Contractor to furnish any date about the proposed substitute which the Architect considers pertinent. The Owner shall be informed by the Architect of the proposed substitute prior to the Architect's approval, and the Owner shall give the final approval of any proposed material, equipment or detail to the Architect for transmittal to the Contractor. The Owner may require the Contractor to provide performance guarantees and bonds for the proposed substitute in the form the Owner deems necessary.

A KPB must be informed of ALL changes made in submittals.

A Owner must REVIEW all changes in furnishings.

01700 PROJECT CLOSEOUT

A Designer shall submit mylars and four blueprints of record drawings to KPB by designer. Show actual location of major conduit runs, piping and underground utilities. Furnish Contractor with sepia or mylars of all drawings for Contractor to submit prints with pay request.

A A thorough operations and maintenance manual shall be submitted. Owner requires five (5) copies for maintenance.

A A thorough hands-on demonstration of all systems shall be made with general contractor, mechanical, electrical and other required subs -- architect and engineering personnel, KPB maintenance, KPBSD personnel. This may take more than one day, and must be scheduled two weeks in advance. All alarms and all mechanical systems shall be run completely through all phases (e.g., actual fire test of fire alarms).

B Substantial completion inspections should be performed with drop-in ceiling panels not installed.

B Spare parts and maintenance materials, review with KPB. List all spare parts that should be maintained on hand, and give names and addresses of replacement suppliers, provide complete list in one location of specifications and see that copy is transmitted to Owner at substantial completion.

A Special cleaning and care instructions for all finish materials must be provided verbally and in writing to the custodial staff.

A Contractors' marked up record drawings shall become the property of the Borough. Designer shall deliver them along with mylars and blue lines to the Borough.

02200 EARTHWORK

All exterior play slabs, walks, ramps, and etc. that receive asphalt paving or concrete shall be placed on N.F.S. material. Extend N.F.S. material minimum 6" beyond edge or slab at bottom of excavation.

A Concrete slabs adjoining buildings at doorways shall be constructed on moisture proofed footers and foundations walls.

02500 SITE UTILITIES (Add from Notes)

All well houses must have removable section of roof or fenced off with locked gate.

02700 SITE IMPROVEMENTS

B A separate area needs to be provided for exterior storage. This building is to store grounds maintenance equipment, snow blowers, ladders, field and track equipment, etc. Minimum heat and finish required. Overhead door recommended.

A Provide expansion joints where walks join buildings. Cover with thresholds at doorways.

B Landscape areas in excess of 100' from building line, provide hydrant for irrigation. Design to drain with minimum effort. Grade irrigation piping to drain by gravity.

A Fence fabric shall be specified "knuckle-knuckle". Barbs up or down not allowed.

B Rebound walls at tennis courts.

02010 SUBSURFACE EXPLORATION

B Include soils information when available and include in drawings or specifications. Notify Contractor that the information is for his use only and may not be used for bidding purposes. Soils reports by their nature are generalizations and actual conditions may vary from those indicated by the report.

02110 DEMOLITION

B Coordinate all demolition with KPB. Review with KPB materials that are to be salvaged and where they are to be stored.

02200 EARTHWORK

B State whether on site materials may be used and any limitations.

A Location of disposal area for demolition or clearing, if allowed on site, shall be shown on drawings. Types of material suitable for disposal on site must be identified. Areas of future expansion and site development should be avoided as disposal sites. Locations shall be properly incorporated into the record drawings.

02500 DRAINAGE

A Identify where snowplow will stockpile snow and allow for spring drainage - think of dry wells.

A Require dry well overflow vent with double 90° elevation and screen.

A Positive drainage away from buildings must be provided. Finished floor elevation minimum one foot above surrounding grade.

A Provide adequate slopes in parking lots, drives and playgrounds in order to avoid ponding.

A Do not interfere with natural drainage of adjacent properties. Visit the site when it is raining and observe actual drainage patterns.

Make sure site elevations are taken to establish school floor elevations to elevate high enough for drainage and proper run off to avoid puddle problems.

02500 SITE UTILITIES

A All major underground utilities shall be adequately marked with permanent markers. Name utility with sign identify depth of bury, at property lines, entry into buildings and at changes in direction. These shall be properly incorporated into the record drawings.

B Surface fuel storage should be surrounded by a properly constructed dike and fence with a gate.

02600 PAVING AND SURFACING

B Minimize curbing as it makes snow removal difficult.

C Prefer no asphalt curb.

A Use speed dips not speed bumps when needed for traffic control.

02700 SITE IMPROVEMENTS

D Underground sprinkler systems not preferred.

A Provide water supply as required and ample hose bibs on building exteriors. Provide for drain down or water supply lines not used during winter months.

B Provide precast parking bumpers along walkways where required.

A Provide traffic barriers in front of access walks with removable section to allow authorized vehicle access.

B Coordinate with KPBSD on play and recreation facilities.

B Fences: Coordinate height with KPB to achieve desired control.

B Gates: Adequate size and location to allow for snow removal and equipment. A twelve inch (12") minimum height above grade.

B Prefer rubberized surface for tennis courts.

B Asphalt play areas shall be well-drained, generally 1-1.5% minimum slope.

A Avoid placing large one inch (1") plus stones around perimeter of buildings. These invite window breakage and sprained ankles.

A All weather 8 lane tracks at High School facilities.

D No planter boxes.

A Trees and shrubbery areas will be approved by Owner's Representative only.

03300 CAST IN PLACE CONCRETE

A Testing shall be arranged by Owner.

B Cold weather concreting should conform to ACE 306 requirements.

C Prefer no calcium chloride in concrete.

C Prefer no vapor barrier under slabs unless required for moisture protection.

Exposed concrete walls should be sacked, brushed, broomed or touched up immediately after removal of forms, depending on the finish desired.

Make sure all entry concrete by school entrance and exits have proper footing depths 48" or more to prevent frost heave into doors; we experienced this from past school designs. Also, maintain proper footing depth for entire school foundation.

A Testing shall be arranged by Owner.

B Cold weather masonry should conform to "recommended practices and guide specifications for cold weather masonry construction" by International Masonry Industry or similar.

Exposed masonry walls should be brushed or broomed after jointing.

C Storage and placement of CMU's must be protected from water inundation and/or rain.

A Require CMU's that have a smooth surface free of excessive voids or protrusions. Both long surfaces must be brushed free of aggregate crumble.

B Be aware of long delivery steel that may delay project.

06100 ROUGH CARPENTRY

A Provide backing for all wall mounted door stops.

A Provide backing for wall hung lavatories and toilets. Pegboard and other -- cabinets, gym equipment, chalkboards and tack boards, toilet partitions, toilet accessories, drapes, and movie screens.

A Identify blocking required during shop drawing approval and don't allow G.W.B. to proceed until all blocking has been checked against approved shop drawing.

06170 PREFABRICATED STRUCTURAL WOOD

B Industrial grade glue-laminated members adequate for appearance or better.

A Carefully detail all connections and closely check shop drawings for connections.

07150 DAMPROOFING

B Suggest no vapor barrier under slabs unless high moisture content in sub-soils.

A Bituthane waterproofing recommended on foundations walls where required.

C Problem with rain penetration of plywood siding (including at fasteners) under driving rain conditions in Seward (Seward High School). Back up siding with perforated 15# felt.

A Vapor barriers and/or seal concrete sub floor under gym flooring.

07200 INSULATION

A Provide vents so all insulation can breathe.

C Fiberglass batt insulation in metal stud walls -- must be full 16" or 24" wide to prevent sagging. Require Contractor to call for insulation and vapor barrier inspection in each area 24 hours in advance of G.W.B.

A Insulation and vapor barrier. All seams and penetrations in vapor barrier must be taped with tape adequate to seal joints.

07400 PREFORMED ROOFING and SIDING

C Prefer no metal roofing. We have problems with snow dumping and fasteners working loose. Review in detail overhang. Hot or cold roof venting means of holding snow, contributes to icing roofs designed for standing seam metal roofing must be designed with extreme care. Architect will be required to correct all problems created by design of this type of roof.

07500 MEMBRANE ROOFING

B Suggest shingles or similar roofing on adequately pitched roof.

A Roofing: Alternative roofing systems should be investigated and reviewed closely with the Borough Maintenance personnel, Depart of Public Works, and the Construction Advisory Board. Very tight specifications should be written for all roofing components. Shop drawings must be required for all items including flashings, expansion joints, drain details and insulation applications. Shop drawings must be checked thorough and actual application monitored in the field continuously by qualified personnel throughout the roofing process.

B Protected membrane (IRMA) roofs have performed well. Specify membrane approved by Dow Chemical for IRMA Installation. Borough requires 10 years warranty from Dow for membrane, as well as, insulation and top cover.

B Specifications for built-up membrane roofing have been adequate. Problems usually result from weather, workmanship and inspection. These areas need special attention. Investigate elastometric roofing and bid as alternate. Consider condensation, location of roof drains, don't design expansion joints at low areas, put them up on curbs.

B Roof drains should be set in pans with extender rings and roof membrane sandwitched between pan and clamp ring to assure they are lower than adjacent roof. If roof drains are piped to dry wells, dry wells must be heat taped to below frost line.

D No hyplon roofs.

07600 FLASHING and SHEET METAL

B Prefer Ceraloy, Lexsuco reinforced flashing or equal flexible flashing. Flashing joints should be sealed with butyl rubber. Coping joints should be sealed with butyl and reinforced to prevent separation due to uneven weight distribution around joints.

C We have experienced problems with painting of some aluminum flashings. The paint doesn't stick. An anodized aluminum. Verify gauge.

D Scuppers on flat roofs are not acceptable; use interior roof drains. Stress drains in all low spots, and heat tape and insulate drains if they are in exposed entries or otherwise unprotected.

A Flashings should be sealed wherever there is a possibility of pending water.

07800 ROOF ACCESSORIES

C Skylights are nice and they brighten up on interior spaces, but our experience is that they are costly, are subject to vandalism and require maintenance. If you want to use them, you are going to have to convince us of their importance.

C We have problems with some roof expansion joints. These require extra attention and adequate detail. Don't locate in low areas, prefer on curbs when necessary.

A Provide roof access hatches with ladders inside buildings. These must have locks and be keyed into master.

A Provide hose bibs on roof areas, for clean up and maintenance.

A Provide enough slope (crickets) to assure that water flows directly to roof drains.

A Coordinate Owner supplied equipment with roof installation, i.e., satellite dish, antenna, weather instruments, etc.

07900 SEALANTS

C We have had problems with kids pulling the sealant out of joints. This is not a severe problem, but we have been wrestling with for a number of years. Lack of inspection and proper detailing.

A Two-part pour in sealants work well on flat walks but must be applied only during warm weather. Make sure all manufacturers instructions are closely followed for all sealants.

D Do not use silicone on roof drains.

08100 HOLLOW METAL STEEL DOORS and FRAMES

1. General

   A. Related Documents: Drawings and General Provisions of Contract including General and Supplementary Conditions apply to work of this section.

2. Description of Work

   Extent of standard steel doors and frames is shown and scheduled on drawings.

   Builders hardware is specified elsewhere in Division 8.

3. Quality Assurance

   A. Provide doors and frames complying with Steel Door Institute "Recommended Specifications: Standard Steel Doors and Frames" (SDI-100) and as herein specified.

   B. Manufacturer: Provide standard steel doors and frames by a single firm specializing in production of this type of work, as by the following manufacturer unless prior approved:

      CURRIES MANUFACTURING INC. - MASON CITY, IOWA

   C. Fire Rated Assemblies: Fabricate fire rated assemblies in accordance with requirements of Underwriters' Laboratories Inc. (UL). Place UL labels where visible when assemblies are installed in position. Construct and install assemblies to comply with NFPA Standard Number 80. Refer to drawings for class requirements.

4. Shop Drawings and Product Data:

   A. Submit Shop Drawings and Product Data; indicate general construction, configurations, jointing methods, reinforcements, anchorage methods, door swings, door and glass opening sizes, and hardware locations.

5. Fabrication General:

   A. Fabricate steel door and frame units to be rigid, neat in appearance and free from defects, warp or buckle.

B. Fabricate exposed faces of doors and panels, including stiles and rails, from only cold rolled steel.

C. Fabricate frames, concealed stiffeners, reinforcements, edge channels, louvers and moldings from either cold rolled steel or hot rolled steel (at fabricator's option).

D. Exposed Fasteners: Unless otherwise indicated, provide counter sunk flat or oval phillips heads for exposed screws and bolts.

E. Finish Hardware Preparation: Prepare doors and frames to receive mortised and concealed finish hardware in accordance with final finish hardware schedule and templates provided by hardware supplier, surface applied hardware preparations provided with function holes, drilling and taping to be done in field by General Contractor. Comply with applicable requirements of ANSI A-115 series specifications for door and frame preparation for hardware.

F. Locate finish hardware as shown on final shop drawings or if not shown, in accordance with "Recommended Locations for Builder's Hardware", published by Door & Hardware Institute.

G. Shop Painting:

1. Clean, treat, and paint exposed surfaces of steel door and frame units, including galvanized surfaces and back side of frames, with one coat factory applied baked on rust inhibitive primer paint. Finish painting specified in other section to be done on job site.

H. Provide Astragals for double doors where removable center mullions are not provided. Provide in accordance with UL requirements for labeled doors.

I. Fill surface depressions with metallic paste filler and grind to smooth uniform finish.

6. <u>Steel Doors</u>

A. Exterior Doors: Curries Mfg. 747T

1. Face sheets shall be of 16 gauge galvanized steel.

2. Internal Stiffeners:

a. Minimum 20 gauge steel, continuous one piece full vertical height.

b. Space at not over 6" centers.

c. Spot weld to face panels at maximum 5" intervals.

d. Vertical edges of face panels shall be joined and welded full height, then ground smooth to conceal seams.

3. Sound Deadening: Interior surfaces shall be treated with a sound-deadening material to eliminate metallic ring.

4. Glazing Stops: 18 gauge steel, secured with countersunk sheet metal screws at minimum 12" intervals.

5. Lock rail to be one piece full height 14 gauge channel.

6. Hinge rail to be one piece full height 12 gauge channel formed and tapped for hinges.

7. Both top and bottom of doors to receive 16 gauge inverted closure channels.

8. Door beveled 1/8" in 21" at lock edge only.

B. Interior Doors: Curries Mfg. 707N

1. Face sheets shall be of 18 gauge steel.

2. Internal Stiffeners:

a. Reinforce, stiffen, insulate and sound deaden with a solid slab of expanded poly styrene foam permanently bonded to the inside of each face skin.

b. Both lock and hinge rail edge of the door shall be welded, filled and ground smooth the full height of the door (707N).

3. Lock rail to be one piece full height 14 gauge channel.

4. Hinge rail to be one piece full height 14 gauge channel formed and tapped for hinges.

5. Both top and bottom of doors to receive 16 gauge inverted closure channels.

6. Doors beveled 1/8" x 2' at lock edge only.

7. <u>Steel Frames</u>

A. General:

1. Door Silencers: Except on weatherstripped frames, drill stops to receive two silencers on strike jambs of single-swing frames and two silencers on heads of double-swing frames.

   a. Manufacturer's "stick on" silencers will not be acceptable in lieu of drilled type.

2. Plaster Guards: Proved 26 gauge steel plaster guards or mortar boxes, welded to frame, at back of finish hardware cutouts where mortar or other materials might obstruct hardware operation.

3. Anchors:

   a. Provide an anchor at each jamb for each 2' - 6" of door height or fraction thereof.

   b. Vary anchor types to provide positive fastening to adjacent construction.

   c. Secure a metal clip angle at bottom of each jamb member for anchoring to floor, with a minimum of 2 fasteners.

4. Stops and Trims: Applied stops shall be formed of 18 gauge steel, corners made to a close neat fit, and secured at 12" intervals with countersunk sheet metal screws.

B. Exterior Door and Relite Frames:

1. 14 gauge galvanized steel.

2. Mitered corners - welding construction.

C. Interior Door Frames:

1. 16 gauge steel.

2. Mitered corners - knock down construction for field assembly.

D. Interior Relite Frames:

1. 16 gauge steel.

2. Mitered butted corners - welded construction.

E. Fabrication

1. Accurately form and cut mitered corners of welded type frames. Weld on inside surfaces. Grind welded joints to smooth uniform finish.

2. Accurately form interlocking joints of knocked down frames to maintain alignment of parts when field assembled.

3. Accurately cope and securely weld butt joints of mullions of glazed lights. Grind welded joints to smooth uniform finish.

4. Provide removable mullions for double doors. Reinforce head sections where mullions occur. Removable mullions may be supplied in Section 08700 finish hardware if specified that way.

5. Fill surface depressions of hollow metal frames with metallic paste filler and grind to smooth finish.

6. All frames shall receive a factory baked-on coat of rust-inhibitive primer.

7. Touch up areas where factory coating has been removed due to sanding, welding, or handling.

8. Delivery, Storage, and Handling

A. Deliver, store, and handle hollow metal work in a manner to prevent damage and deterioration and in accord with any special storage and handling requirements or manufacturer.

B. Provide packaging such as cardboard or other containers, separators, banding spreaders, and paper wrappings to protect hollow metal items.

C. Store doors upright, in a protected dry area, at least 1" or more off the ground or floor and at least 1/4" between individual pieces.

9. Inspection

A. Installer must examine substrate and conditions under which steel doors and frames are to be installed and must notify Contractor in writing of any conditions detrimental to proper and timely completion of work. Do not proceed with work until unsatisfactory conditions have been corrected in manner acceptable to installer.

10. Installation

General: Install standard steel doors, frames and accessories in accordance with final shop drawings and manufacturer's data, and as herein specified.

Placing frames: Comply with provisions of SDI-105 "Recommended Erection Instruction for Steel Frames", unless otherwise indicated.

A. In masonry construction, locate three wall anchors per jamb at hinge and strict levels. Building-in of anchors and grouting of frames is specified in Division 4.

B. At in-place concrete or masonry construction, set frames and secure to adjacent construction with machine screws and masonry anchorage devices.

C. Install fire-rated frames in accordance with NFPA Standard No. 80.

D. In metal stud partitions, install at least three wall anchors per jamb at hinge and strict levels. In closed steel stud partitions, attach wall anchors to studs with tapping screws. Provide base anchors for all frames more than 3' - 0" wide. Attach base anchor to floor with power tool.

Door Installation:

A. Fit hollow metal doors accurately in frames, within clearances specified in SDI-100.

B. Place fire-rated doors with clearances as specified in NFPA Standard No. 80.

11. Adjust and Clean

Prime Coat Touch UP: Immediately after erection, sand smooth any rusted or damaged areas of prime coat and apply touch-up of compatible air-drying primer.

Final Adjustments: Check and readjust operating finish hardware items, leaving steel doors and frames undamaged and in complete and proper operating condition.

08111 STEEL DOORS & FRAMES

PART 1 GENERAL

No wood or aluminum doors.

Vertical edges shall join the face sheets by a continuous weld extending the full height of the door. Welds are to be ground, filled and dressed smooth to make them invisible and provide a smooth flush surface.

1.01 QUALITY ASSURANCE

A. Conform to requirements of SDI-100 and NAAMM.

B. Fire rated door and frame construction: Conform to UL 10B. Fabricate fire rated assemblies in accordance with requirements of Underwriter's Laboratories Inc. (UL).

C. Installed frame and door assembly: Conform to NFPA.

D. Provide rated double doors tested and approved without astragals.

1.02 SUBMITTALS

A. Indicate frame configuration, anchor types and spacing, location of cutouts for hardware, reinforcement, and finish.

B. Indicate door elevations, internal reinforcement, closure method, insulation, and cutouts for glazing.

C. Submit manufacturer's certification that insulated door and frame assemblies proposed have been tested and meet or exceed requirements of SDI-113.

1.03 DELIVERY, STORAGE AND HANDLING

A. Protect products.

B. Provide packaging such as cardboard or other containers, separators, banding spreaders, and paper wrappings to protect hollow metal items. Protect doors and frames with resilient packaging sealed with heat shrunk plastic.

C. Break seal at site to permit ventilation.

D. Deliver, store and handle hollow metal work in manner to prevent damage and deterioration and in accord with any special storage and handling requirements of manufacturer.

E. Store doors upright, in a protected dry area, at least 1 inch or more off the ground or floor and at least 1 inch between individual pieces.

PART 2 PRODUCTS

2.01 MANUFACTURERS

A. Doors and Frames: Following products are for general reference only and are subject to compliance with specified requirements.

B. Doors: Curriers; Amweld; CECO; Steelcraft.

2.02 DOORS AND FRAMES

A. Exterior Doors: SDI-100 Grade III model 4, NAAMM 16 ga. minimum face thickness, galvanized, G60 coating designation in accordance with ASTM A525, and insulated.

B. Interior Doors: SDI-100 Grade II Model 4, NAAMM 18 ga. minimum face thickness.

C. Sound Door System: Provide perimeter gaskets, thresholds and hardware on door schedule.

D. Exterior and Vestibule Frames: 14 ga. galvanized, G60 coating designation.

E. Interior Frames: 16 ga. galvanized for opening width less than 40 in.; 14 ga. galvanized for 40 in. opening width and over.

2.03 DOOR CORE

A. Exterior Doors:

1. Core: Polystyrene or polyurethane foam.
2. Maximum "U" factor: .014

B. Interior Doors:

1. Core: Polystyrene or polyurethane foam where acceptable for rated and non-rated doors, except provide mineral fiberboard cores where required for fire rating.

2.04 ACCESSORIES

A. Metal Filler Panels: SDI-100 Grade III Model 2, 16 ga. minimum face thickness, 1-3/8 in, panel thickness, galvanized to G60 coating designation in accordance with ASTM A525, with Polystyrene or polyurethane foam core.

B. Rubber Silencers: Products of door manufacturer, Glynn Johnson, Builders Brass, Quality, Ives, or Russwin.

1. Provide three for each single door frame; two for each pair of door frames without mullion; and three for each door in a pair of doors frame with a mullion.

2. Type: Removable, suitable for metal frames, similar and equal to Glynn Johnson GJ64.

3. Install prior to grouting frames, or make provisions to accommodate installation of silencers.

C. Filler Panel and Applied Glazing Stops: Rolled steel channel shape, 18 ga. , mitered corners made to a close neat fit; secured with countersunk tamperproof sheet metal screws at minimum 12 in. intervals at glass lites, secured with countersunk style tamperproof sheet metal screws at minimum 6 in. intervals at filler panels. Provide stops with UL label in rated doors and frames.

D. Grout Fill: Frames grouted in place. Frames grouted before installation: Gypsum type, non-corrosive, suitable for conditions of use.

E. Exposed Fasteners: Unless otherwise indicated, provide countersunk flat phillips heads for exposed screws and bolts.

F. Provide anchor types as required for positive fastening to adjacent construction and to comply with scheduled fire label requirements.

2.05 PROTECTIVE COATINGS

A. Primer: Manufacturer's standard baked-on primer, suitable for finish paint specified.

B. Prime inside of frames to be grout filled with asphaltic coating.

2.06 FABRICATION

A. Fabricate frames as follows:

1. Exterior frames shall be thermal break type, fabricated with closed cell polyethylene foam, polyvinyl chloride, or other thermal barrier material standard with manufacturer between interior and exterior frame surfaces. Frame connection between jamb and head shall be fully welded, ground smooth and galvanizing touch-up. Frames shall be prepared for plate and pipe or butterfly existing opening type anchors and interior of frame filled with polyurethane foam insulation.

2. Fabricate galvanized frames at interior unit masonry as welded unit type. Frame connection between jamb and head shall be fully welded and seamless. Accurately cope and securely weld butt joints of mullions of glazed lights. Grind welded joints to smooth uniform finish. Provide with 4 in. face at head as required for masonry wall coursing.

3. Fabricate frames at in-place interior unit masonry as knocked-down mitered type. Accurately form interlocking joints of knocked down frames to maintain alignment of parts when field assembled. Frame connection between jamb and head shall be setup, spot welded and grouted before installation. Dimple

frames for filling of anchor points with appropriate filler. Size frame dimples to accommodate flat head bolts without grinding, and for filling of anchor points to cover bolt heads 1/16 in. minimum and flush with frame. Fill surface depressions of hollow metal frames with metallic paste filler and grind to smooth finish. Frames shall be prepared for plate and pipe or butterfly existing opening type anchors as required for rated frame installation.

4. Fabricate frames at gypsum wallboard partitions as drywall slip-on type, except frames with sidelights shall be welded unit type.

    a. Accurately form and cut interlocking joints of knocked down frames to maintain hairline alignment of parts when field assembled.

B. Fabricate frames and doors with hardware reinforcement plates welded in place. Provide mortar guard boxes, minimum 26 ga.

1. Hinge reinforcement: Minimum 10 ga.

2. Closer reinforcement: Minimum 12 ga.

3. Lock reinforcement: Minimum 14 ga.

4. Finish Hardware Preparation: Prepare doors and frames to receive mortised and concealed finish hardware in accordance with final finish hardware schedule and temples provided by hardware supplier, surface applied hardware preparations provided with function holes, drilling and tapping to be done in field. Comply with applicable requirements of ANSI A115 for door and frame preparation for hardware.

5. Locate finish hardware as shown on final shop drawings.

6. Removable mullions for double doors. Reinforce head sections where mullions occur.

C. Prepare frame for silencers, three single rubber silencers for single doors on strike side, and two single silencers on frame head at double doors without mullions.

D. Attach fire rated metal label to each rated frame and door unit where visible when doors are in open position.

1. Provide labeled frames with integral or applied smoke gaskets in accordance with UBC.

2. Where oversize metal doors and frames are required, provide certification and information required by applicable authorities for approval.

E. Close top edge of exterior door flush with inverted steel channel closure. Seal joints watertight. Close bottom edge of exterior door with steel channel closure.

F. Anchor metal filler panels in place and seal with continuous beads of sealant by "interior dry method", to provide waterproof and weathertight installation.

G. Doors beveled 1/8 in. in 2 in. at lock edge only.

2.07 FINISH

A. Exterior Units: Galvanized, ASTM A525, G60 coating designation. Galvanize after fabrication and hardware preparation. Shop prime.

B. Interior Units: Shop prime.

1. Clean, treat, and paint exposed surfaces of steel door and frame units, including galvanized surfaces and back side of frames, with one coat factory applied baked on rust inhibitive primer paint. Touch up areas where factory coating has been removed due to sanding, welding, or handling.

2. Fill surface depressions with metallic paste filler and grind to smooth uniform finish, ready to receive gloss finish.

C. Primer: Baked on, compatible with finish coat.

PART 3 EXECUTION

3.01 INSPECTION

A. Installer must examine substrate and conditions under which steel doors and frames are to be installed and must notify Contractor in writing of any conditions detrimental to proper and timely completion of work.

B. Do not proceed with work until unsatisfactory conditions have been corrected in manner acceptable to installer.

3.02 INSTALLATION

A. General: Install steel doors, frames and accessories in accordance with final shop drawings and manufacturer's data, and as herein specified.

B. Install frames in Accordance with Drawings, SDI-100, SDI-105, SDI-111, and manufacturer's accepted shop drawings.

C. Install non-rated doors in accordance with DHI.

D. Coordinate with all construction for anchor placement.

E. Coordinate installation of glass and glazing.

F. Install stiffening roll formed steel reinforcement channels between two abutting frames. Anchor to structure above and to floor.

1. Install steel splice plate reinforcement between abutting frames as required for field splicing.

2. Secure a metal clip angle at bottom of each jamb and permanent mullion member of anchoring to floor, with a minimum of 2 fasteners.

G. Frames in drywall: Set "slip-on" type frames in place after drywall installed. Seal frames at sound walls. Provide base anchors for all frames with openings more than 3'-0" wide, plus one compression anchor per jamb for "slip-on" type frames, three anchors per jamb for welded frames, and mullion section base and head anchors. Provide anchors at jambs of borrow lites and sidelites, as above, plus two sill anchors. Attach base anchor to floor with power tool.

H. Frames IN CMU: To extent practicable, install concurrently with installation of CMU, with minimum three T-strap, adjustable or wire masonry anchors per jamb. Masonry anchors shall be required for rated frame installation, and a minimum of 7 ga. mild temper steel for wire anchors. In masonry construction, locate three wall anchors per jamb at approximately hinge and strike levels.

I. Frames in In-Place CMU:

1. Anchor frame jambs and head with minimum 3/8 in. concealed bolts into expansion shields or inserts as required for rated frame installation. Provide at jamb at 6 in. from top and bottom and at 26 in. o.c. between, unless otherwise shown. Provide relite jamb anchors as specified above, plus two head and three sill anchors.

2. Fill head and jambs completely with grout. Fill all anchor dimples with appropriate filler and grind smooth prior to painting. Grind smooth finish cap over grout filling holes prior to painting. If

frame is grout-filled prior to installation, provide continuous sealant between masonry and frame.

J. Frames in exterior walls shall be completely filled with polyurethane foam insulation.

1. Install exterior and interior vestibule frames with base anchors plus three anchors per jamb, mullion section base and head anchors.

3.02 TOLERANCES

A. Maximum Diagonal Distortion: 1/16 in. measured with straight edge, corner to corner.

1. Fit hollow metal doors accurately in frames, within clearances specified in SDI-100.

2. Place fire-rated doors with clearances specified in NFPA 80.

3.03 ADJUSTING AND CLEANING

A. Adjust hardware for smooth and balanced door movement.

B. Sound Doors:

1. After finish hardware is installed, adjust operating parts for smooth operation and continuous contact between seals and adjoining surfaces.

2. Assure no gaps occur between head, jamb and threshold seals. Visually inspect sound door assemblies in closed position for light leaks to identify potential acoustic leaks. Adjust to achieve light seal.

3. Adjust threshold seal to be in full contact with floor or threshold, as appropriate.

C. Prime Coat Touch Up: Immediately after erection, sand smooth any rusted or damaged areas of prime coat and apply touch-up of compatible air-drying primer.

D. Final Adjustments: Check and readjust operating finish hardware items, leaving steel doors and frames undamaged and in complete and proper operating condition.

08200 WOOD and PLASTIC DOORS

C We have experienced significant problems with fire rated "solid core" doors because of insufficient rails and stiles for hardware. Once the hardware comes loose, it is nearly impossible to repair. Perhaps additional wood back-up can be specified at points of attachment for butts, door closures and knobs. Special packaging of doors to protect from moisture during shipment will reduce warpage.

08300 SPECIAL DOORS

B We have experienced problems with inadequate bracing of overhead door roller channels and have even had doors drop out. Overhead door locks are required and should be keyed to master system. Close attention to heat loss through overhead doors.

C We have had problems with mechanical linkage door seals on overhead doors.

A Require any roll-up doors on fire alarm system be on stand alone smoke sensor.

C Prefer no side coiling doors or grills.

B minimum glass in interior doors.

B Provide dutch door between storage and chemistry lab. Comply with code requirements.

08400 ENTRANCES

A Require removable center mullions for all double doors.

D No glass in bottom half of doors and entries; use insulated panels on exterior door.

B Grating outside of entry (preferable under overhang) with minimum 1' (?) space for snow mud, below bottom of grate. Galvanized steel preferred with small panels less than 73# to allow for removal. Drain pit. Coordinate with requirements at handicapped entry.

B Crosswalk or grating in foyer. Recess slab and provide transition angle.

B 4041 LCN for handicapped entries.

B Provide expansion joint at thresholds and assure thresholds are wide enough to cover joints and provide transition between floor materials. Thresholds required at transition from carpet to wood gym floor, carpet ceramic tile, etc.

D Aluminum door at entries should be avoided (problems with inadequate strength at hinges, short service life and security).

A Entry grating shall meet UBC requirements (the Borough has received many entry grates that do not meet code requirements).

08500 METAL WINDOWS

A No paint on metal windows.

B Require very good thermal break.

B Foam seal in place works well.

D Screens for operating windows.

08600 WOOD WINDOWS

C Prefer no side-sliding windows.

A Provide good details to prevent penetration of water.

B Minimize glass area, but provide at least one operable window per classroom. Review code.

08650 SPECIAL WINDOWS

D Provide relight between chemical storage and lab to provide observation.

C One way mirror glass at Special Ed. Room.

A Glass between office and shop areas.

D Color or tinted exterior windows.

08700 HARDWARE

PART 1 GENERAL

A Schlage keys required. No exceptions.

B Provide extra lock sets.

A Von Dupin panic hardware, no internal or external vertical rod. Model 88 or 99 with removable center mullion is preferred. Consider Von Dupin standard and C. D. 99 Rim device (like at McNeil Canyon).

A LCN door closure required.

A Keys shall be sent to KPB Maintenance. Number of sets of keys shall be coordinated with Owner.

A Provide common key for common room cabinets in lab.

B Provide locking doors on all lab storage cabinets.

1.01 DESCRIPTION OF WORK

A. Definition:

"Finish Hardware" includes items known commercially as builders hardware which are required for swing, sliding and folding doors, except special types of unique and non-matching hardware specified in the same section as the door and door frame. Type of items in this section include, but are not limited to:

1. Hinges
2. Lock Cylinders and Keys
3. Lock and Latch Sets
4. Exit Devices
5. Closures
6. Miscellaneous Door Control Devices
7. Thresholds
8. Weatherstripping
9. Kick and Mop Plates

B. Related Work Described Elsewhere:

1. Rough Carpentry
2. Finish Carpentry
3. Metal Doors and Frames
4. Wood Doors

1.02 QUALITY ASSURANCE

A. Fire-Rated Openings: Provide hardware for fire-rated openings in compliance with NFPA. Provide only hardware which has been tested and listed by UL for types and sizes of doors required and complies with requirements of door and door frame labels.

B. Manufacturers: Companies specializing in manufacturing door hardware with minimum three years experience. Obtain each kind of hardware (latch and lock sets, hinges, closers, etc.) from only one manufacturer, although several may be indicated as offering products complying with requirements.

C. Hardware Supplier: Company specializing in supplying institutional door hardware with two years experience furnishing hardware in the project area, and approved by lock, closer, and exit device manufacturers.

D. Hardware Supplier Personnel: Employ an Architectural Hardware Consultant (AHC) who is available, at reasonable times during the course of the work, for consultation about project's hardware requirements, to Owner, Architect and Contractor.

E. Installer: Finish hardware shall be installed only by experienced tradesmen, either at the door and frame fabrication plant or at the project site.

F. Installation Meeting: Prior to the installation of any hardware except butts, the Hardware Supplier's Architectural Hardware Consultant shall attend one meeting scheduled by the General Contractor with the General Installer, School District inspectors, and School District personnel. The Hardware Supplier shall instruct regarding installation, and supervise the installation of the following:
   1. One of each type of exit device.
   2. One lockset.
   3. One of each type of door closer.
   4. One each of any additional type of hardware requested.

G. Prior to final inspection the Hardware Supplier's Architectural Hardware Consultant shall make detailed inspection of each opening for which hardware was furnished to verify all of the following:
   1. All items of hardware have been installed as required by the Contract Documents.
   2. All hardware items have been installed and adjusted in accordance with manufacturer's installation instructions and further that all items have been installed using fasteners or anchors recommended for the conditions of installation.
   3. Adequate reinforcing and/or backing has been provided.
   4. No conditions exist which would reduce the normal useful life under normal conditions of use of the facility. Upon completion of inspection provide to General Contractor a written report listing any items which do not conform to all of above. The Contractor shall immediately review report and transmit copy to the Architect indicating what corrective measure will be taken and schedule of completion.

1.03 REGULATORY REQUIREMENTS

A. Hardware for fire-rated openings shall be in compliance with all fire and building codes applicable to the district in which the building is located. Provide only hardware which has been tested and listed by UL for the types and sizes of doors required, and which complies with the requirements of the door and door frame labels.

B. Comply with applicable requirements of ANSI A117.1.

1.04 SUBMITTALS

A. Submit schedule, shop drawings, product data, and samples.
   1. Hardware Schedule: Submit final hardware schedule in the manner and format specified, complying with the actual construction progress schedule requirements. Hardware schedules are intended for coordination of work.

B. Indicate locations and mounting heights of each type of hardware.

C. Supply templates to door and frame manufacturer's to enable proper and accurate sizing and cut-outs for hardware. Review door and frame shop drawings to confirm that adequate provisions are made for proper installation of hardware.
   1. Furnish hardware templates to each fabricator of doors, frames, and other work to be factory-prepared for the installation of hardware. Upon Owner's Representative's request, check the shop drawings of such other work, to confirm that adequate provisions are made for the proper installation of hardware.

D. Provide product data on specified hardware, including wiring diagrams where applicable. Submit manufacturers technical information for each item of hardware. Include whatever information may be necessary to show compliance with requirements, and include instruction for installation and for maintenance of operating parts and finish. Transmit copy of applicable data to installer.

E. Submit samples, if requested, of each exposed hardware category, illustrating style, color, and finish.

F. Undamaged, acceptable hardware samples may be incorporated into the Work.

G. Furnish keying schedule with keying information as outlined in the DHI pamphlet "Keying Procedures, Systems and Nomenclatures". Furnish two (2) key biting lists.

H. Submit manufacturer's parts lists and installation instructions.

I. Submit manufacturer's certificate that fire rated hardware has been tested and listed by UL for types and sizes of doors required and complies with requirements of door and frame labels.

J. Final Hardware Schedule: Based on builders hardware indicated, organize hardware schedule into "hardware sets" indicating complete designations of every item required for each door or opening. Opening numbers shall be same as those on Contract Drawings and Schedules. Include the following information:

1. Type, style, function, size, and finish of each hardware item.
2. Name and manufacturer of each item.
3. Fastening and other pertinent information.
4. Location of hardware set cross-referenced to indications of drawings both on floor plans and in door and frame schedule.
5. Explanation of all abbreviations, symbols, codes, etc. contained in the schedule.

K. Submittal Sequence: Submit six (6) schedules at earliest possible date particularly where acceptance of hardware schedule must precede fabrication of other work (e.g., hollow metal frames) which is critical in the project construction schedule. Include with schedule the product data, samples, shop drawings of other work affected by builders hardware, and other information essential to the coordinated review of hardware schedule.

1.05 OPERATIONS AND MAINTENANCE DATA

A. Submit operation and maintenance data.

B. Include data on operating hardware, lubrication requirements, and inspection procedures related to preventive maintenance.

1.06 DELIVERY, STORAGE, AND HANDLING

A. Package hardware items individually; label and identify package with door opening code to match hardware schedule.
1. Furnish all finish hardware with each unit clearly marked and numbered in accordance with hardware portion of the door schedule. Basic installation instructions shall be included in the packages.
2. Package each item complete with all necessary pieces and fasteners.
3. Properly wrap and cushion each item to prevent marring or other damage during delivery and storage.

B. Delivery and Storage: Do not deliver finished hardware to the project site until a secure, dry, sheltered area, away from traffic, is available for it's storage and protection. Store off the floor with appropriate dunnage and appropriately covered to prevent damage in even of water infiltration. Coordinate hardware with other work. Tag each item or package

separately, with identification related to the final hardware schedule, and include basic installation instruction in the package. Deliver individually packaged hardware items at the proper times to the proper locations (shop or project site) for installation.

C. Inventory hardware jointly with representatives of the hardware supplier and the hardware inst5aller until each is satisfied that the count is correct.

D. Deliver keys and cores to KPB Maintenance Department, Atten: Locksmith, 47140 East Poppy Lane, Soldotna, Alaska 99611, by security shipment direct from hardware supplier.

E. Protect hardware from theft by cataloging and storing in secure area. Provide secure lock-up for hardware delivered to the project, but not yet installed. Control the handling and installation of hardware items which are not immediately replaceable, so that the completion of the work will not be delayed by hardware losses, both before and after installation.

1.07 GUARANTEE

A. Finish hardware shall be guaranteed against defects in workmanship and operation for a period of one year, backed by a factory guarantee of the hardware manufacturer, except the door closers shall be so guaranteed for five years. No liability shall be assumed by the hardware supplier where faulty operation is due to improper installation or lack of normal maintenance.

1.08 EXTRA STOCK

A. Furnish the following:

1. Two (2) each locksets
2. Two (2) each door closers
3. Two (2) each exit devices

1.09 MAINTENANCE MATERIALS

A. Provide special wrenches and tools applicable to each difference or special hardware component.

B. Provide maintenance tools and accessories supplied by hardware component manufacturer.

PART 2: PRODUCTS

2.01 GENERAL

A. Symbols used are from the catalogs of:

1. ST Stanley Hardware
2. SC Schlage Lock Co.
3. LCN LCN Door Closures
4. VD Von Duprin
5. BBW Builders Brass Works
6. PE Pemko
7. GJ Glynn Johnson
8. RI Rixon/Firemark
9. CI Cipco Corporation
10. PE Pemko Manufacturing Company
11. BA Baldwin Hardware Manufacturing Corp.

2.02 MANUFACTURERS/HARDWARE REQUIREMENTS

Butts: On exterior door add heavy-duty hinges. Add anti friction bearing to all butts.

A. Butts: Stanley, McKinney, Lawrence, Hager;

1. Sizes: For 1-3/4 in. doors:
   a. Exterior and Vestibule Doors: 5" x 4-1/2"
   b. Interior Doors up to 36" wide: 4-1/2" x 4-1/2"
   c. Interior Doors over 36" wide: 5" x 4-1/2"
   d. Doors wider than 36" must have extra heavy hinges. Width of butts shall be as required to clear projecting trim or structural conditions so that the maximum degree of opening is obtained.
2. Quantity: 3 ea. pair up to and including 90 in. in height, 4 ea. over 90 in. in height.
3. For unusual size or weight doors, furnish type, size and quantity recommended by the butt manufacturer.
4. All locked doors to have non-removable pins (NRP set screws in barrel).
5. Where required to clear trim or provide 180 degree swing, provide hinges with sufficient throw.

B. Locksets and Latches: Schlage
   1. Design: 06B L Series
   2. Backset: 2-3/4in.

C. Hospital Latchsets: McKinney, Sargent

D. Exit Devices: Von Duprin
   1. Furnish thru-bolts for doors.

E. Push/Pulls: Von Duprin

F. Cylinders: Schlage
   1. Interchangeable cores.

2. Provide spaces and springs, and compression and blocking rings as required.
3. Provide trim rings.

G. Closers: LCN
1. Provide door plates, spaces and shoe supports where required.
2. Provide cold weather fluid at exterior and vestibule doors.
3. Provide special rust inhibitor at all exterior doors.
4. Provide special closer mounting as required where interference with weather-strip or sound seals occur.
5. Furnish thru-bolts for doors.

H. Coordinators: Glynn Johnson, Builders Brass, Door Controls, Ives.

I. Stops and Holders: Glynn Johnson, Builders Brass, Quality
1. Where wall stops are not applicable, provide floor stops.
2. Mount WB33 stops at ± 6ft. 6 in. unless otherwise directed.

J. Thresholds: Pemko, Reese, National Guard.

K. Weather-strip: Pemko, Reese, National Guard, Sealeze.
1. All mullions shall be weather-stripped.

L. Automatic Flush Bolts: Glynn Johnson, Door Controls, Ives

M. Kick Plates: Cipco, Building Brass, Quality.
1. Size: 8 in. height by width required to provide 1/4 in. clearance at sides of doors, stops, and weather-strips.
2. Drill and countersink for screws.

N. Electronic/Magnetic Hold Opens:

O. No substitutions for above listed manufacturers will be accepted.

2.03 KEYING

All cabinets in the nurse's office to have cabinet locks.
Each classroom to have at least one locking cabinet to match room key.

A. Doors Locks: Grand master keyed including construction keying, and control keying for core removable cylinders.

Cabinet Locks:

1. Furnish cabinet locks with cylinders, trim rings, keys and all accessories required for complete installation.
2. Furnish number indicated on Drawings.
3. Furnish Schlage 46-002 X 36-031 X 10-052 X 626 cabinet locks.
4. Key cabinet locks to match room door key.

B. Supply four (4) change keys for each room.

C. Supply keys in the following quantities:
   1. Six (6) each master keys.
   2. Four (4) each grand master keys
   3. Six (6) construction master keys
   4. Two (2) control keys
   5. Two (2) Key extractors
   6. Two (2) key biting lists.

D. Individual keying shall be as directed by the Owner, and shall be done at the factory. Coordinate keying with existing grand master keying systems as directed by the Owner's Representative. Arrange for availability of Hardware Supplier's Architectural Hardware Consultant to meet with Owner's Representative for developing keying schedule.

E. The lock manufacturers shall direct by way of registered mail, all change keys, master keys, and key blanks to Kenai Peninsula Borough Maintenance Dept., Atten: Locksmith, 47140 East Poppy Lane, Soldotna, Alaska 99669.

2.04 KEY BOX

A. Key Box: Sheet steel, welded construction, piano hinged door with pin tumbler type lock keyed separately from building system; portable; as manufactured by Telkee, Inc.

B. Box Size: 12-1/8 in. wide, 18-1/4 in. high. 5 in. deep.

C. Internal hooks for 125 keys.

D. Horizontal metal strips for key hook labeling with plastic strip cover over paper labels.

E. Finish: Baked enamel finish, standard color.

PART 3 EXECUTION

3.01 INSPECTION

A. Verify that doors and frames are ready to receive work and dimensions are as indicated on shop drawings.

B. Verify that power supply is available to power operated devices.

C. Verify that solid blocking for all wall stops is in place.

D. Beginning of installation means acceptance of existing conditions.

3.02 SURFACE CONDITIONS

A. Determine that all prior work is complete and surfaces are acceptable for subsequent operations. Promptly notify Owner's Representative of discrepancies and do not proceed until fully resolved.

B. Provide solid blocking for all wall stops.

C. Fasteners: Check all conditions and use fastening devices as needed to securely anchor all hardware as per manufacturer's published templates. Self-tapping sheet metal screws are not acceptable. All closers and exit devices on wood doors shall be thru-bolted.

3.03 INSTALLATION

A. Install hardware in accordance with manufacturer's instructions and requirements of SDI, ANSI/NFPA and BHMA.

B. Use the templates provided by hardware item manufacturer.

1. Whenever cutting and fitting are required to install hardware on surfaces which will be painted or finished at a later time, install each item completely and then remove and store until completion of the finishes. After completion of the finishes reinstall each item.

2. Do not install surface-mounted items until finishes have been completed.

C. Mount units at heights listed in "Recommended Locations for Builder's Hardware; by BHMA.

D. Conform to ANSI A117.1 for positioning requirements for the handicapped.

E. Fasteners: Check all conditions and use fastening devices as needed to securely anchor all hardware as per manufacturers published templates. Self-tapping sheet metal screws are not acceptable. All closers and exit devices shall be thru-bolted.

F. Adjust and check each operating item of hardware to insure proper operations and function of every unit.

3.04 ADJUSTMENT

A. Whenever hardware installation is made more than one month prior to acceptance or occupancy, make a final check and adjustment of all hardware items during the week prior to acceptance or occupancy. Clean and lubricate operating items as necessary to restore proper function and

finish of hardware and doors. Adjust door control devices to compensate for final operation of heating and ventilation equipment.

B. After mechanical systems have been balanced, adjust door closers to comply with the following ANSI requirements:

1. With the door open 70 degrees, the door closer shall be adjusted so that the door will take at least three seconds to move to a point where the leading edge of the door is three inches from latching.

2. The maximum force for pushing or pulling a door shall be as follows:

   a) Fire doors shall have the minimum opening force allowable by the appropriate administrative authority.

   b) Other Doors:

      Exterior Hinged Doors: 8.5 lbf

      Interior Hinged Doors: 5 lbf

   c) These forces do not apply tot he force required to retract latch bolt or disengage other devices that may hold the door in a closed position.

C. Conduct a final check of finish hardware the final week before acceptance, clean and adjust as necessary to provide proper function and operation. Instruct Owner's maintenance personnel in proper operation and maintenance procedures of hardware and finishes.

09250 GYPSUM WALLBOARD

A No nailing of G.W.B. allowed, screw attach only.

C Not recommended for corridor unless with wainscot.

A Not recommended for restrooms or shower rooms, investigate wonder board (ceramic product designed for ceramic tile), with ceramic tile, or thick set tile.

B Provide splash protection when used near fountain or sinks, and water resistant G.W.B.

A Provide solid framing behind all wall-mounted door stops.

A Provide backing at all joints.

09300 TILE

A Bonding tile will be by factory recommendations.

A Review use of wonder board backing, no waterproof G.W.B. allowed. Special specifications for wonder board max stud spacing 16" o.c., support all joints. Shim wall flush, plumb, and square.

B Tile works well in pool and shower rooms (Soldotna High School is good).

A Thick set floors in wet areas is a must.

B Prefer quarry tile for large kitchen installation. Set in place with epoxy grout.

A Shower rooms must have non-slip floors.

A Require a five year warranty on all ceramic tile work.

A Shower rooms shall have water proof membrane installed on sub-floor.

09500 ACOUSTICAL TREATMENT

B Nikiski Elementary gym has good acoustics, as does McNeil Canyon Elementary.

B Where sound treatment is necessary and lay-in ceiling panels are used, walls should extend full height and be sound treated. Caulk around perimeter of all walls.

B 2' x 4' lay-in suspended ceilings are preferred for classrooms, offices, etc.

A Hallway ceiling heights should be kept sufficiently high in corridors to prevent students from jumping up and hitting the ceiling. A desired ceiling height in junior and senior high schools is at least 11 feet. When ceiling heights must be lower, use impact resistant ceiling materials such as Tectum panels or plywood backed drywall.

A Suspended ceilings in corridors are a problem in junior and senior high school if not high enough, 10 foot minimum.

B Marlite panels have proved satisfactory where ceiling is exposed to abuse.

D Concealed spline ceilings NOT ACCEPTABLE.

B Gymnasium walls require special attention. These areas are used for concerts, plays, public meetings and lunch rooms, Carpet over plywood works well, McNeil Canyon Elementary is good.

A No suspended ceilings with tile in gyms.

D Unbacked, perforated C.A.B., Masonite, etc., not acceptable in gyms. Walls even above 8' are subject to impact by balls, shotputs, and kids.

C Prefer no acoustical metal ceilings.

09950 WOOD FLOORING

B Prefer hardwood flooring in high school and junior high gymnasiums. Provide proper materials, quality control to prevent "dead" spots. Provide anchored sleeper system.

A Special protection during shipment to control moisture content and monitoring of moisture during installation is a must.

A Gym floor system must be fully D.I.N. rated.

D Steel splined gymnasium flooring not acceptable.

D Wood parquet gymnasium flooring.

A Vapor barrier and/or seal concrete sub-floors under gym floor.

A Installer must be certified by manufacturer.

A Vented floor systems with vented covering a must, unvented systems not allowed over concrete.

A Floor sealer and finish shall be approved water base sealer.

A Game line marking paint shall be oil base enamel. Tape not allowed.

A Game line layout shall be reviewed by School District Athletic Personnel.

09650 RESILIENT FLOORING

B Good for small kitchens; other similar areas. Cove up for continuous base, easy cleaning, eliminates base molding.

C No cutback adhesive.

A Close control of temperature during installation is required.

C No 12" x 12" floor tile in bathrooms or similar areas.

B Use sheet vinyl in classrooms around sinks, also in art classrooms, science rooms, dark rooms and other wet work areas.

09680 CARPETING

D Plastic insert tracks on floor covering.

A 20 lb. tuft bind or woven through the back goods only.

A Direct glue down only, release type glue not allowed.

A Carpet and installation shall be warranted a minimum of five (5) years.

A Carpet shall be run to manufacturer's recommendations. Indicate carpet direction on drawings. No visible seams will be accepted.

A Carpet scraps larger than 3' x 3' shall be left at the job site.

B Avoid carpet in traffic areas where there are not classrooms.

09700 SPECIAL FLOORING

A Sheet vinyl in wet areas, sinks, drinking fountains, etc.

B Prefer rubber tile set in epoxy on multi-use floors in elementary school gyms and hardwood in junior and senior high school gyms. Special attention toward humidity in hardwood floor areas.

A Locker rooms are a special case and require special design attention. Non-slip floors in shower areas, pool areas and walkways are essential.

A Paint floors in Mechanical Rooms and clear water seal.

A Treat all exposed concrete floors with hardener.

09900 PAINTING

Manufacturers:

B Fuller O'Brien, Devoe
B Devoe Coatings
B Glidden Coatings and Resins
B Clorox Corporation/Olympic
B Minwax
B Columbia Paints
B Sierra Coatings

A Corridors, kitchens, locker rooms, restrooms require special attention; durable finish such as semi-gloss Alkyd heavy duty enamel or epoxy have performed well, very smooth straight wall finishes not preferred due to magnifying of defects, prefer slight texturing or other effects. Kitchen walls must be smooth surface (epoxy paint).

D No flat latex paints allowed.

A Semi-gloss latex enamel all classrooms.

A Hard or semi-gloss finish: All natural wood (lacquer or varathane finish).

A All metal door jams to be gloss Alkyd heavy duty enamel.
A Kitchens require smooth cleanable finishes.

A Tightly control moisture in block prior to painting.

A Semi-gloss oil enamel paint minimum quality.

D Flat Paints not allowed (except ceilings).

D Painted block walls in kitchens not acceptable. Consult A.D.E.C.

A Exterior and interior block and concrete walls shall be sealed with block fill.

D Semi-transparent wood stains not allowed on exteriors. No exterior painting done after September 30th unless 45° air temperature.

A All exterior wood should be back primed before put on building.

B One coat of enamel undercoat after blockfill on block walls.

A All painted metal doors and jambs (pre-primed), two coats Alkyd semi-gloss oil - smooth finish.

A Exterior wood buildings: If latex is used, wood should have a coat of oil base primer and two coats of 1009 acrylic latex.

A Galvanized metal ladders and handrails should not be painted. If painted, need to be etched, then primed and epoxy paint used.

09950 WALL COVERINGS

D Vinyl-coated fabric wall covering, wallpaper and other fabrics -- NOT ACCEPTABLE for corridor walls; tack strips in elementary corridors is good.

D Wallpaper generally not acceptable.

B Cork wall covering good for classrooms, but must be dense surface.

D Open grain "natural" cork surface crumbles and is NOT ACCEPTABLE.

B Walls in gym should be designed to reduce reverberation and absorb sound. This is very critical when gym is multi-purpose.

A Interior partitions to receive washable pt gloss or semi-gloss. No flat latex.

10100 CHALKBOARDS and TACKBOARDS

A Chalkboards should be green or tan, be well lit and have a 25 year manufacturer's warranty. Tackboards should be of a durable, non-disintegrating material. Use modular mounting systems allowing height adjustment and interchange and section replacement of panels.

B Chalkboards: 4' x 12' standard size, math room 4' x 16' with 4' grid area. Map rails with map hooks on all chalkboards. Also, two flag holders per classroom are required. White chalkboards for felt tip markers desirable in some areas, review with user.

B Tackboards: Require dense finish, 1/4" cork on 1/2" backing, 4' x 12' standard with aluminum frames.

C Fastening of boards to wall has occasionally been a problem. Provide adequate backing.

B Provide tack rails in elementary school corridors.

10150 COMPARTMENTS and CUBICLES

B Toilet partitions: Should have floor to ceiling braces with extra framing in ceiling for attachment, if required. Top rails should be designed to discourage swinging from them. Extra reinforcement must be provided where access attach. Solid plastic should be used in pool areas.

D Built-in aquariums are prohibited.

10260 WALL and CORNER GUARDS

B Prefer corner guards in corridors and other high use areas. Not necessary on C.M.U.

10350 FLAGPOLES

B Prefer 30' tapered aluminum poles with built-in cord.

10400 IDENTIFYING DEVICES

B Provide school name on exterior of building.

B Make sure it is done, standardized; coordinate with Kenai Peninsula Borough School District.

B Provide road sign.

10500 LOCKERS

A Require well ventilated lockers in locker rooms. Debourgh All American or KPB approved equal.

A Check with KPB on hall lockers.

B Prefer sloping top lockers in corridors with integral combination lock.

B Coordinate with KPBSD on locker types.

B Homer high School wardroom lockers are good.

A In elementary schools, coat and boot racks are required.

10600 PARTITIONS

A Folding partitions: Must be Modernfold, Spacesetter Model 202, or approved equal. Utilize tackable fiberboard covers with vinyl fabric or chalkboards as appropriate. Provide for secure attachment to the floor when closed. No access doors should be used through partitions. Have Contractor expedite track delivery, as it is often a long lead item. Heavy duty rollers on top.

B Folding partitions at Redoubt Elementary are good.

D Accordion-type folding partitions not acceptable.

C We have had poor experience with demountable, folding, portable and otherwise non-permanent partitions. Design carefully and review with KPB. Review bottom bracing system.

10670 STORAGE SHELVING

B Coordinate with KPBSD. Identify who furnishes.

10800 TOILET and BATH ACCESSORIES

B Specialties: Toilet accessories, shall be Owner furnished, Contractor installed. Coordinate delivery and blocking requirements with School District Purchasing, at telephone number 262-9361. Include:

1. Soap dispensers
2. Paper towel dispensers
3. Toilet paper holders

Standardize.

B Metal framed mirrors in all bathrooms. Secure list from KPB School District Purchasing.

GENERAL NOTE: Very carefully review each piece of equipment to be placed in building (i.e. size, storage, access, power required, water hookup, exhaust, code problems, etc.). Provide list of all Contractor installed equipment to KPBSD Purchasing department.

11100 BANK and VAULT EQUIPMENT

A All vaults shall be fireproofed for student reference storage.

D No floor safes.

11180 DARK ROOM EQUIPMENT

A Eye bubbler required.

A Coordinate with KPBSD (secure information on standards from School District teaching personnel).

A Require acid resistant countertops.

C Prefer no revolving darkroom doors.

A Adjustable water mixing valve.

A Ventilation with hood over chemical counter and sinks.

11400 FOOD SERVICE EQUIPMENT

(Add) Coordinate carefully size of kitchen sinks, spray nozzles, dishwasher installation, and size and type of trays to be used. Grease trap must be provided in kitchen, for sinks. Be sure that proper water temperature is available. Have State Department of Health review and approve entire kitchen installation prior to final drawings.

A Review with Owner, consult with registered food service consultant.

B Contractor to furnish and install for large facilities.

B Check with KPBSD for preferred brands of equipment. Check with KPBSD and size doors to fit cafeteria tables or other equipment with special width or height requirements.

A No built-in tables.

A Design adequate exhaust for kitchen equipment (exhaust hoods for all heat producing equipment, exhaust fan for kitchen in general, satellite kitchens in general have experienced uncomfortable heat build up due to inadequate exhaust). Shunt trip breakers and solenoid gas valve.

A Install Class 2 exhaust vents in all satellite kitchens.

A Garbage disposal and hot water booster.

11500 ATHLETIC EQUIPMENT

A Backboards: Coordinate with KPBSD. Contractor furnish and install, keyed switching. Heavy duty worm drive winches. Basketball rims to be safety chained to backboard.

Nevco Daktronics scoreboards most acceptable. Be sure to provide conduit and wire to scorers location. If curtain is used to divide court, two scoreboards required and three scorer locations. Provide scoreboard protector screen.

A Gym Dividers: Will go full width or length.

B Portable Gymnasium Equipment: Owner supply, Contractor install. Coordinate floor plates and anchors. Prefer Proter, Nissen plates.

A Hydrotherapy equipment shall be Contractor furnished and installed with permanent UL approved electrical connection. Ground fault protection.

A Require double metal doors for gym equipment storage room. Verify height and width. Will handle largest piece of equipment to be used and stored.

Require lift for transfer of athletic equipment if facility has upper gym area.

11500 INDUSTRIAL EQUIPMENT

B Paint spray booths, Contractor furnish and install. Vented to outside.

A Require master shunt trip for all rotating shop equipment.

We have experienced problems with extremely noisy shop dust collectors. Suggest separate room for collector. Coordinate closely dust collection system and shop equipment. Purchase ducts for collection should be under slab if possible. Also provide inlets in floor that doors can be swept into.

A Shop Equipment: UL approved. Owner specified, Contractor furnish and install. Coordinate size, type, etc. All work benches shall be equipped with given disconnect air hoses and piping.

A Eye bubblers in all shops.

11600 LABORATORY EQUIPMENT

A Require master shutoff for gas.

A Require automatic emergency shower/eyewash station, with floor drain. Provide acid proof drains, tops and sinks. All lab sinks must have trash trap, for easy clean out.

A Fume hood shall have explosion proof motors, lights and switches. Duct hoods directly to exterior of building.

ART ROOMS

A Shall have exhaust vented to outside with explosion proof motors, lights, switches, no substitutes. Over kilns.

A Eye bubblers required.

12300 CABINETS and STORAGE

A Plastic Laminate cabinets. Prefer Monitor, Fleetwood Harmon (Coastcraft).

B Wood cabinets. Prefer Kewaunee.

C We have had some problems with warping of full-length cabinet doors (i.e., 6' ±).

12500 WINDOW TREATMENT

D No blinds on interior relite windows.

D No blinds on interior doors.

B Prefer Levelor blinds or approved equal.

B Drapes in music rooms as required for acoustics. Contractor furnish and install.

12670 RUGS and MATS

B Prefer secured grating at exterior of main entries under overhang. High heel shoe proof. Grating must be bolted down. Minimum of 6" pit.

127000 SEATING

A Prefer steel backed auditorium seats, Owner approval required.

A Bleachers: Molded plastic seats, closed deck design, electric powered extension and retraction. Installation by factory trained personnel. Locks shall be required with Schlage keys coded to building master. Key on wall outlet must be visible to see bleacher from front.

D Metal bleachers not acceptable (Interkal not acceptable).

13100 AUDIO METRIC ROOM

A Wenger, Industrial Acoustic or KPB approved equal.

13850 SWIMMING POOL

A Prefer tiled concrete pool, must be thick set tile. Deck must be concrete, broomed finish and not painted.

D Aluminum pools not acceptable.

A Require maxiflex diving boards. Require KDI Paragon stanchions.

A Require Strantrol pool chemical control system.

B Prefer dry chlorine system.

A Prefer sand filter system.

A Lighting must be accessible from pool deck (i.e., not over pool).

A No heating controls over pool.

A Provide handicapped access to pool, shower rooms, and viewing area. Handicap lift into pool.

A Install eye wash and shower in Filtration Room.

A Install commercial grade pump in backwash pit to handle solids.

A Light fixtures shall be designed to operate in chlorine atmospheres and high ambient temperatures.

A All doors must be steel.

A Investigate use of sealed pump motors to prevent contamination from D. E., acid, pool water, etc.

A Wax sealed sprinkler heads required.

B Install waste water filter system, size to filter tank capacity. Install at exit door level, not down in pit.

A Require gutter overflow elevation within ± 1/8". Use stainless steel gutters.

B Prefer large rectangular filter element not multiple bundles with center core collection.

A Locate pool chemical control panel in pool manager's office.

C Consider adjustable floor in shallow end of the pool to allow for both competition and use by small non-swimming children.

B Prefer automatic level control add water device and a manual fill.

B Provide good access to filters, floor level, not in sump where custodian stands to add chemicals and filter material.

A Top of filter tank must be above pool level.

A Prefer plastic PVC Sch. 80 supply and return lines.

A Provide 1" hosebib with rack and valve in pool equipment room for filter backwash.

A Provide several hosebibs, hoses and pool cleaning equipment storage facilities around the pool deck.

B Provide for spectators at meets; possible broadcast capabilities.

A In the chlorine storage tank room we want the room heated.

A In the chlorine storage tank room we want all the duct to be stainless and the fan housing stainless (exhaust system).

A Make-up air to chlorine storage room must come from outside.

A Duracon 200 coating on all pool lockers; must be 75% ventable.

14200 ELEVATORS

B Elevators may be more cost effective than ramps.

B When elevators are used, maximize use to permit freight, gym equipment, etc. and not just handicapped students.

A Meet all A.D.A. Codes.

14300 HOISTS and CRANES

B Where facility has an upper deck, provide hoist for moving athletic equipment back and forth. Keyed switch.

15010 GENERAL PROVISIONS

A Asbuilts are essential. This must be spelled out very clearly in the contract documents and must be diligently pursued during construction by Owner, Designer, and Contractor.

A Inspection: Mechanical inspection is critical, particularly anything underground, before covering.

A Maintenance personnel, mechanical engineer, and mechanical contractor should all be part of the balancing team under the supervision of the mechanical engineer. Mechanical engineer responsible for balancing systems.

A Require day/night cycle on all air handlers.

A Paint-spray booths and swimming pools should be provided with adequate ventilation. The exhaust vent cannot be near a fresh air supply of H.V.A.C. systems. Swimming pools should be served by a separate mechanical system, inclusive of humidity control and ventilation preventing chlorine odor entering the rest of the school. Do not use aluminum pools. Check with D.E.C.

A Need to take extra consideration on air change over in shower rooms and computer rooms.

A Need to keep all plumbing vents and generator exhaust away from fresh air intakes.

15050 BASIC MATERIALS and METHODS

A No vitriolic piping shall be used for heating pipes or domestic water lines.

A Prefer 3' wide pipe chases; 18" too small, provide lockable, keyed to master access door and light with in use lighted switch, located outside of room.

A Ball valves preferred in all locations, full flow with stainless steel ball.

A Provide ball valves on air bleeders.

A Provide 6 oz. canvas jacket on ductwork and pipe in all mechanical rooms over insulation.

A Use only copper pipes for domestic water supply; type L or better.

A Prefer Powers show mixing valve.

B Threaded pipe is acceptable up to 2", flanged on larger to facilitate replacement.

A Circulating pumps to be Grundfos.

D Foil-backed all purpose insulation jacket not allowed.

15300 WASTEWATER TREATMENT and DISPOSAL

C Prefer no solenoid valves on high pressure lines, unless shock arresters are installed.

A Provide adequate floor drains in mechanical rooms, generator rooms, boiler rooms. Would like floor sinks in boiler rooms.

A Install floor sinks in Boiler Room near boiler relief valves. Install utility sink in Boiler Room.

A Provide grease traps for all kitchens.

B Prefer two-compartment septic tanks, steel or concrete tanks acceptable. Size for expansions.

A Locate septic system to allow for pumping; future expansion.

B Leach areas. Prefer deep absorption trench in most cases.

15400 PLUMBING

A Provide full backing for wall-hung plumbing fixtures (bond beam in CMU, (2) 2 x 12 in frame wall, etc.).

B Cleanouts must be properly placed and capped. One cleanout within 3" of outside building marked with 4" x 4", 5 feet above ground with base buried minimum 3'. LOCATE ON ASBUILT.

A Isolation valves shall be provided for each plumbing group, individual sinks, water heaters, heating zones, shower columns. All valves shall be full flow ball valves with stainless steel ball.

A Exterior cleanouts shall not have concrete poured directly around stand pipe or cap.

A Interior cleanouts shall not be covered with continuous runs of finished flooring (i.e. carpet, sheet vinyl).

A Wash fountains: Prefer Acorne stainless steel with foot valve. Match heights to users. Plastic cowling not acceptable.

B Provide air exhaust to all shop benches, and provide quick disconnect couplings on all air outlets.

A Review installation of all kitchen equipment closely, with mechanical, verify complete dishwashing system with KPBSD (i.e. tray size, water temperature required, special spray nozzle, number of tubs in sink, water booster heater, etc.).

A Provide plastic or pyrex traps in science rooms, not lead. Provide trash trap on science and art classroom sinks with easy access for cleaning.

A Master gas and water shut-off required for science room, and overhead sign indicating location.

A Drinking fountains to be American Standard or Haws.

A Provide vacuum breakers for all hosebibs in kitchen, janitor rooms, etc.

A Use Sloan or Zern flush valves with exposed body on toilets and urinals. No exceptions.

A No Delaney flush valves.

A Require recessed drinking fountains in adjoining gym area. American Standard or Haws, bubblers to be provided along with sink in all elementary classrooms. Push button.

A Provide flow restrictors on showers. Provide timers on all shower heads.

A Provide clean out manhole on domestic hot water tank, also room to pull heat exchanger coil. Domestic hot water tank should be concrete or glass lined.

A Provide floor sinks in Mechanical Room and Generator Room.

A Heating and/or domestic piping shall not be placed under concrete slabs.

A Construct three foot wide pipe chases wherever possible.

A All restrooms, dressing rooms, electrical, boiler, and mechanical rooms should have floor drains.

B Prefer boiler heat exchanger on domestic hot water heaters. Access manhole required for maintenance and cleaning.

A Prefer separate check valve on cold water side before mixing valves (prevents potential hot water flow to cold water line).

A No balancing valves used as shut off valves.

A Globe valves should be provided for boiler make up water, not gate valves.

A When not required for handicapped, want Delta 2523 for lavs, and avoid goose neck faucets in rooms because of breakage.

15500 FIRE PROTECTION

A Provide ABC Fire Extinguishers, 10 pound minimum (water-only not acceptable).

A BC for kitchen with dry chemical fire retardant.

B Provide fire blankets in Home Ec. and Auto Shops (similar to Soldotna High School).

A Sprinkler heads located in chlorine atmosphere must be dipped in wax.

D Grinnell sprinkler systems not acceptable. Parts malfunction, lack of quality performance on past projects (KCHS was a problem).

A Provide smoke detectors for supply and return air ducts. Connect to shut down fans and trip fire alarm. Also connect fire alarm to shut down fans.

A Kitchen hood extinguisher systems shall be dry chemical type with a remote pull station connect to fire alarm panel. Place valves and parts requiring service or testing in easily accessible locations.

15600 POWER or HEAT GENERATION

A Provide outside access to Boiler Room and Generator Room for equipment replacement and maintenance. Should be on ground floor.

A Burners: Gordon Piat very desireable.

A Use natural gas where available.

A Ground level double wall storage tanks shall be properly diked for fuel spills.

A Provide day tanks for burners, especially in penthouse. Install return line with check valve from burner to day tank. Size return line from day tank to main tank to handle volume of supply line. Use of teflon tape prohibited on all natural gas and fuel oil systems.

A Size of day tank shall be large enough to supply boilers with one (1) hour running time at high fire with both boilers running and in no case shall be less than 25 gallons.

A Do not skimp on space in Boiler Room, allow room to clean tubes and remove and replace equipment. An overhead traveling block may be appreciated.

D Boilers: Oil-fired Hydrotherm boilers not acceptable. Weil McLain is preferred.

B Fire tubed boilers preferred.

B Prefer large boilers able to handle 80% to 65% - 70% maximum load each. Prefer no modular boilers for large installations.

A Circulating pumps to be Grundfos.

A Provide oil level indicators on fuel tanks.

A Very Important: Boiler headers shall be quipped with a 1-1/2" tee and valve for hookup of portable emergence boiler.

D Slab heat systems not to be used.

A Floor sinks shall be placed in Boiler Rooms close to pumps, safety valves, and clean outs.

A Boilers: Up to 1.5 million BTU cast iron sectionals. Fire tube for oil fired installations. Prefer Weil McLain. Above 1.5 million BTU Scotch Marine. Prefer Kewanee, Burnham. No Cleaver Brooks.

A Specify low water cutoff on all boilers. Prefer float type MacDonald Miller No. 63.

D No electronic low water cutoffs.

D Glycol. Not to be used unless absolutely necessary.

15800 AIR DISTRIBUTION

B Prefer some hot water baseboard heat in facilities. This works better for emergency power, can run hot water circulating pumps when can not run large fans. 100% forced air results in cold spots because of short circuits.

A All perimeter rooms in a building shall have baseboard heat where possible.

A Provide adequate room to service and maintain air handling units (pull coils and fan).

B Prefer constant volume air systems.

A Air Handling Units: Pace only/Logic Air.

A Provide throw-away type air filters with two sets of filters in base bid.

A Provide for several spare access panels with locking doors to be installed in G.W.B. or C.M.U., located by field representative.

A Provide extra ventilation in computer rooms and all shower rooms.

B Convector covers: Slope or provide other solution to students sitting on them. Provide extra heavy duty covers and rigid attachment. Paint in field.

C Exterior vents, ducts: Problems with snow drifting and entering system, especially flush-mounted wall vents, roof top intake needs to be high enough to prevent snow blockage.

A Provide ball valves on automatic air bleed valves on heating system.

C Noisy unit ventilators are very irritating, avoid use of unit heaters in classrooms if possible, or provide sound dampening. Prefer large air handling system.

A Roof vents, exhaust and supply are required to be extended 4' above roof.

15900 CONTROLS and INSTRUMENTATION

A Use KISS method for control systems. Maintenance must be simple and parts available.

A Automatic controls must be used judiciously and purpose clearly marked.

A Provide blinking warning light on roof with mechanical systems tied in. Light comes on when building temperature drops below 50° F. Investigate automatic telephone dialer also. Required on remote facilities.

A Prefer pneumatic heating controls. On DDC controls, end drive device shall be pneumatic.

B Thermostats should not be accessible to students and covered if accessible, Unigard or equal.

B Prefer Honeywell boiler controls (better service and maintenance, though others have been improving).

A Pneumatic Controls: Prefer Honeywell, Johnson, No Robert Shaw. DDC Controls - prefer Siemens or Johnson.

A Air Compressors: Prefer Devilbiss or Quincy.

- A Day/night cycle timers on heating/ventilating system, with bypass timers on each zone.

- A Freeze controls for heating coils that have outside air duct to them. Prefer selectable automatic reset and manual reset.

- A Provide seven day clock that are programmable, that can be programmed for the year, 365 day with holiday programming.

16000 GENERAL PROVISIONS

A We have experienced problems with safe wiring of therapeutic pools. If conduit is provided then make connection under contract, ground fault protection a must.

16100 BASIC MATERIALS and METHODS

Provide spare conduit, minimum 3/4", no 1/2" EMT, pot metal cast/no malleable fittings, for electric power, clock and speaker system, central T.V., and fire alarm system, etc., terminate in entries or at other locations where future additions or improvements might take place. Provide adequate conduit for future expansion. Special attention to present and future computer use and cable T.V.

B Square D panel boards with bolt on breaker. Provide 50% general over required capacity. Specify in basic bid with plus or minus alternate for other manufacturers or equal. Surge protected panel - provided for computer outlets.

A Provide main disconnect for each facility. Maximum amperage on each disconnect limited to 800 amps. No solid wire allowed.

D Floor mounted monument type outlets not acceptable. Provide recessed only with closeable lids and corrosion protection for boxes. Metal lids only.

A Do not skimp on outlets. (Two to three, 20 amp circuits per classroom).

A Plug mold above base cabinets works well (2 circuit plug mold).

A Review outlet. Lay out on a room-by-room basis with user group.

A Floor boxes to be concealed service or stage pocket style. No floor outlets.

A Use steel electrical cover plates in corridors, gyms, multi-purpose rooms and other areas subject to abuse or impact.

A Emergency/Night Lights: BAS (Building Automation System). For buildings not used on a 24-hour per day basis automatic control of corridor emergency/night lights should be considered to allow the corridors to be "blacked out" during unoccupied hours for energy and equipment wear savings, and so that intruders do not have light to make their way around the building. These lights should be switched back on automatically whenever the building is scheduled for occupancy or when a security or fire alarm is received. Control of emergency/night lights may be accomplished by providing a lighting contactor adjacent to the electrical panel presently feeding these circuits. The existing

circuits should be re-routed through the contactor which in turn is controlled by the time clock.

A Site Lighting: Site lighting should be shut down under program control late at night for the following reasons: *(Again, in the summer outside lights rarely come on, if but for a few hours. In the winter months, we need all the light we can get around the building. We feel it cuts down on intruders and vandalism. In many schools, we find it better to by-pass the time clock.)*

1. To provide a "blacked out" site to discourage people from loitering on the site during unauthorized hours. Exterior lighting shall be easily accessed, maintained and replaced.

2. To reduce electrical energy consumption.

3. To extend the life of equipment by reducing use by approximately 50% per year.

4. To reduce the public's perception of waste.

Automatic control of site lighting by the PLC lights to be switched on whenever a fire alarm is received at night. Control of site lighting by the PLC is accomplished by interfacing the existing site lighting contactors or low voltage relays to the system. All exterior/underground shall be in rigid conduit, a must, with ground polled.

A Utility Monitoring: The following items dealing with utility services (electric, gas) shall be monitored:

1. Electrical consumption and demand.

2. Natural gas consumption.

Electrical consumption and demand shall be monitored via a meter pulse device. Installation of the meter shall be coordinated with the appropriate utility.

Natural gas consumption shall be monitored by a retrofit pulse meter provided by the appropriate utility.

16200 POWER GENERATION

A All facilities shall have standby power generation equipment. Fuel shall be diesel, unless otherwise required. Gasoline not acceptable. Tank heater on generators, automatic fill day tank, detail exhaust and allow large enough opening and access for replacement of entire unit. Require automatic transfer switch. Batter float charger. In unheated areas, block heater should be connected to heat lower block engine oil as well.

A Main Service: Allow for 50% future expansion, and design for minimum number of meters, so as to take advantage of demand use rates. Main service not to exceed 800 amps, if more power is needed use multiple disconnects.

B Prefer underground service in rigid conduit from property line.

A Phase failure for all mechanical.

A 30 amp GFCI, Hose, Septic at Camp Ground for school host at two locations. These can and should be locations the School District has picked out in conjunction with the Maintenance Dept.

16500 LIGHTING

A Provide a battery pack emergency light in Generator Room, Mechanical Room, Kitchen, Office, Boiler Room and any interior room with no exterior windows.

B Provide florescent fixture in Generator Room, Mechanical Room, Boiler Room, and Kitchen. Connect to "E" panel.

B Provide simple but adequate lighting in crawl spaces, pipe chases, utilidors. In these areas a lighted switch that indicates when lights are on is desired, outside of room.

B Gym lights (cord & plug - safety chained), exit lights in gym, outside lights and outside speakers, and emergency lights need "Lexan" guards.

C Use of controlled dimmer lights (Lutron Palsar) (not recommended).

A Provide timer or other control to minimize power wastage of all outdoor lighting with special attention to skating rink lights and tennis court lights. (Three hour timer).

A Investigate alternative switching of lights and possible use of energy efficient ballast. Separate switching of each bank of lights or half of each bank on separate switch.

A Require vandal protection for exterior lighting. (Lexan)

A Standardize fixtures and bulbs whenever possible. By-pin type florescent holders preferred. Push-in pin sockets, not twist in.

16600 SPECIAL SYSTEMS

A Provide shunt trip switch to shut off all equipment in shops -- ready access. All shop equipment to be U. L. approved.

A Provide self limiting heat tapes on all roof drains that are exposed to freezing. Pilot light switching.

A Provide emergency and standby lights, particularly in pools, locker rooms, toilet rooms, corridors and non-windowed rooms.

B Provide override switch in business machines room and computer rooms for security. Surge protection on computer circuits.

A Use LED exit lights wherever possible. Otherwise standardize all exit light bulbs. Check with Borough Maintenance.

C We have experienced some problems with combined corridor lighting emergency lighting at Seward High School.

16700 COMMUNICATIONS

B Standardize where possible. Dukane battery operated clocks. Dukane intercom, MES 350 or Starcall.

A Provide conduit installed for future installation of cables for television systems, computer systems, and satellite T.V.

B Provide master T. V. antenna equipment in systems. Broadband with single antenna with cables to Library.

B Telephone Systems: Coordinate with KPBSD.

B Separate broadcasting capabilities needed in gym for two hook-ups.

B Review public address systems for athletic fields, swimming pool, gym, auditoriums, with KPBSD. Also should be designed with high noise levels, in mind, to provide adequate coverage to all areas. Phone to athletic fields.

B Provide solid state bell system. Phone to athletic fields part of intercom.

A Provide battery operated room clocks for all sites. Rauland digital system is good if installed properly.

A Interface of existing systems with additions requires extra special attention. In some cases an upgrade of the existing may be required. Provide adequate inspection at end of project to confirm system is complete.

B Provide "call" buttons next to light switches as part of intercom system.

A Provide provisions for connection of the fire alarm panel into the telephone lines with after-hours automatic dialing feature.

A Gym Scoreboards: Standardize, Daktronics or Nevco scoreboards, Install protective nets for scoreboards. Wireless control, athletic field included.

A Basketball Backboards: Should have redundant limit switches. Should use momentary gym curtain key switch raising and lowering controls.

A Security Alarms: Should have auto-dialers with 4 telephone number dialing capabilities. Should use door switches. Provide motion detectors in office and computer rooms. Provide interior and exterior horn type sounding devices.

A Theater Lighting: Manufacturer to provide maintenance training or supply a factory representative to demonstrate systems to Maintenance and users.

A Dimmer equipment must be located in dust free atmosphere. Strand equipment.

IV. ARCHITECT SELECTION

A. Architect Selection and Responsibilities

The architect is a key member of the executive planning team. He has the primary responsibility for translating educational concepts and functions into educational facilities that are conducive to effective learning.

In most states, minimum qualifications for school architects are prescribed by law. In and of itself, however, the employment of an architect does not automatically assure a board of higher authority he or she will design a school to satisfy their institutional needs. The architect should be creative, competent, flexible, understanding, perceptive of educational needs, open-minded, aesthetically oriented but cost-conscious, imaginative, and practical, and cooperative in spirit. He/she should:

- Possess a thorough knowledge of building design, economical construction methods, and efficient use of building materials.
- Be endowed with creative ability and artistic talent. This characteristic can be judged by reviewing past works, which need not have been school buildings.
- Work harmoniously with individuals or groups of people.
- Be open-minded and willing to explore new ideas. He should refrain from imposing his will upon the executive planning team with respect to educational matters or architectural design that may adversely affect the educational program.
- Be willing and able to follow detailed educational specifications for the design of a school.
- Be capable of producing final working drawings that are clear and precise.
- Conduct herself professionally with dignity, integrity, and honesty.
- Demonstrate his ability to provide for aesthetics in school design without sacrificing function or ignoring cost.

As soon as funds are available for the employment of an architect, the institutional board of authority should widely publicize its intention to employ an architect for a given project. The employment of an architect by a board of education is one of the most important duties they will perform in the construction of an educational facility.

Because school officials frequently have certain misconceptions regarding the responsibilities and duties of an architect, below are listed the usual areas of responsibility in a normal contract:

- The architect is responsible for architectural programming. He is not responsible for educational specifications.
- She is responsible for preplanning studies. She is not responsible for making the final choices among the alternatives she may present as possible solutions to the educational problem.
- He is responsible for preliminary plans, large-scale drawings, and final plans and specifications to be approved by school officials. He is not responsible for

making architectural changes, at his expense, after final working drawings have been approved by the board.

- She is responsible for bidding and contract award. She is not responsible for the legality of the contracts as to form or content. She is not responsible for continuous "on-the-job" supervision, unless it is so specified in the contract.
- He is responsible for all architectural matters related to the acceptance and occupancy of a school.
- She is responsible for overseeing the correction of defects in construction during the warranty period and acts in the interest of the owner.
- He is responsible for the selection and installation of all fixed equipment. He is not responsible for the selection and purchase of movable equipment when he is paid only the normal architect's fee.

B. Architect Request for Proposal Samples

REQUEST FOR PROPOSAL

Architectural and Engineering Services for Design and Construction of Three Prototype Elementary Schools:
West Homer Elementary School
East of Soldotna Elementary School
Seward Elementary School

I. Introduction

The Kenai Peninsula Borough School District ("District") is seeking the services of a qualified Architectural/Engineering Consultant ("Architect") to prepare design and contract documents for the West Homer Elementary School, East of Soldotna Elementary School and Seward Elementary School projects. The architect will work under the direction of the Public Works Department of the Kenai Peninsula Borough and their Project Management Consultant ("PMC") to be selected prior to award of Architect contract. The contract will be negotiated by the Kenai Peninsula Borough Public Works Department and approved by the Kenai Peninsula Borough Assembly.

The reality of the project is dependent on approval by the Kenai Peninsula Borough Assembly, the Kenai Peninsula Board of Education, and on voter acceptance in the Borough Bond Issue Election scheduled for October of 1986. Continuation of architectural work beyond each phase of design is dependent upon approval of the design phases and authorization to proceed to the next phase.

The cost proposal must be submitted in a separate sealed envelope.

The Kenai Peninsula Borough School District reserves the right to reject any and all proposals, and to waive any informalities in procedures.

The project is described in the attached educational specifications, and is outlined below:

New elementary schools consisting of 50,000 programmed SF utilizing Kenai Peninsula Borough-owned prints of its prototype 500 student elementary school. These schools may need minor modifications and site adaptation.

West Homer Elementary School, Homer, AK:

Construction Budget: $6,502,169 (includes site development)

Project Schedule:

Design	December, 1985 – February, 1987
Bid Opening	April, 1987
Construction	May, 1987 – June, 1988
Occupancy	July, 1988

East of Soldotna Elementary School, Soldotna, AK:

Construction Budget: $6,502,169 (includes site development)

Project Schedule:

Design	December, 1985 – February, 1987
Bid Opening	April, 1987
Construction	May, 1987 – June, 1988
Occupancy	July, 1988

Seward Elementary School, Seward, AK:

Construction Budget: $6,502,169 (includes site development)

Project Schedule:

Design	December, 1985 – February, 1987
Bid Opening	April, 1987
Construction	May, 1987 – June, 1988
Occupancy	July, 1988

There are two time phases pertaining to Architect services: pre-election service and post-election service. The contract period of performance is anticipated to commence on or about January 1, 1986, and continue through completion of the project identified previously.

Time is of the essence for this proposal. Interested architects must submit twelve (12) copies of the requested proposal to the following address by no later than 4:30pm, AST, November 8, 1985:

Associate Superintendent of Planning and Operations
Kenai Peninsula Borough School District
148 North Binkley Street
Soldotna, AK 99669

II. Scope of Work

The design shall incorporate the Architect's best efforts to achieve an optimal combination of considerations, including cost, function, reliability, material deliverability, simplicity, maintenance requirements and adherence to applicable codes, standards and specifications.

The full scope of architectural services required is described in the sample contract appended to this document. A summary of services required is listed below:

A. Conceptual Development and Schematic Phase – The Architect will prepare several alternative design concepts, accompanied by cost estimates, which are fully consistent with the District's educational specifications, standard design criteria and project budget. Where applicable, the concepts should be compatible, to the extent feasible, with existing facilities and surroundings.

The concepts should also take into account the needs and preferences of user and other community groups.

B. Design Development and Preparation of Construction Documents Phase - The Architect will prepare this work based upon a District-approved schematic design and cost estimate. The documents should allow for any phasing of construction identified as necessary to accommodate seasonal usage of facilities, budgetary limitations, or other constraints.

The drawings shall be accompanied by a construction cost estimate ("Statement of Probable Construction Cost") including a bidding and design contingency, prepared in CSI format. Should construction bids exceed this figure, the Architect shall amend the construction documents accordingly for no additional compensation. Construction drawings shall be of "zero-defect" quality to minimize field redesign requirements.

C. Bidding or Negotiation Phase – The architect, following the District and Borough's approval of the Construction Documents and Statement of Probably Construction Cost, shall assist the District and Borough in obtaining bids or negotiated proposals.

D. Construction Phase Service – The Architect will provide periodic inspection of the work when and to the extent called for by the Borough or PMC. The Architect will be responsible for clarification of contract documents, and shall also be responsible for review and approval of shop drawing submittals. Construction contract administration will be provided by the PMC.

E. Post Construction Phase – One year warranty reviews will be required but compensated for separately and should not have a compensation response to this RFP.

F. Owner and Public Involvement – The Architect will be expected to closely coordinate with staff, user groups, District and Borough officials, advisory boards and other concerned parties. Formal reviews or presentations will be conducted a minimum of once during each phase (Conceptual Design, Design Development, Construction Documents) with each of the following groups:

- Parent/User Advisory Committee
- Program Review Team
- Construction Advisory Board
- Board of Education
- Borough Assembly

Professionals for all design disciplines shall attend each meeting of the Construction Advisory Board. One review meeting of the CAB will be held during the Construction Document stage. At least one presentation each will be held for the Borough Planning and Zoning Commission and an appropriate

local body, such as the appropriate city council, city advisory planning and zoning commission or community council.

In addition, Architect will be expected to be available to meet weekly with the PMC to review design progress.

III. Compensation to the Consultant

The compensation for Architect services shall be proposed in accordance with the following criteria:

1. There is to be a payment schedule for both pre-election (schematic through design development phases) and post-election (contract documents through construction phase) services, with the understanding that should the bond issue election fail to pass, the District would not be obligated for post-bond election compensation.
2. Within the categories identified above, compensation is to be structured in three parts:
    a) Fixed Fee – Lump sum amount to include cost of all home office overhead, inclusive of overhead contribution of all other project personnel, company benefits, and company profits.
    b) Reimbursable Labor – Estimated "not-to-exceed" cost of all project personnel (home office and field). Cost is considered to be base salary plus direct payroll burden; any markups are to be included in (a) above.
    c) Reimbursable Non-labor – Estimated cost of all expenses associated with the proposed service. Cost is considered to be actual cost as expended; any markups are to be included in (a) above.
    d) Field inspection services will be reimbursed in accordance with respondent's normal building rates; schedule of which is to be a part of this response.
3. The proposal will include a clear definition of what is to be included in the cost of expenses other than salaries and wages. The reimbursable salaries and wages apply only to persons assigned directly to the project. Cost estimates should be based upon the scope of work listed in Section III and project budgets and timetables listed in Section I.
4. To further assist in evaluating the level of service the proposal represents, a schedule of man hours by discipline is required as a part of each proposal.

IV. Proposal Submission Requirements:

A. Because the District intends to rely on the record and experience of the Architects to ensure effective design of these projects, it is appropriate that each proposer use his own discretion in the approach and philosophy of management style.

However, in order that all proposals receive a fair evaluation, each proposal should contain at least the following sections:

1. Philosophy – This section should provide a discussion of the philosophy of management which the proposer will apply to its own performance on this project.
2. Approach – Provide a narrative explaining the proposer's understanding of the tasks required and important considerations of design for projects of this type and size.
3. Methodology – This section should contain detailed and specific discussion of proposed methods, techniques, staffing and reporting relationships, including any reference to planned or potential subcontractors. Joint proposals should be well coordinated and existence of prior working relationships, if any, should be documented.
4. Firm Experience and Capabilities – This section should detail the background and qualifications of the proposer so as to establish his experience and performance in the management of projects similar to these and capability to provide the services required in a manner consistent with the project schedule and budget. Specific reference should be made to, though not necessarily limited to, the following:
    - Names of principals in the proposer's organization, including degrees, registration and other qualifications, experience, availability and current and proposed location of all key individuals to be assigned to this project. Current and future commitments of all key personnel proposed must be identified for the period of the project.
    - Experience in managing other projects similar in scope and type, including location of each project and name of contracting officer/agency.
    - Experience in working with borough, city, municipal or other governmental jurisdictions.
    - References which may be contacted, including a bank reference.
    - Other resource available for the project.
    - Federal Form 254.
5. Cost Proposal – This section should contain a cost proposal for providing services in accordance with Sections II and III and the sample contract. Proposers should submit the fee proposals in sealed envelopes. Cost proposals should also break down each major category (fixed fee, reimbursable labor and reimbursable expense) into pre and post-bond election components. The cost proposal should provide for all services called for with the exception of construction inspection, which will be compensated on an hourly basis. Estimated man hours, displayed by discipline, should be included in support of the cost proposed. Exclusions must be clearly identified.

B. Proposers should note that if selected their proposal may be incorporated by reference into their contract.

V. Selection Process and Criteria

Selection of the successful consultants will be entirely at the discretion of the District. The District reserves the right to reject any or all proposals. All proposals will be reviewed by a selection committee consisting of District and Borough administrative and technical staff. Following evaluation of the submittals, the committee will select a maximum of three firms, which will be requested to attend oral presentations and interviews on November 22, 1985, with a rating committee. Any or all may also be requested to present their proposal to the Board of Education on December 1, 1985. The Board of Education will select the architect and recommend them to the Borough based upon the advice of the committee, the Superintendent and the proposals submitted. Selection will be based on the following evaluation criteria:

Evaluation Criteria

A. Philosophy	10
• Appropriateness of philosophy	
• Attitude and interest	
B. Approach	10
• Understanding of tasks required	
• Appropriateness of overall project plan	
C. Methodology	30
• Suitability of proposed methods and techniques	
• Project team organization	
• Management plan	
D. Firm Experience and Capabilities	30
• Experience and qualifications of project architect	
• Experience and qualifications of other proposed staff	
• Specific company qualifications for proposed work	
• Specific firm experience and performance on projects of similar size and scope	
• Previous firm experience in project area	
• Previous firm experience in similar school work	
• Previous firm experience with similar local government work	
• Firm resources to meet schedule and budget	
• Location and accessibility of firm's home office	
E. Cost Proposal	20
• Total cost (fixed fee plus estimated reimbursables)	
• Proposed man hours by discipline	
Total Maximum Score	**100**

Conclusion

This solicitation does not commit the Kenai Peninsula Borough School District to pay any costs incurred in the preparation, presentation or return of submittals, including interview time or to select a consultant.

COST PROPOSAL

Project	Fixed Fee	Labor Est	Expense Est	Sub-total	Fixed Fee	Labor Est	Expense Est	Sub-total	Total
West Homer Elem									
Seward Elem									
East Soldotna Elem									

C. Architect Selection Rating Criteria

Scoring of Proposal
Evaluation Criteria for Architectural Services Proposals
Kenai Peninsula Borough School District
Bond Issue Projects

INTRODUCTION

This document is written to serve as a guide for committee members involved in the selection of Architects for the Kenai Peninsula Borough School District's proposed school bond issue. It is important to keep in mind that the evaluation criteria contained herein are not intended to be a rigid framework, but rather a flexible means of organizing and compiling evaluations of the many diverse factors which must be considered in making a selection. Hence, the reviewer is urged to rely on his own judgment or interpretation in reaching a decision on the final point score for each proposer.

Re: A – Philosophy

This section is intended to provide an opportunity to gauge the proposer's view of their role in carrying out the project. Since many different philosophies exist about how design efforts should be carried out, each proposer's philosophy should be judged separately on the basis of its appropriateness for this program, as well as general attitude and interest which it indicates.

Re: B- Approach

In this section, proposers are asked to delineate their understanding of the program and the task required of the Architect and others to successfully carry out the project. Proposals should elaborate on the proposer's conception of major tasks required, and present their general approach or concept to completing the project. Points should be awarded based upon the proposer's <u>overall</u> understanding of the project, its requirements and their presentation of a framework or outline plan for approaching the project.

Re: C – Methodology

The previous sections have provided an overview of project requirements and some overall concepts or framework for the project. This section should elaborate on these ideas in detail, conveying a clear picture of specifically what services will be performed, when they will be performed, who will perform them and how they will relate to overall project objectives.

<u>Suitability of Proposed Methods and Techniques</u>

Work activities should be clearly spelled out in terms of their purpose, how they will be accomplished, when they will be accomplished and who will perform them. The activities should be logically connected and should clearly support the overall project purpose, that of delivering quality schools within reasonable time and budget objectives.

Reviewers should evaluate the completeness of the methods and techniques proposed, focusing on completeness and appropriateness for the project. The methodology should be compatible with District and Borough procedures and should recognize the difficulties

inherent in accommodating the often divergent requirements of staff, user groups, community groups, elected officials and administrators.

Project Team Organization and Management Plan

Since many activities will occur simultaneously, typically at several locations, it is imperative that organizational lines be clearly defined. Clear lines of authority and communications should be shown for the contractor's proposed team as well as for the project teams' interface with the District, Borough, PMC, contractors and others involved in the project.

Given the likelihood of geographical separation of project activities, communications are particularly important. The Architect's team must be capable of effectively managing and expediting communications at all levels, both internally and externally. Proposals should enumerate a plan and procedures for handling this challenge.

Re: D – Firm Experience and Capabilities

Proposers should demonstrate that they have assembled a project team which is professionally qualified, is experienced in both design of successful similar projects and is backed by firm resources capable of accommodating potential changes in project scope. The team members also should demonstrate, through past experience, the capability of working closely together over an extended period of time.

Experience and Qualifications of Project Architect

The project architect will have overall project responsibility and must have a broad understanding of all elements of the program. Therefore, the proposed project architect should be experienced in both design and construction phases, with corresponding professional training and qualifications. The project architect should also demonstrate, through both experience and presentation, personal management and communication skills. In view of the magnitude of the project, the project architect must maintain a significant commitment of time to the project for its duration.

Experience and Qualifications of Other Proposed Staff

The remainder of the project team should provide a balance of thorough qualifications and expertise to carry out the program. All professional staff members, particularly those assigned to manage individual tasks or efforts (such as structural or mechanical systems), should be professionally qualified and available for the time required.

Specific Company Qualifications for Proposed Work,
Specific Firm Experience and Performance on Projects of Similar Size and Scope,
Previous Firm Experience in Project Area,
Previous Firm Experience in Similar School Work,
Previous Firm Experience with Similar Local Government Work

Proposers should demonstrate a depth of both capabilities and experience backing their proposed project team. Firms should be will-experienced in similar work, including schools and other public sector projects. It is particularly important that proposers demonstrate a successful track record in providing comprehensive architectural and engineering services for projects involving multiple client groups while maintaining budget, program and schedule objectives. The proposer should be well experienced in all aspects of the project and preference should be given to having all necessary resources readily available and accessible to the Borough.

Firm Resources to Meet Schedule and Budget
Location and Accessibility of Firm's Home Office

The proposer should be able to show a depth of resources available for the program. This is important in indicating ability to adjust to shifts in the program, unexpected needs or even loss of key personnel. Other resources, including specialized computer aided design and drafting systems and other proprietary capabilities, should also be considered, as should accessibility of the proposer's home office resources.

Re: E – Cost Proposal

The object of requesting costs is to provide a point of comparison between competing proposals. Since many areas of difference in types and level of service are likely to be proposed, costs cannot be fairly compared without taking into account other factors. Therefore, evaluation scores should give higher priority to:

- Appropriateness of the level of effort (total man hours) proposed for the project as compared with previous projects,
- Appropriateness of the mix of effort by discipline and qualifications of personnel, with emphasis placed upon a balance of effort between grades of personnel,
- Cost efficiency, as measured by total project cost per man hour expended, considering the mix of personnel by discipline and grade, and also measured by fixed fee as a percentage of estimated reimbursables,
- Total cost as a percentage of total project budget and project budget for architectural services, and
- Total cost and total fixed fee in relation to other proposals.

Evaluation Criteria

A. Philosophy 10
- Appropriateness of philosophy
- Attitude and interest

B. Approach 10
- Understanding of tasks required
- Appropriateness of overall project plan

C. Methodology
- Suitability of proposed methods and techniques
- Project team organization
- Management plan

D. Firm Experience and Capabilities 30
- Experience and qualifications of project architect
- Experience and qualifications of other proposed staff
- Specific company qualifications for proposed work
- Specific firm experience and performance on projects of similar size and scope
- Previous firm experience in project area
- Previous firm experience in similar school work
- Previous firm experience with similar local government work
- Firm resources to meet schedule and budget
- Location and accessibility of firm's home office

E. Cost Proposal 20
- Total cost (fixed fee plus estimated reimbursables)
- Proposed man hours by discipline

Total Maximum Score **100**

ARCHITECTURAL CONSULTANT SELECTION – RATING SHEET

Kenai Peninsula Borough

Proposer:
Date:

Committee Member:

Member Number:

	Written Proposal Score ±	Unweighted Score (Scale of 0 to 10) Interview Adjustment =	Final Score x	Weighted Point Score Weighting Factor =	Final Weighted Score
Evaluation Criteria					
A. Philosophy					
• Appropriateness of philosophy				.6	
• Attitude and interest				.4	
B. Approach					
• Understanding of tasks required				.5	
• Appropriateness of overall project plan				.5	
C. Methodology					
• Suitability of proposed methods and techniques				1.0	
• Project team organization				1.0	
• Management plan				1.0	
D. Firm Experience					
• Experience and qualifications of project architect				.8	
• Experience and qualifications of other proposed staff				1.2	
• Specific company qualifications for proposed work				.4	
• Specific firm experience and performance on projects of similar size and scope					
• Previous firm experience in project area					
• Previous firm experience in similar school work				.4	
• Previous firm experience with similar local government work					
• Firm resources to meet schedule and budget				.2	
• Location and accessibility of firm's home office					
E. Cost Proposal					
• Appropriateness of the level of effort (total man hours)				.4	
• Appropriateness of the mix of effort by discipline and qualifications of personnel				.4	
• Cost efficiency, as measured by total project cost per man hour				.4	
• Total cost as a percentage of total project budget and project budget for architectural services				.4	
• Total cost and total fixed fee in relation to other proposals				.4	

ARCHITECTURAL CONSULTANT SELECTION – RATING SHEET
Kenai Peninsula Borough School District

Proposer: _____ Committee Member: _____ Member Number: _____
Date: _____

Evaluation Criteria	Unweighted Score(Scale of 0 -10) Score	Weighting Factor	=	DO NOT FILL OUT Final Weighted Score
A. Philosophy				
• Appropriateness of philosophy	_____	.6		_____
• Attitude and interest	_____	.4		_____
B. Approach				
• Understanding of tasks required	_____	.5		_____
• Appropriateness of overall project plan	_____	.5		_____
C. Methodology				
• Suitability of proposed methods and techniques	_____	1.0		_____
• Project team organization	_____	1.0		_____
• Management plan	_____	1.0		_____
D. Firm Experience				
• Experience and qualifications of project architect	_____	.8		_____
• Experience and qualifications of other proposed staff	_____	1.2		_____
• Specific company qualifications for proposed work • Specific firm experience and performance on projects of similar size and scope	_____	.4		_____
• Previous firm experience in project area • Previous firm experience in similar school work • Previous firm experience with similar local government work	_____	.4		_____
• Firm resources to meet schedule and budget • Location and accessibility of firm's home office	_____	.2		_____
E. Cost Proposal				
• Appropriateness of the level of effort (total man hours)	_____	.4		_____
• Appropriateness of the mix of effort by discipline and qualifications of personnel	_____	.4		_____
• Cost efficiency, as measured by total project cost per man hour	_____	.4		_____
• Total cost as a percentage of total project budget and project budget for architectural services	_____	.4		_____
• Total cost and total fixed fee in relation to other proposals	_____	.4		_____

V. PROGRAM REVIEW TEAM

A. Program Review Team Duties and Responsibilities

PROGRAM REVIEW TEAM
Kenai Peninsula Borough School District
NEW CONSTRUCTION

A program review team will be organized for each new construction project undertaken by the district. The purpose of the program review team is to work with the individual school, the architectural firm and project manager to develop a building that meets the program needs of the students and community within budget and square footage allotments.

This team will help ensure that the building project stays within budget and within the state allotted square footages. It will work as a communications link between the local school and community, as well as the architect and project management firm. One of the major tasks of each team member will be to review plans with his/her representative group to answer questions and solicit input to bring to the meetings.

The program review team will work in cooperation with the Director of Planning and Operations. The team will consist of representatives of the teaching staff, the community, purchasing department, instructional services department and local building administrators.

I. Administrative Representative – Building Administrator
   A. Review custodial space, secretarial space and administrative spaces
   B. Coordinate all meetings and reviews with local PACS and staff
   C. Review layout and traffic patterns, both internal and external
   D. General relationship between different areas and different disciplines within the building

II. Staff Representative – Teacher
   A. Room layout, cabinets, chalkboards, bulletin boards
   B. General office space and traffic patterns
   C. Communications link back with different departments and staff members

III. PAC Member – Parent
   A. Community use of facility
   B. General layout of facility, location and aesthetics
   C. General program emphasis

IV. Instruction Services Department, Director of Elementary Education, Director of Secondary Education, and Director of Rural Schools
   A. Overall program and curriculum implementation
   B. Budget and square footage controls
   C. Community schools use

V. Special Services – Director of Special Education
   A. Budget controls and square footage controls
   B. Special services program needs and spaces
   C. Interrelationship with regular program and traffic patterns
   D. Handicap access/handicap codes

VI. Equipment Purchasing Needs – Administrators for Purchasing and Student Nutrition Services
   A. Review food service area
   B. Review contractor installed equipment and moveable equipment
   C. Review specifications
   D. Review program areas with other members and type of equipment to be installed in each area.

VI. MOVEABLE EQUIPMENT
& SUPPLIES

A. New Construction Procurement Process

KENAI PENINSULA BOROUGH SCHOOL DISTRICT

Purchasing Department
Vicky Hodgin, Head Buyer
139 East Park Avenue Soldotna, Alaska 99669-7553
Phone (907) 714-8876 Fax (907) 262-7165

MEMORANDUM

TO: Dave Spence, Director, Planning & Operations

FROM: Vicky Hodgin, Head Buyer, Purchasing Department

SUBJECT: New Construction Procurement Process

DATE: May 25, 2007

Over the years the process of procuring equipment and start-up supplies for new school facilities has changed. Many years ago this process was more time-consuming and costly because all purchases had to be reviewed and approved by both the School Board and the Borough Assembly. The resulting delay in issuing the purchase orders caused the expiration of vendor bids and unnecessary conflict between the Board and the Assembly. Fortunately, the Assembly changed that requirement. Recently, during the construction of the new Seward Middle School, the Board determined they no longer needed to review/approve each new construction purchase.

The following is an outline of the current process.

- Requests for equipment should originate from the user, i.e. teacher, principal, etc. The basic need for equipment is based on Board adopted curricula, teaching methods and types of learning activities. The requested equipment should be of high quality. The longer equipment lasts, the less down time and maintenance expenses are incurred, the long-term costs are reduced and use of equipment is maximized.

- The processing of equipment requests is accomplished by the Purchasing Department. It is their responsibility for meeting the equipment and furnishing needs of schools as generated by teachers, principals and other instructional staff, within the Board approved budget for the project.

- The Purchasing Department proceeds with the bid process in accordance with Board policy. Once the bids have been awarded and budgets are checked, purchase orders are printed and faxed to the vendor.

- The majority of equipment and start-up supplies are purchased prior to beneficial occupancy of a facility. However, it is cost effective for teachers and students to make use of the facility for a period of time before final purchases are made. It can be costly to speculate on program and instructor needs. It is also beneficial to give teachers the opportunity to order the most current equipment to meet the needs of students. To accomplish this, the Board established a one year time period for ordering equipment following Beneficial Occupancy, allowing teachers about one school year to complete their orders.

Following this procedure allows the District to provide its instructional staff with well equipped schools and its students with current learning experiences.

Encl: Projected Procurement Timeline
Bidders List Procedure
New Construction Basic Equipment Lists

KENAI PENINSULA BOROUGH SCHOOL DISTRICT

Purchasing Department
Vicky Hodgin, Head Buyer
139 East Park Avenue Soldotna, Alaska 99669-7553
Phone (907) 714-8876 Fax (907) 262-7165

NEW CONSTRUCTION MOVABLE EQUIPMENT

PROJECTED PROCUREMENT TIMELINE

	AVERAGE TIMELINE
Bid Research, Preparation & Web Posting	5 days
Bid Return from Prospective Vendors	28 days
Bid Award & Processing Purchase Order(s)	3 days
Delivery of Merchandise	42 days
Average Total Days Required	78 days

KENAI PENINSULA BOROUGH SCHOOL DISTRICT

Purchasing Department
Vicky Hodgin, Head Buyer
139 East Park Avenue Soldotna, Alaska 99669-7553
Phone (907) 714-8876 Fax (907) 262-7165

VENDORS – BIDDERS LIST PROCEDURE

Vendor submits a written request to have their company placed on our bidders list for specific categories.

Purchasing requests a current listing of the products the vendor supplies, and/or a listing of firms they represent. They are to include a catalog of their products with descriptions and specifications and/or their web address if the website contains complete descriptions/specifications for the products they represent. Vendor must supply complete contact information including mailing address, telephone and fax numbers, and email address.

Businesses located within the state of Alaska must possess a valid Alaska Business License. Local businesses, defined by KPBSD Policy AR3311 as: "any business or company having a physical presence in the Borough, registered in the Borough to collect sales tax, and locally provides the products and services sought", are subject to KPBSD Policy BP3311(b) which states: "No contract or purchase order shall be awarded to any individual or business who is found to be in violation of Kenai Peninsula Borough Code of Ordinances in the several areas of taxation which is not remedied within ten (10) days of notice."

The vendor begins receiving formal quote requests and notification of formal bid postings the next time items from their specified categories are ordered. If, in three (3) submissions, there is no response, no bid, or a non-responsive bid is submitted by the vendor, they are dropped from our bidders list.

PROTOTYPE ELEMENTARY NEW CONSTRUCTION
BASIC EQUIPMENT LIST

CLASSROOMS

Teacher's Desk
Teacher's Chair
Student Desks
Student Chairs
4-Drawer File Cabinet
2-Drawer File Cabinet
Map Set (min. 4 Maps, roller mounted)
Globe
Projection Screen
Folding Tables
Bookcases
Storage Cabinets
Computers

MEDIA CENTER

Book Shelves
Tables
Chairs
Computers
DVD/VCR Combination Unit
Television
Multimedia Projector
AV Carts w/Electrical Assembly
Book Trucks
Copy Machine
Portable Sound System
Projection Screen
File Cabinets
Literature Display Racks
Boomboxes
Overhead Projector
Step Stools/Ladders
Listening Center

COMPUTER LAB

Teacher's Workstation
Teacher's Chair
Computers
Student Workstations
Student Chairs, adjustable height
File Cabinet
Storage Cabinet, locking

PROTOTYPE ELEMENTARY NEW CONSTRUCTION
BASIC EQUIPMENT LIST (cont.)

KINDERGARTEN PROGRAM

Tables
Chairs
Play Kitchen Set
Tote Tray/Storage Cabinet
Listening Center
Art/Dry Erase Board Easels

ADMINISTRATION OFFICES

Desks
Ergonomic Task Chairs
Side Chairs
Lateral File Cabinets
Fireproof File Cabinet
Coat Rack
Bookcases
Conference Table and Chairs
Reception Chairs and Table
Computers
Calculators
Safe, Floor Mount
Storage Cabinet
Copy Machine
Telephone System

FACULTY LOUNGE/WORKROOM

Tables
Chairs
Computer
Roll Laminator
Dry Mount Press
Calculator
Coat Rack
Lounge Furniture (Sofa, Chairs, Tables)
Bookcase
Literature Display Unit
Storage Racks
Refrigerator w/Freezer Section and Icemaker
Microwave Oven
Coffee Makers

PROTOTYPE ELEMENTARY NEW CONSTRUCTION
BASIC EQUIPMENT LIST (cont.)

NURSE'S STATION

Desk
Desk Chair
Computer
File Cabinet
Bookcase
Recovery Couch
Folding Cots
Side Chair
Scales w/Height Rod and Casters
Eye Test Chart, Translucent
Examining Lamp
Refrigerator, undercounter
Audiometer
Stethoscope
Otoscope
Stretcher
Waste Receptacle
Sphygmomanometer

PUPIL SERVICES

Desk
Desk Chair
Computer
File Cabinets
Bookcase
Side Chair
Tables
Stacking Chairs
Student Desks
Specialized Furniture and Equipment

GYMNASIUM – CAFETERIA

Teacher's Desk
Teacher's Chair
Computer
File Cabinets
Bookcase
Side Chair
Volleyball Standards
Wrestling Mat w/Mat Trucks
Tumbling Mats
Equipment Storage Racks
Ball Carts
Ball Inflator, Electric
Folding Chairs, Metal

PROTOTYPE ELEMENTARY NEW CONSTRUCTION
BASIC EQUIPMENT LIST (cont.)

GYMNASIUM – CAFETERIA (cont.)

Folding Chair Cart
Sound System
Dry Erase Board, Portable, Reversible
Cafeteria Tables
Popcorn Popper

CUSTODIAN

Desk
Desk Chair
Side Chair
File Cabinet
Computer
Vacuum Cleaners
Carpet Shampooer
Carpet Extractor
Janitor's Cart
Ladders
Wet Vac
Washing Machine & Dryer
Shelving
Floor Buffer
Gym Floor Machine
Handcarts
Chair Cart
Desk and File Mover
Workbench with Vise
Waste Receptacles (throughout school)

MUSIC DEPARTMENT

Teacher's Desk
Teacher's Chair
Computer
File Cabinet
Music Folio Cabinet
Chairs, Folding
Music Stands
Piano
Piano Mover
Risers
Sound System
Rhythm Set

PROTOTYPE ELEMENTARY NEW CONSTRUCTION
BASIC EQUIPMENT LIST (cont.)

NURSE'S STATION

Desk
Desk Chair
Computer
File Cabinet
Bookcase
Recovery Couch
Folding Cots
Side Chair
Scales w/Height Rod and Casters
Eye Test Chart, Translucent
Examining Lamp
Refrigerator, undercounter
Audiometer
Stethoscope
Otoscope
Stretcher
Waste Receptacle
Sphygmomanometer

PUPIL SERVICES

Desk
Desk Chair
Computer
File Cabinets
Bookcase
Side Chair
Tables
Stacking Chairs
Student Desks
Specialized Furniture and Equipment

GYMNASIUM – CAFETERIA

Teacher's Desk
Teacher's Chair
Computer
File Cabinets
Bookcase
Side Chair
Volleyball Standards
Wrestling Mat w/Mat Trucks
Tumbling Mats
Equipment Storage Racks
Ball Carts
Ball Inflator, Electric
Folding Chairs, Metal

PROTOTYPE ELEMENTARY NEW CONSTRUCTION
BASIC EQUIPMENT LIST (cont.)

GYMNASIUM – CAFETERIA (cont.)

Folding Chair Cart
Sound System
Dry Erase Board, Portable, Reversible
Cafeteria Tables
Popcorn Popper

CUSTODIAN

Desk
Desk Chair
Side Chair
File Cabinet
Computer
Vacuum Cleaners
Carpet Shampooer
Carpet Extractor
Janitor's Cart
Ladders
Wet Vac
Washing Machine & Dryer
Shelving
Floor Buffer
Gym Floor Machine
Handcarts
Chair Cart
Desk and File Mover
Workbench with Vise
Waste Receptacles (throughout school)

MUSIC DEPARTMENT

Teacher's Desk
Teacher's Chair
Computer
File Cabinet
Music Folio Cabinet
Chairs, Folding
Music Stands
Piano
Piano Mover
Risers
Sound System
Rhythm Set

PROTOTYPE ELEMENTARY NEW CONSTRUCTION
BASIC EQUIPMENT LIST (cont.)

PLAYGROUND EQUIPMENT

Swings
Bars
Climber
Slides
Tetherball Poles w/Balls
Basketball Uprights & Rims

FOOD SERVICE

Desk
Desk Chair
Computer
Side Chair
File Cabinet
Point-of-Sales System
Cash Box
Bulk Food Carriers
Bussing Carts

ART DEPARTMENT

Kiln
Paper Racks, Portable

PROTOTYPE HIGH SCHOOL NEW CONSTRUCTION
BASIC EQUIPMENT LIST

ADMINISTRATIVE OFFICES

Desks
Ergonomic Task Chairs
Side Chairs
Lateral File Cabinets
Fireproof File Cabinet
Coat Rack
Bookcases
Conference Table and Chairs
Reception Chairs and Table
Computers
Calculators
Safe, Floor Mount
Storage Cabinet
Copy Machine
Mailing Machine w/Scale
Flags
Telephone System

NURSE'S STATION

Desk
Desk Chair
Computer
File Cabinet
Bookcase
Recovery Couch
Folding Cots
Side Chair
Scales w/Height Rod and Casters
Eye Test Chart, Translucent
Examining Lamp
Refrigerator, undercounter
Audiometer
Stethoscope
Otoscope
Stretcher
Waste Receptacle
Sphygmomanometer
Treatment Cabinet
Crutches

PROTOTYPE HIGH SCHOOL NEW CONSTRUCTION
BASIC EQUIPMENT LIST (cont.)

FACULTY LOUNGE/WORKROOM

Tables
Chairs
Computer
Roll Laminator
Dry Mount Press
Calculator
Wardrobe Cabinet
Lounge Furniture (Sofa, Chairs, Tables)
Bookcase
Literature Display Unit
Microwave Oven
Refrigerator w/Freezer Section & Icemaker
Coffee Makers
Storage Racks
Copy Machine

MEDIA CENTER

Library Shelving
Tables
Chairs
Display Cases
Study Carrels
Card Catalogue
Charge Desk
Sofas
Lounge Chairs
Librarian's Desk
Librarian's Chair
File Cabinets
Computer
Literature Display Racks
Multimedia Projector
Projection Screen
Overhead Projectors
DVD/VCR Combination Units
Television
Camcorder
Satellite Dish
Boomboxes
Listening Centers
Digital Camera
A-V Carts w/Electrical Assembly
Roll Laminator
Dry Mount Press
Copy Machine
Calculator

PROTOTYPE HIGH SCHOOL NEW CONSTRUCTION
BASIC EQUIPMENT LIST (cont.)

MEDIA CENTER (cont.)

Library Security System
Storage Shelving

GENERAL CLASSROOMS

Teacher's Desk
Teacher's Chair
File Cabinets
Bookcases
Computers
Student Chair/Desk Combinations
Stacking Chairs
Tables, Folding
Storage Cabinet

SCHOOL STORE

Cash Register
Computer
Stacking Chairs
File Cabinet
Display Cases, Shelving
Popcorn Popper
Hotdog/Bun Warmer
Microwave Oven
Refrigerator w/Freezer
Coffee Maker
Nacho Chip Warmer
Nacho Cheese Warmer
Mannequins
Display Board
Menu Board

ATHLETIC DEPARTMENT

Teacher's Desk
Teacher's Chair
Computer
File Cabinets
Bookcase
Magnetic Scheduling Board
Equipment Carts
Ball Carriers
Competition Volleyball Standards w/Net & Referee Platform
Wrestling Mats w/Mat Trucks
Exercise Mats
High Jump Pit w/Cover

PROTOTYPE HIGH SCHOOL NEW CONSTRUCTION
BASIC EQUIPMENT LIST (cont.)

ATHETIC DEPARTMENT (cont.)

High Jump Standards
Discus Circle
Shot Putt Circle
Starter's Pistol
Measuring Wheel
Field Marker
Ball Inflator, Electric
2-Way Radios
Football Lineman's Chutes
Down Box/Chain Set
Helmet Rack
Shoulder Pad Rack
Sideline Markers
Scales w/Height Rod & Casters
Soccer Goals w/Nets
Stopwatches
Timing System
Megaphone
Weight Equipment
Ice Maker
Training Table
Full Body Whirlpool

SCIENCE DEPARTMENT

Teacher's Desks
Teacher's Chairs
Computers
File Cabinets
Student Chair/Desk Combinations
Lab Stools
Flammable Storage Cabinets
Storage Cabinets
Lab Refrigerator
Weather Station
Electronic Balances
Hot Plates
Triple Beam Balances
Microscopes
Human Skeleton

PROTOTYPE HIGH SCHOOL NEW CONSTRUCTION
BASIC EQUIPMENT LIST (cont.)

POWER MECHANICS/AUTO SHOP

Teacher's Desk
Teacher's Chair
Computer
File Cabinets
Bookcase
Engine Starter/Battery Charger
Hydraulic Jacks
Engine Analyzer
Engine w/Stand & Controls
Marine Test Tank
Tool Cabinet/Work Benches
Hydraulic Press
Demonstration Table
Machinists Bench
Sand Blaster
General Degreaser Tank
Tire Changer
Wheel Balancer
Brake Drum Lathe
Pressure/Steam Washer
Engine Stands

WOODSHOP

Teacher's Desk
Teacher's Chair
Computer
File Cabinets
Bookcase
4-Station Woodworking Benches
Tool Storage Cabinet
Scroll Saws
Drill Press
Oscillating Spindle Sander
Roller Table
Radial Arm Saw
Table Saw
Grinder/Buffer
Combination Belt/Disc Sander
Table Saw
Woodcutting Bandsaws
Variable Speed Lathe
Belt Sander
Router/Panel Saw
Planer
Safety Glasses Cabinet

PROTOTYPE HIGH SCHOOL NEW CONSTRUCTION
BASIC EQUIPMENT LIST (cont.)

DRAFTING

Teacher's Drafting Desk
Teacher's Chair
Computers
Flat File Cabinets
Student Drafting Tables
Drafting Stools
Printer

METALS/WELDING SHOP

Teacher's Desk
Teacher's Chair
Computer
File Cabinets
Bookcase
Sheet Metal Bench
Grinder and/or Buffer
Vertical Milling Machine
Hydraulic Bender
Metal Lathes
Welders
Grinders
Hydraulic Shear
Drill Press
Cut-off Saw
Bandsaw
Anvil
Heat Treat Cabinet
Bead Blaster
Gas Welding Stations/Hood
Arc Welding Stations/Booth
Tig Stick Stations
Mig Welding Station
Horizontal Bandsaw
Teaching Lathe
Portable Oxy-Acetylene w/Cart
Bending Set
Hydraulic Arbor Press
Hand Operated Metal Bender

PROTOTYPE HIGH SCHOOL NEW CONSTRUCTION
BASIC EQUIPMENT LIST (cont.)

PHOTOGRAPHY/YEARBOOK

Teacher's Desk
Teacher's Chair
File Cabinets
Bookcase
Tables
Stacking Chairs
Computers
Photo Printers
Digital Cameras
Mat Cutters

HOME ECONOMICS

Teacher's Desk
Teacher's Chair
Computer
File Cabinets
Bookcase
Stacking Chairs
Tables
Sewing Machines
Cutting Tables
Microwave Oven
Stand Mixers
Small Appliances
Refrigerator
Freezer

BAND

Teacher's Desk
Teacher's Chair
Computer
File Cabinet
Folio Cabinet
Conductor's Stand
Music Chairs
Music Stands
Grand Piano
Upright Piano
Electronic Piano w/Stand
Piano Dollies
Stereo System
Percussion Cabinet
Various Instruments
Band Risers

PROTOTYPE HIGH SCHOOL NEW CONSTRUCTION
BASIC EQUIPMENT LIST (cont.)

CHORUS

Teacher's Desk
Teacher's Chair
Computer
File Cabinet
Folio Cabinet
Conductor's Stand
Conductor's Chair
Choral Risers
Music Chairs
Concert Grand Piano
Grand Piano
Stereo System

ARTS & CRAFTS

Teacher's Desk
Teacher's Chair
Computer
File Cabinets
Bookcase
Storage Cabinets
Kiln
Pug Mill
Display System
Mat Cutter
Workbenches
Adjustable Stools
Drawing Tables
Plan Files
Folding Tables
Paper Trimmer
Potter's Wheels
Drying Rack
Supply Carts
Clay Mixer
Manual Extruder
Spray Booth
Flammable Storage Cabinet
Easels

PROTOTYPE HIGH SCHOOL NEW CONSTRUCTION
BASIC EQUIPMENT LIST (cont.)

PUPIL SERVICES

Teacher's Desk
Teacher's Chair
Computer
File Cabinets
Tables
Stacking Chairs
Specialized Furniture & Equipment

CUSTODIAN

Desk
Chair
Computer
File Cabinet
Storage Cabinet
Hand Trucks
Appliance Mover
Desk Mover
File Mover
Scaffolding
Floor Buffer
Vacuums
Carpet Shampoo Machine
Wet/Dry Vacuums
Extraction Machine
Gym Floor Tarp
Janitorial Carts
Snowblower
Storage Shelving
Ladders
Waste Receptacles
Tractor

CAFETERIA/COMMONS

Cafeteria Tables
Stacking Chairs
Chair Transports

PROTOTYPE HIGH SCHOOL NEW CONSTRUCTION
BASIC EQUIPMENT LIST (cont.)

FOOD SERVICE

Desk
Desk Chair
Computer
File Cabinet
Delivery Truck
Unheated Food Carts
Food Warmers
Bussing Carts
Menu Master System
Cash Register
Point-of-Sales System
Cash Drawers
Food Vending Machines

B. Kenai Peninsula Borough School District Purchasing Policies

EXPENDITURES/EXPENDING AUTHORITY

The Board through the budgetary process authorizes the Superintendent to make expenditures. The Superintendent shall obtain supplies, services, materials and equipment in accordance with law.

(cf. 3310 – Purchasing Procedures)
(cf. 3311 – Bids)
(cf. 3313 – Contracts, Leases and Agreements)
(cf. 3460 – Periodic Financial Reports)

The Superintendent shall not authorize any expenditure which exceeds the major budget classification.

(cf. 3100 – Budget)
(cf. 3120 – Transfer of Funds)

The Board shall not recognize obligations incurred contrary to Board policy and administrative regulations.

Legal Reference:

ALASKA STATUTES
14.08.101 Powers (Regional school boards)
14.08.111 Duties (Regional school boards)
14.14.060 Relationship between borough school district and borough
14.14.065 Relationship between city school district and city
14.17.190 Restrictions governing receipt and expenditure of money from public school foundation account
36.30. State Procurement Code
37.05 Fiscal Procedures Act

PURCHASING PROCEDURES

The School Board desires to ensure that maximum value is received for money spent by the District and that records are kept in accordance with law. The Superintendent may issue and sign purchase orders.

(cf. 3300 – Expenditures/Expending Authority)
(cf. 3400 – Management of District Assets)
(cf. 3460 – Periodic Financial Reports)
(cf. 9270 – Conflict of Interest)

The School Board encourages the selection of Alaskan products and local vendors. The District shall adhere to state law regarding purchasing preferences for Alaskan products.

(cf. 3311 – Bids)

Used items shall not be purchased unless deemed in the best interest of the District as determined by the Superintendent.

Legal Reference:

ALASKA STATUTES
14.08.101 Powers (Regional school boards)
14.14.060 Relationship between borough school district and borough
14.14.065 Relationship between city school district and city
14.17.190 Restrictions governing receipt and expenditure of money from public school foundation account
29.71.050 Procurement preferences for recycled Alaska products
36.30. State Procurement Code
37.05 Fiscal Procedures Act

City of Richmond v. J.A. Croson Co., 488 U.S. 469 (1989)

PURCHASING PROCEDURES

Purchasing Requisitions/Purchase Orders

1. Insofar as possible, goods and services purchased will meet the needs of the person or department ordering them at the lowest price consistent with standard purchasing practice. Maintenance costs, replacement costs, and trade-in values shall be considered when determining the most economical purchase price.

2. Requisitions for budgeted items shall originate from personnel directly responsible for their use. All requisitions shall be given proper review for approval or disapproval by the appropriate administrative personnel.

3. Every transaction between a buyer and seller involving the transfer of property, equipment, or supplies shall be made by purchase order, procurement card, formal contract, or petty cash expenditure.

4. Purchase orders and formal contracts shall be signed by the Superintendent.

5. Procurement cards issued in the responsible employee's name shall be utilized in accordance with parameters set forth in the Procurement Card Use Agreement (E 3310(a)). Receipts and documentation shall be forwarded to the business office for payment.

6. The business office or other appropriate administrative entity shall verify the availability of funds.

Quantity Purchasing

Quantity buying shall be effected whenever practicable and feasible in order to achieve an economy of scale in accordance with the total needs of the School District.

(cf. 3451 – Petty Cash Funds)

KENAI PENINSULA BOROUGH SCHOOL DISTRICT

Administrative Procurement Card Use Agreement

Purpose: Provide guidelines for approved expenditures using District sponsored procurement cards. **Personal charges are not allowed.**

Procedures:

- **The card may not be used for:**
  1) **Cash advances**
  2) **Equipment purchases as described in the KPBSD Chart of Accounts**
  3) **Individual meal expenses**
  4) **Personal service contracts/consultant agreements/performance groups.**
  5) **Chemical Purchases (chemical purchases should be coordinated with other schools through purchasing to mitigate high shipping costs.)**
- The procurement card will be issued in the name of the employee and will be limited to his/her use. The procurement card billing address will be KPBSD Accounts Payable.
- The card user is responsible for all items charged to the credit card.
- If the card is lost or stolen, the card user is responsible for reporting this to the credit card company (1-800-336-8475) and the director of business and finance immediately.
- All expenses charged will be in accordance with KPBSD Policies.
- Interest expenses incurred because of late submittal of receipts and/or unauthorized charges will be **paid by the employee.**
- Misuse of the credit card will result in the card being revoked and appropriate disciplinary action taken.
- When using the card to make a purchase, request an itemized receipt showing the transaction. **All transactions must be documented, actual receipt, copy of Internet order confirmation, etc.** Request a faxed copy of order when placing a telephone order.
- Merchandise will be delivered directly to the school or department. Returns will be handled through the school or department. Notify Accounts Payable of any returns; a copy of returned authorization paperwork is required.

- Refunds will be credited to the card they were originally charged to and documentation will be submitted with the statement.

- Statements and accompanying receipts must be submitted when the charges are listed on the monthly statement.

- Note: A caution on freight charges. Be sure to verify freight/shipping charges (get the name of the person and a quote if possible). Shipping costs to Alaska are often higher than quoted in catalogs.

Payment Procedures:

- Attach the procurement card charge slips and related receipt and/or invoice to the Transaction Summary Form and submit it to your administrator **immediately** upon receipt of the statement from Accounts Payable. Internet purchases must be documented with a copy of the internet order form or invoice.

- Notify Accounts Payable immediately of any account discrepancies on the statement.

Please note: Transactions will be charged to the current fiscal year. Credit card charges may not be charged to next fiscal year.

I accept the above provisions and agree to follow them.

Card Limits for procurement card	**#** _____
Per Transaction	**$ 1000.00**
Per Day	**$ 2000.00**
Per Month	**$ 5000.00**

_____ _____

Printed name **Title**

_____ _____

Signature **Date**

- **$1000 Limit for Administrator conference travel, airfare and hotel expenses only.**

Revised 1/20/2006

KENAI PENINSULA BOROUGH SCHOOL DISTRICT

Certified and Support Procurement Card Use Agreement

Purpose: Provide guidelines for approved expenditures using District sponsored procurement cards. **Personal charges are not allowed.**

Procedures:

- **The card may not be used for:**
  1) **Cash advances**
  2) **Equipment purchases as described in the KPBSD Chart of Accounts**
  3) **Individual meal expenses**
  4) **Personal service contracts/consultant agreements/performance groups.**
  5) **Chemical Purchases (chemical purchases should be coordinated with other schools through purchasing to mitigate high shipping costs.)**
- The procurement card will be issued in the name of the employee and will be limited to his/her use. The procurement card billing address will be KPBSD Accounts Payable.
- The card user is responsible for all items charged to the credit card.
- If the card is lost or stolen, the card user is responsible for reporting this to the credit card company (1-800-336-8475) and the director of business and finance immediately.
- All expenses charged will be in accordance with KPBSD Policies.
- Interest expenses incurred because of late submittal of receipts and/or unauthorized charges will be **paid by the employee.**
- Misuse of the credit card will result in the card being revoked and appropriate disciplinary action.
- When using the card to make a purchase, request an itemized receipt showing the transaction. **All transactions must be documented, actual receipt, copy of Internet order confirmation, etc.** Request a faxed copy of order when placing a telephone order.
- Merchandise will be delivered directly to the school or department. Returns will be handled through the school or department. Notify Accounts Payable of any returns; a copy of returned authorization paperwork is required.

- Note: A caution on freight charges. Be sure to verify freight/shipping charges (get the name of the person and a quote if possible). Shipping costs to Alaska are often higher than quoted in catalogs.

Payment Procedures:

- Attach the procurement card charge slips and related receipt and/or invoice to the Transaction Summary Form and submit it to your administrator **immediately** upon receipt of the statement from Accounts Payable. Internet purchases must be documented with a copy of the internet order form or invoice.

- Notify Accounts Payable immediately of any account discrepancies on the statement.

Please note: Transactions will be charged to the current fiscal year. Credit card charges may not be charged to next fiscal year.

I accept the above provisions and agree to follow them.

Card Limits for procurement card	**#_____**
Per Transaction	**$ 500.00**
Per Day	**$ 1500.00**
Per Month	**$ 2500.00**

Printed name	**Title**
Signature	**Date**

BIDS

The District shall purchase equipment, supplies and services on a competitive bidding basis when required by law and whenever it appears to be in the best interest of the District to do so. Purchases with an estimated cost of $15,000 or more shall be formally bid. Award or rejection of bids shall be managed by the Superintendent. The following items may not be subject to formal bid procedures.

1. books

2. proprietary (sole-source) items or services

3. supplies or equipment needed in emergencies

4. weekly or monthly food service purchases

5. goods or services provided under contract or from federal, state or local government contracts.

Purchases of $5,000 or more but less than $15,000 require formal quote procedures that include written price quotes from a minimum of three (3) vendors. Awards will be made by the purchasing office subject to final approval by the Superintendent.

Purchases less than $5,000 require, when practical, informal quote procedures that include verbal or written price quotes from three (3) vendors. Awards will be made by the purchasing office subject to final approval by the Superintendent.

To ensure that good value is received for funds expended, specifications shall be carefully designed and shall describe in detail the quality, delivery and service required.

E-Rate Purchases

Purchases made pursuant to the E-Rate program, which is governed by the Federal Communications Commission, shall be made on a competitive basis subject to the provisions of this paragraph. Such purchases are not subject to any provisions in the school district purchasing policies or regulations that may be inconsistent with the E-Rate purchasing provisions.

The District shall designate a specific individual to oversee the E-Rate application process in order to ensure that it is accurate and that the equipment and services to be purchased are eligible for E-Rate funding. Such individual shall devise an open, fair, competitive bidding process, separate and apart from other District procurement policies, that meets all rules of the E-Rate program. This process

BIDS (continued)

shall be overseen by, and subject to the approval of, the Superintendent for the District.

Contractor's Violations of Tax Ordinances

No contract or purchase order shall be awarded to any individual or business who is found to be in violation of the Kenai Peninsula Borough Code of Ordinances in the several areas of taxation which is not remedied within ten (10) days of notice.

Any contract can be terminated for cause if it is determined that the contractor is in violation of any taxation ordinance and if such violation is not remedied within ten (10) days of notification by regular mail. If the delinquency arises due to non-filing of sales tax, no payment will be made to the contractor until all filings have been made and all amounts due are remitted.

The District will remit any amounts owed by its contractor(s) to the Kenai Peninsula Borough for delinquent Borough taxes against any amount owing to the contractor(s) under a contract between the District and the contractor(s).

(cf. 9270 – Conflict of Interest)

Legal Reference:

ALASKA STATUTES
14.14.060 Relationship between borough school district and borough
14.14.060 (h) Procurement of supplies and equipment
14.14.065 Relationship between city school district and city
14.03.085 Procurement preference for recycled Alaska products
29.71.050 Procurement preferences for recycled Alaska products
35.15 Construction Procedures
36.15.020 Use of local agricultural and fisheries products required in purchases with state money

ALASKA ADMINISTRATIVE CODE
4 AAC 27.085 Competitive pupil transportation proposals
4 AAC 31.080 Construction and acquisition of public school facilities

FAIRBANKS NORTH STAR BOROUGH SCHOOL DISTRICT v. BOWERS, 851 P.2d 56 (AK 1992)

BIDS

Except as otherwise defined in this regulation, every purchase with an estimated cost of $15,000 or more shall be awarded by formal written contract or purchase order to the lowest responsible bidder, upon terms and conditions prescribed in this policy and described in the bid document whenever the District has power to:

1. Reject defective or non-responsive bids,

2. Reject all bids,

3. Rebid the purchase after making substantial changes in the bid list to bring estimated cost within the limit of funds available.

Bidder's List

The Superintendent shall develop and maintain a bidder list of responsible prospective contractors who ordinarily perform work or materials, or render service similar in character to that contemplated by the District. Invitations to submit sealed bids in the form of a proposed contract shall be sent to listed contractors or whenever work, materials or services provided by them responds to District needs. Failure of any listed contractor to receive a bid invitation does not invalidate the bidding procedure.

Changes and Addenda

No District employee or agent, as stated in the bid document, shall make any oral change in the bid documents or make any oral interpretation that may affect the substance of the bid document. Addenda shall be issued when questions arise that might affect bids.

When required, addenda shall be issued in the following manner:

1. All bid document holders shall receive all addenda, delivered by certified mail, facsimile, or hand and a delivery receipt obtained.

2. An addendum issued less than four (4) working days before the deadline for receipt of bids shall include a new bid date at least four (4) working days after the original time of receipt of the addendum by the prospective bidder.

3. When addenda have been issued, receipt shall be acknowledged as part of the bid transmitted.

BIDS (continued)

Pre-Bid Conference

The purchasing officer, at his/her discretion may conduct a pre-bid conference at least seven (7) days prior to the deadline for bid submissions. All clarifications and questions answered at the conference that may affect the bid must be issued in the form of an addendum.

Nondiscrimination

All bidders are required to certify, as condition of potential bid award, that they will not discriminate against any employee or applicant for employment because of race, color, religion, national origin, ancestry, age or sex. They shall take affirmative action to insure that employees, applicants for employment or apprentices are employed, upgraded, demoted, transferred, recruited, laid off or terminated, paid or otherwise compensated, selected for training or trained in compliance with this requirement. A notice to this effect shall be posted in conspicuous places available to employees or applicants for employment.

Bid Opening Procedures

1. SUBMITTING – Sealed bids shall be submitted personally or by mail to the Superintendent or designee in accordance with the bid invitations and identified as bids on the envelope.

2. OPENING – Bids shall be opened in public at the time and place stated immediately after the closing time. Submission time should be in the afternoon of a normal business day that does not immediately follow Sunday or any postal holiday.

3. LATE BIDS OR POST DATE – All bids become qualified by receipt of envelopes at or before the specified bid opening time. Bids not received by the District prior to or at the specified time of submission will be marked with the date and hour of receipt on the envelope and returned unopened to the sender.

4. TABULATION – Upon request a tabulation of bids shall be furnished to each bidder.

Bid Rejection

The District shall have the authority to reject any and all bids.

BIDS (continued)

Waiver of Irregularities

The District shall have the authority to waive any and all irregularities on any and all bids except that timeliness and manual signature requirement shall not be waived.

Bid Award

A bid shall be awarded to the lowest responsible bidder. In addition to price, determination of the lowest responsible bidder shall consider:

1. Bidder ability, capacity, and skill to perform as required in bid specifications,

2. Bidder ability to perform within the time specified without delay or interference,

3. Bidder character, integrity, reputation, judgment, experience and efficiency of the bidder,

4. Quality of bidder performance of previous awards,

5. Previous and existing bidder compliance with laws and regulations relating to the bid,

6. Bidder financial resources that affect performance ability,

7. Number and scope of conditions attached to the bid,

8. Available replacements, replacement parts, maintenance service or anticipated costs of these items for any machinery, equipment or other material proposed to be installed or supplied by the bidder.

Bid Appeal

Appeal to Superintendent.

Any party bidding or submitting a proposal for a contract or purchase order with the School District for $25,000 or greater may appeal to the Superintendent in writing, personally received at the School District office, within three (3) business days of the date of notice of intent to award a contract. The appeal may be hand delivered, delivered by mail, or by facsimile and must comply with the requirements of this section.

BIDS (continued)

Contents of appeal.

A written appeal shall, at a minimum, contain the following:

1. The name, address, and telephone number of the interested party filing the appeal;

2. The signature of the interested party or the interested party's authorized representative;

3. Identification of the proposed award at issue;

4. A statement of the legal or factual grounds for the appeal;

5. Copies of all relevant documents; and

6. A fee of $300.00 shall be paid to the School District and must be received by the deadline for filing the written appeal. This fee shall be refundable if the appellant prevails in the appeal to the Superintendent.

Rejection of appeal.

The purchasing officer shall reject an untimely or incomplete appeal or an appeal filed without timely payment of the required fee.

Stay of award.

If a timely and complete appeal is filed with the fee, the award of a contract or purchase order shall be stayed until all administrative remedies have been exhausted, unless the Superintendent determines in writing that award of the contract or purchase order pending resolution of the appeal is in the best interests of the School District.

Notice and response.

Notice of the stay and appeal shall be delivered to any party who may be adversely affected by the Superintendent's decision by facsimile, first class mail or in person within three (3) business days of receipt of a properly filed appeal.

Superintendent's decision.

The Superintendent shall issue a written decision to the appellant within ten (10) business days of the date that the appeal is filed. If multiple appeals have been

BIDS (continued)

Local Preference Conditions

KPBSD intends to give preference to local residents, businesses, contractors, producers and dealers to the extent consistent with the law and best interest of the public.

The District purchasing office shall purchase from the lowest qualified, responsive, and responsible bidder or business. When bids or quotes are within 5% of being equal, preference may be given to local businesses who operate within the Kenai Peninsula Borough if it is determined by the Superintendent to be in the best interest of the District. For the purpose of this policy, a local business is defined as: any business or company having a physical presence in the Borough, registered in the Borough to collect sales tax, and locally provides the products and services sought. The 5% policy may be applied to all purchases up to $25,000.00.

This policy will not apply where the provisions of an applicable statute, regulation, or grant prohibit local bidder preference.

Subdivision Prohibited

No project or bid specifications shall be subdivided to avoid the requirements of this policy, but this provision does not preclude use of alternate deductible items.

CONTRACTS, LEASES AND AGREEMENTS

The Superintendent may enter into contracts, leases and agreements on behalf of the District.

Contracts, leases and agreements between the District and outside agencies shall conform to standards required by law and shall be prepared under the direction of the Superintendent. Contracts, leases and agreements, where appropriate, shall be submitted to the legal advisor of the District for review and approval.

The District shall not enter into any contracts, leases or agreements with a person, agency or organization if it has knowledge that such a person, agency or organization discriminates on the basis of race, color, creed, sex, religion, ancestry, national origin, age or non-job-related handicap or disability, either in employment practices or in the provision of benefits or services to students or employees.

The District shall enter into contracts, leases or agreements to obtain equipment, real estate, and services on a competitive bidding basis when required by law and whenever it appears to be in the best interest of the District to do so. Typical leases or agreements include, but are not limited to:

Leases of private real estate for use as temporary school facilities, teacherages, or storage.

Leases of technology such as copier equipment, telephone systems, or computers.

Long-term service agreements for public utilities.

Contracts of $5,000 or more but less than $15,000 requires, when practical, informal proposals from a minimum of three (3) vendors.

Contracts of $15,000 or more require, when practical, formal proposals from three (3) or more vendors. In remote locations, the Superintendent shall have discretion to not solicit competitive bids for the acquisition of temporary school facilities, teacherages or storage facilities by lease or other agreement. Such discretion shall be based upon a factually supported finding that the best interests of the School District will be served by not soliciting competitive bids. Except as otherwise provided, all appropriate vendors on the approved vendor list shall be given the opportunity to submit a proposal.

The Superintendent shall provide the Board an annual report of contracts, leases or agreements entered into. The report shall include the number of respondents, successful vendor and the dollar amount of the successful bid.

CONTRACTS, LEASES AND AGREEMENTS (continued)

The Superintendent shall manage the award or rejection of contracts, leases or agreements.

Contractor's Violations of Tax Ordinances

No contract or purchase order shall be awarded to any individual or business who is found to be in violation of the Kenai Peninsula Borough Code of Ordinances in the several areas of taxation which is not remedied within ten (10) days of notice.

Any contract can be terminated for cause if it is determined that the contractor is in violation of any taxation ordinance and if such violation is not remedied within ten (10) days of notification by regular mail. If the delinquency arises due to non-filing of sales tax, no payment will be made to the contractor until all filings have been made and all amounts due are remitted.

The District will remit any amounts owed by its contractor(s) to the Kenai Peninsula Borough for delinquent Borough taxes against any amount owing to the contractor(s) under a contract between the District and the contractor(s).

To ensure that good value is received for funds expended, specifications shall be carefully designed and shall describe in detail the quality, delivery and service required.

(cf. 3311 – Bids)
(cf. 3300 – Expenditures/Expending Authority)
(cf. 0410 – Nondiscrimination in District Programs and Activities)
(cf. 9270 – Conflict of Interest)
(cf. 4030 – Nondiscrimination in Employment)

Legal Reference:

ALASKA STATUTES
14.08.101 Powers
14.14.060 Relationship between borough school district and borough
14.14.060 (h) Procurement of supplies and equipment
14.14.065 Relationship between city school district and city

ALASKA ADMINISTRATIVE CODE
4 AAC 27.085 Competitive pupil transportation proposals
4 AAC 27.100 Contractor's duties
4 AAC 31.065 Selection of designers and construction managers
4 AAC 31.080 Construction and acquisition of public school facilities

PAYMENT FOR GOODS AND SERVICES

The Superintendent may authorize payment only for those goods and services that have been authorized by the budget.

The Superintendent may make advance payment if a decrease in cost is possible or if the material is unavailable to the District without advance payment.

EQUIPMENT PURCHASES – NEW FACILITY

Equipment purchased with new construction funds to furnish and outfit a new facility should be encumbered within twelve (12) months after beneficial occupancy.

The Board may extend this time period up to six (6) months for extenuating circumstances such as strikes, earthquakes, and long lead/difficult-to-secure items.

This time line will allow for the receipt and payment of equipment and furniture for school construction projects within the twenty-four (24) month period provided under borough ordinance.

C. Department of Education Guidelines for School Equipment Purchases

Alaska Department of Education

Guidelines for School Equipment Purchases

State of Alaska - Department of Education
Education Support Services / Facilities

1997 Edition

PRIMARY CONTRIBUTOR

Tim Mearig, AIA
Architect
Alaska Department of Education
Juneau, Alaska

CONTRIBUTORS

Edwin Crittenden, FAIA
Educational Facilities Consultant
Alaska Department of Education
Anchorage, Alaska

Michael Morgan, PMP
Facilities Manager
Alaska Department of Education
Juneau, Alaska

ACKNOWLEDGEMENTS

Thanks to the Bond Reimbursement and Grant Review Committee members who reviewed the publication in its draft form and to those in the Department of Education who were responsible for the predecessor to this document.

Originally published in 1988 by the State of Alaska, Department of Education as *Guidelines for School Equipment Purchases.*

Table of Contents

Introduction

Overview

Regulations governing the use of state funds from the School Construction Grant Fund or Major Maintenance Grant Fund provide for the use of capital project funds for the purpose of equipping new or rehabilitated school facilities. In addition, statutes prohibit the granting of capital project funds to districts unless districts account for all school equipment through an auditable fixed asset inventory system. The purpose of this Department of Education guideline is to assist school district's in purchasing equipment in compliance with school construction statutes and the regulations which implement them.

The guideline provides direction in three major areas: identifying the needed equipment, equipment budgets and accounting for the equipment.

Authority

AS14.17.190(b)
"Each district shall maintain complete financial records of receipt and disbursement of public school foundation money, money acquired from local effort, and other money received by the district. The records must be in the form required by the department and are subject to audit by the department at any time."

AS14.11.011(b)
"For a municipality that is a school district or a regional educational attendance area to be eligible for a grant under this chapter, the district shall submit (1) a six-year capital improvement plan that includes a description of the district's fixed asset inventory system and preventive maintenance program no later than September 1 of the fiscal year before the fiscal year for which the request is made; the six-year plan must contain for each proposed project a detailed scope of work, a project budget, and documentation of conditions justifying the project;"

AS14.11.017(a)(3)
"(a) The department shall require in the grant agreement that a municipality that is a school district or a regional educational attendance area . . . .(3) agree to limit equipment purchases to that required for the approved project plan submitted under (5) of this subsection and account for all equipment purchased for the project under a fixed asset inventory system approved by the department, ... "

4 AAC 31.900 defines school equipment as follows:
"(2) 'capital equipment' means built-in and movable equipment used to furnish a newly constructed or rehabilitated space; it includes the first-time purchase of library books, reference material, and media to furnish a new or renovated library; it does not include supply items such as textbooks and expendable commodities; the term is further defined in the Department of Education's *Guidelines for School Equipment Purchases*, 1997 Edition;"

Identifying Needed Equipment

Educational Specifications

The general scope of necessary equipment purchases, as defined in 4 AAC 31.900(2) and this guide, should be a part of the educational specification developed for the project. Paragraph seven of **4 AAC 31.010 EDUCATIONAL SPECIFICATIONS**, indicates that the educational specifications should include, "the educational spaces needed, their approximate sizes in square feet, *their recommended equipment requirements*, and their space relationships to other facility elements." Educational specifications for projects incorporating state funding are reviewed and approved by the Department of Education prior to contract award. Good educational specifications include, in tabular form, a complete list of equipment necessary for the project. The best educational specification also identifies any existing equipment serving the educational program which can be used in the new, remodeled or expanded facility. If the project architect's professional services include responsibilities for preparing furnishing, fixtures and equipment (often referred to as FF&E) documents, these listings become an invaluable tool in communicating district needs to ensure their inclusion in the project. The project's construction documents should identify types and quantities of equipment which conform to the district's established standards. The actual selection and purchase of this equipment is the responsibility of the school district in which the school facility is located.

Technology Items

A key component of any equipment budget is the provision of technology items such as computers, computer peripherals and software, audio-visual and vocational-technical equipment. Technology incorporates a wide spectrum of equipment items and is becoming an integral process of education. Technology can both be taught as a subject area and used as a delivery system in the teaching/learning process across all subject areas. In other words, most schools include both technology education and educational technology. They do this to differing degrees depending on the objectives and culture of the school district or individual school. The definitions included in Appendix A indicate that technology is best thought of in the broad sense of those equipment items used to process or create electronic data which are integrated into a system. Under this definition, typical technology equipment at the publication of this guide would be, computers, printers, video projectors, robotics, scanners, video cameras, digital cameras, television and video recorders/players, image processors, electronic test equipment digital telephone, etc. Of course most of these items are dependent on both the software and wiring/cabling connections to make them functional for specific purposes. Typically, the wiring and cabling will be included as part of the construction budget.

Distinguishing Between Supply and Equipment Items

An item can be classified as **supply** if it meets one or more of the following criteria:

1. It is consumed, worn out, or deteriorated as it is used, to the point of being not useful or not available for its principal purpose, and under normal conditions of use, it reaches this state of being not useful or not available for its principal purpose typically within one (1) but not more than two (2) years.

Identifying Needed Equipment (cont.)

2. Its original shape, appearance, and/or character changes with use.

3. It loses its identity through fabrication or incorporation into a different or more complex unit or substance.

4. It is expendable, that is, if the item is damaged or some of its parts are lost or worn out, it is usually more feasible to replace the item with an entirely new unit rather than repair it. Examples are paper, pencils, cleaning supplies, etc.

An item can be classified as **equipment** if it is an instrument, machine, apparatus, or set of articles which meets *all* of the following criteria:

1. It retains its original shape, appearance, and/or character with use.

2. It does not lose its identity through fabrication, or incorporation into a different or more complex unit or substance.

3. It is non-expendable; that is, if the item is damaged or some of its parts are lost or worn out, it is usually more feasible to repair the item rather than to replace it with an entirely new unit.

4. Under normal conditions of use, including reasonable care and maintenance, it can be expected to serve its principal purpose for more than one (1) year.

5. It is of significant value, usually over $300. (The value which the local school district has established in its capitalization policy.)

6. Examples are computers, audio visual items, furniture, library media, etc.

Items which are obviously "supply" in nature may be purchased only if they are an integral part of an equipment package purchase such as with a computer (operating system software) or teaching machine or other device meeting the criteria of an equipment item.

For supply/equipment decision flow chart, see the department's Uniform Chart of Accounts for School Districts, 1996.

School Equipment Budgets

Quantities

Equipment items should be purchased only as needed to support the individual school project or program which is authorized. Numbers of desks, computers, calculators, VCRs, TVs, etc., should be, when added to those already available to be moved from any older facility which formerly housed the program; a total of no more than those appropriate to adequately provide for the educational program served by the school construction project named in the funding application or project agreement. The Department of Education will approve the general types and quantities of equipment purchases as it approves the educational specifications submitted by the school district. It is the responsibility of the school district to actually purchase the equipment and to make specific cost-benefit value decisions and product selections.

Overall Budgets

The portion of each school construction or major maintenance project budget used for the purchase of school equipment should respond to the district's instructional program, the type of equipment needed to deliver the program, the grade levels being served, the availability of satisfactory existing equipment and the cost and quantities of new equipment. Traditionally, school equipment budgets have been thought of as a percentage of the facility construction cost. Current experience is showing percentages ranging as high as eight percent. This figure is for new construction; a lesser amount often is sufficient in renovations due to the availability of existing equipment items. For projects funded by appropriations made to the Department of Education, total equipment budgets (i.e. conventional equipment plus technology items) have been limited to 7% unless a detailed justification is provided which shows the correlation between a school board approved instructional program and the need for additional equipment.

While budgeting for equipment as a percentage of construction cost has some merit, state-wide equity is difficult to achieve due to the widely varying construction costs of Alaska schools. Whereas the cost of acquiring a constructed facility involves labor costs, material costs and substantial premiums to access and serve remote sites, the cost of acquiring school equipment is more likely to be similar among districts regardless of location. Some small increases can be expected for shipping and quantity discounts as well as the services required to install more elaborate systems.

The department is establishing two parameters with which to evaluate school equipment budgets. The first will be the percentage-of-construction method with the standard limitation remaining at 7%. The second budget parameter is established on a per-student basis as shown in the tables on the following page:

School Equipment Budgets (cont.)

Students Served	Technology Equipment	All Other Equipment
Elementary		
• 10 - 100 students	$1150	$1400
• 101 - 250 students	$1050	$1350
• 251 - 500 students	$850	$1150
• over 500 students	$700	$1000
Secondary		
• 10 - 100 students	$1350	$1700
• 101 - 250 students	$1250	$1650
• 251 - 500 students	$1050	$1450
• over 500 students	$900	$1300

Note: for schools with a mix of elementary (K-6) and secondary students (7-12), the aggregate number of students will determine which per-student allotment is used. Example: A K-12 school with 86 students in grades K – 6 and 59 students in grades 7 – 12 would use figures from the 101 – 250 category ($1050 and $1350 for elementary and $1250 and $1650 for secondary. These would be applied to the specific numbers of students in each grade grouping.

Summary

Projects funded by appropriations made to the Department of Education, total school equipment budgets will be limited to the lesser of the amounts generated by the percentage of construction cost formula at 7%, and the per-student formula shown above. The opportunity to provide detailed justification which shows the need for additional funding of equipment remains in effect. Remote schools will be allowed an additional amount to account for estimated shipping and installation costs.

For projects providing new facilities or projects constructing space for new media programs which do not replace another facility, the initial purchase of library media is appropriate for inclusion in the equipment budget.

Accounting for Equipment Purchases

Installed Equipment

Built-in equipment or furnishings or those pieces of equipment which are an integral part of a building system are normally included in the construction documents and are not considered capital equipment for the purposes of a fixed asset inventory. Installed equipment is instead accounted for as part of the building cost.

Fixed Asset Inventory

The Property Accounting Manual for Public Schools, 1980, provides procedures and requirements for establishing and maintaining a property accounting system. Equipment purchased as part of a school construction project should be recorded in this system. A great deal of unnecessary work is created if every single item of property is recorded, no matter how small the value. Therefore, a minimum cost should be established for an asset to be entered into the fixed asset records, usually in the range from $200 to $500. The Property Accounting Manual for Public Schools recommends that all equipment which costs more than $300 be recorded and accounted for as fixed assets, while the Alaska Department of Education Uniform Chart of Accounts, 1996, uses $500. The school districts/municipalities capitalization policy may set a lower or higher threshold for equipment. The cost established as the threshold should be stated in the fixed asset portion of the annual audit.

Appendix A - Definitions

Installed Equipment: *Built-in equipment or furnishings or those pieces of equipment which are an integral part of a building system.*

Fixed Assets: *An account grouping used to track the balance of expenditures and revenues associated with owned property.*

Property: *Physical assets including land, buildings and equipment.*

Supplies: *Items which are consumed during normal use or are more feasible to replace with an entirely new unit rather than repair it. Supplies are not part of the fixed asset account group.*

Technology: *An integrated system of electronic and mechanical equipment, associated software and peripherals which creates and/or process information to support a school's educational program.*