Bond Reimbursement and Grant Review Committee Meeting Agenda

April 19, 2022, Tuesday, 1:30 pm to 4:30 pm
April 20, 2022, Wednesday, 8:30 am to 4:00 pm

Classroom at the Andrew P. Kashevaroff (APK) Building
Alaska State Library, Archives, & Museum, 395 Whittier Street, Juneau, Alaska

Audio Teleconference available through free online Zoom application.
Join Online – Meeting Number: 852 6045 1331
Join by Phone – Toll Call-in number (US/Canada): 1 (253) 215-8782; Meeting: 852 6045 1331

Chair: Heidi Teshner

Tuesday, April 19 — Agenda Topics

1:30 – 1:45 PM	Committee Preparation • Call-in, Roll Call, Introductions, Chair's Opening Remarks • New Business, Additions to the Agenda • Agenda Review/Approval • Past Meeting Minutes Review/Approval
1:45 – 2:00 PM	Public Comment
2:00 – 3:00 PM	Department Briefing • FY2023 CIP Report ▪ Reconsideration & Final Lists • Report: School Capital Project Funding Under SB 237 • REAA and Small Municipal Fund Report • Legislation and Regulation Updates
3:00 - 3:15 PM	BREAK
3:15 – 3:45 PM	Department Briefing • FY 2024 CIP Application & Support Materials ▪ Life-Safety Matrix ▪ Preventive Maintenance Narrative Matrices
3:45 - 4:30 PM	FY 2024 Application Review • FY 2024 Application • FY 2024 Application Instructions • FY 2024 CIP Eligibility and Scoring Criteria • FY 2024 Rater's Guide
4:30 PM	Recess

Wednesday, April 20

Agenda Topics

8:30 – 8:45 AM	Committee Preparation • Call-in, Roll Call • Chair's Opening Remarks
8:45 – 9:00 AM	Public Comment
9:00 – 10:00 AM	FY 2024 Application Review (continued) Action Item • Approve FY 2024 Application and Supporting Documents
10:00 AM – 10:15 AM	Subcommittee Reports • Design Ratios • Model School • School Space
10:15 – 10:30 AM	BREAK
10:30 – 12:00 PM	Publications • *Project Delivery Method Handbook – Draft for Public Comment* • *Preventive Maintenance Handbook – Draft for Public Comment* • *Capital Project Administration Handbook – Final* • *Construction Standards Handbook – Final* Action Item: • Approve for Public Comment: ▪ *Project Delivery Method Handbook* ▪ *Preventive Maintenance Handbook* • Approve ▪ *Capital Project Administration Handbook* ▪ *Construction Standards Handbook*
12:00 – 1:15 PM	LUNCH
1:15 – 2:00 PM	Cost Model Update • 21th Edition Model School Elements, Proposed Changes • HMS, Inc. Teleconference Action Item • Model School Escalation Elements
2:00 – 2:30 PM	Review/Approve Plan for Construction Standards Biennial Update
2:30 – 3:00 PM	Design Ratio Approval
3:00 – 3:15 PM	BREAK
3:15 –3:40 PM	BR&GR Calendar and Work Plan Review & Update
3:40 – 3:45 PM	Set Date for Next Meeting
3:45 - 3:50 PM	DEED Wrap-up
3:50 – 4:00 PM	Committee Member Comments
4:00 PM	Adjourn

BOND REIMBURSEMENT & GRANT REVIEW COMMITTEE

Monday, February 28, 2022

DRAFT MEETING MINUTES FOR APPROVAL

Committee Members Present	Staff	Additional Participants
Heidi Teshner, Chair	Tim Mearig	Dana Menendez, Anchorage SD
Randy Williams	Lori Weed	Larry Morris, Anchorage SD
Dale Smythe	Sharol Roys	Lon Garrison, Assoc. of AK School Boards
Jim Estes	Wayne Norlund	Clay Anderson ,Fairbanks Boro.
Kevin Lyon		Randall Finkenbinder, Southwest Region SD
David Kingsland		Gary Eckenweiler, Bering Strait SD
Branzon Anania		Janet Smith, Fairbanks Boro.
		Jonathan Shambare, Fairbanks Boro.
		Damian Hill, Lake & Pen. Boro. SD
		Chris Giron, SERRC
		Carolyn Hamp for Rep. Ortiz

February 28, 2022

CALL TO ORDER and ROLL CALL

Chair Heidi Teshner called the meeting to order at 1:01 p.m. Roll call was taken, and a quorum was established to conduct business. Sen. Roger Holland and Rep. Dan Ortiz were excused.

CHAIR'S OPENING REMARKS

Chair Teshner welcomed all of the guests and said it was good to see all the members again since it's been some time since she had chaired the meeting.

AGENDA REVIEW/APPROVAL

Tim Mearig requested that the item titled "Approve for Public Comment" under Design Ratio Review be removed.

Dale Smythe **MOVED** to approve the agenda as amended, **SECONDED** by Branzon Anania. Hearing no opposition, the motion **PASSED**.

PAST MEETING MINUTES REVIEW/APPROVAL – December 2021

Randy Williams **MOVED** to approve the minutes from the December meeting, **SECONDED** by Dale Smythe. Hearing no opposition, the motion **PASSED**.

PUBLIC COMMENT

A public comment period was offered, and no public testimony was provided.

FY2024 CIP APPLICATION REVIEW

Sec. 4 Code/Life Safety/Protection of Structure Condition Matrix

Tim Mearig discussed the Life Safety Matrix paper, explaining that the first review strategy was a point-centric view that compared identical point values for certain conditions to adjacent scoring within a point of the current value. The purpose was to try to demonstrate a measurable difference in how those conditions should be scored. He identified nine conditions for review: Siding failure, age <25 yr; Elevator code deficiency; Sewage lagoon failure/exposure; Building egress; Intercom issues, WO >3/yr; HazMat (all) Mod exposures; Siding material, age >25yr; Fire alarm non-op > floors; and Roof leaks, avg WO >3/yr.

The second strategy was a system-centric view that examined the points available for each of eight systems categories as compared to total points available, and results were: Arch/Interior/ADA - 8.6%; Electrical - 13.4%; Fire Alarm/Sprinkler - 9.9%; Mechanical - 14.3%; Roof/Envelope - 15.4%; Site - 16.1%; Structural - 14.3%; and UST/AST/HazMat - 7.9%.

Randy Williams wondered if some of the point categories within each system could be moved or given new categories so there would not be over- or under-representation of points. After some discussion, he commented that, overall, the categories were fairly well distributed and made sense the way it was set up under this strategy.

The third strategy analyzed bonus points awarded for conditions identified by a licensed professional. Dale Smythe asked if the intent was to give more confidence in a deficiency if it had been submitted by a professional, and Tim said that was correct.

Branzon Anania expressed concern about the cost of hiring experts for small districts and wondered if there was a way to offset that cost for the smaller districts. Lori Weed said that a capable person could do a condition survey and submit a report and photographs to a professional who could substantiate the code deficiency.

Dale Smythe agreed that hiring a licensed professional is both difficult and expensive, and pointed out that unlicensed professionals in certain fields can provide expert opinions about code deficiencies at a fraction of the cost. Gary Eckenweiler agreed and provided an example of an expert who is a building leveler who has been the point person for engineers because he is so knowledgeable, but he is not a licensed professional. Tim Mearig noted that the place where the largest point difference between having a professional engineer or not is the structural category.

The fourth strategy concerns the analysis of single condition projects. Tim pointed out that the single condition projects can easily be outscored by projects with multiple minor conditions, and then a weighting factor adjustment is in order.

Tim noted that the purpose of this life safety matrix paper is to open the discussion. He said the matrix has worked well in the past and nothing stands out as being egregiously wrong. He wants to be sure that it is applied in a way that is consistent, helpful, and accurate.

Randy Williams asked if single condition projects were common. Lori Weed replied that roof projects are the most common, and right now they have about a dozen of those. Some of those

projects scored near the top because they were affecting space, in particular educational space. If a district repairs a leaky roof at its own expense, they typically get full design and get reimbursed. Wayne Norlund noted that there are various types of single condition projects other than roofs, such as elevator code compliance upgrade and foundation repair.

Sec. 9 Preventive Maintenance Matrices

Tim Mearig explained that the maintenance narratives set out the scoring criteria for each of five areas of maintenance and facility management and identifies areas where there was a problem with clarity or the requirements being provided accurately, or at all.

Tim outlined three options going forward:

1. Recognize and accept that the new matrix will influence scoring, but make adjustments to ensure attainable targets.
2. Focus more on narratives, and remove or reduce supporting documents.
3. Keep the matrix as is for the next rating period.

Randy Williams was in favor of option 1, which he interpreted as keeping it mostly the same but trying to tackle some of the more obvious disparities. Dale Smythe wanted more discussion before deciding in order to make sure that the less advantaged and smaller districts are not at a disadvantage. Branzon Anania said that energy reporting is difficult to assess monthly mostly because of lack of manpower, but said option 1 looked good to him. Kevin Lyon agreed that energy reporting is challenging, as is dealing with getting meters installed and then tying them into the building automation system. He also thought option 1 was the way to go. Gary Eckenweiler also favored option 1 over the other two stating that there is no reason to go with option 3, and getting the narratives for option 2 could be difficult.

Tim Mearig reviewed the 3-point requirements of the energy scoring criteria and noted that if a district does not have a standalone energy management guide or manual that has been updated in the last five years, they are excluded from getting the 3 points. He asked for feedback regarding how important a solid written program is for demonstrating energy management.

Gary Eckenweiler reported that Bering Strait has all the components but never compiled it and made a program. Dale Smythe predicted that the smaller districts have almost no one on staff that recognizes the importance of this or how to communicate a policy. Tim Mearig acknowledged that the larger the district, the more likely it was that some description of an energy program was going to include a policy, program structure, and roles. Lon Garrison said there are two model board policies regarding energy: policy 3510 speaks to maintenance, and policy 3511 regards energy conservation.

Tim Mearig clarified that the purpose of looking at these five areas is to assess the administrative load, which is significant even at level 3. Lori Weed asked Kevin Lyon to address the paperwork challenges for the application. Kevin replied that not all the reports that were requested were available. Also, the reports that were available with Utility Direct software were not available with the upgraded Energy Manager.

Branzon Anania looked at his district's energy policies, and both of them are very basic and were written in 1998, so need to be updated. He noted it would be nice if there was an easy way to put the package together.

Dale Smythe asked if there are practices that would facilitate reduction of paperwork. Tim Mearig replied that the department looks at every submittal to evaluate eligibility.

Branzon Anania **MOVED** to recognize and accept that the new matrix will influence scoring but work to adjust and ensure that there are fair targets established that are attainable, something like every district should be able to score a 3 with reasonable effort, or they can just call it option 1, **SECONDED** by Kevin Lyon. Hearing no objection, the motion **PASSED**.

DESIGN RATIO REVIEW

Chair Teshner noted that this position paper is not in the packet but was e-mailed to the members before the meeting. It is also available on the website.

Tim Mearig said that this paper was to provide the status of the design ratios and to assess whether the design ratios would be suitable for placement in Alaska Administrative Code. In order to be included in the regulations, the ratios need to be adequate, able to be defined, durable, and applicable across all project types.

Tim discussed the Building Volume to Exterior Surface Area (V:ES) ratio with respect to different building designs. If the building is elevated and has floor exposed to the ambient air, it makes a big difference in the ratio of the total surface area of the enclosure. Also, a two-story design exposes a lesser portion of the envelope to the environment. One solution would be to exclude the footprint area of the building so only the vertical walls [and roof] would contribute to the ratio since all schools have exterior walls and roofs, but not all schools have exposed floors.

Tim Mearig would like to have the design ratios have a public comment period before they are sent to the State Board of Education. Dale Smythe agreed and said that the subcommittee has two of the three ratios ready, and the V:ES could be ready. It was decided that the subcommittee will have the final ratios for the April meeting.

PUBLICATIONS

Capital Project Administration Handbook

Tim Mearig stated that this is the third edition of the publication, and some rearranging and additions have been made. Lori Weed briefly explained some of the changes as follows:

- Made the publication more applicable to both grant and debt projects;
- Added a section about the project agreement and identified some of the clauses; and
- Payments schedule for the grant was moved to an appendix.

Chair Teshner asked if this publication will be put out for public comment and if the committee will see it again in April. Lori Weed replied that was the plan.

Dale Smythe asked if the results of the validation survey were new. Lori said yes, it was a new survey as of December 2021 but in the same format as seen before.

Kevin Lyon **MOVED** that the Bond Reimbursement and Grant Review Committee approve the initial draft of the *Capital Project Administration Handbook* publication as presented and recommend that the department open a period of public comment, **SECONDED** by David Kingsland. Hearing no objections, the motion **PASSED**.

Alaska School Design & Construction Standards

Chair Teshner stated she was impressed with the number of individual comments that were received on this.

Tim Mearig introduced the four documents in the packet: cover memo, list of 67 items that the subcommittee considered, tally of 1100 individual comments from the initial document review, and an edited version of the handbook based on comment review.

Tim would like the committee to take two actions today. First, review and agree that the proposed responses are what the committee would like to see go back out to the commentors. Second, that the revised handbook be submitted for a second comment period.

Kevin Lyon thanked the subcommittee and everyone else who put in time and hard work in the preparation of this revised document.

Tim asked for comments in general but particularly on the following:

- Security cameras in classrooms.

Tim suggested the installation of security cameras in classrooms as a provisional item. The department had it listed as a premium item, not provisional. Branzon Anania asked if that could happen with teacher contracts and stated that cameras in hallways and other common areas are pretty common, but in the classroom, cameras might be a contract question. Also, Sharol Roys wondered if cameras in classrooms might be a HIPAA [FERPA] violation because anyone could look at the children. Tim stated that it would be left as a premium item.

- Accepted/appropriate classroom technologies and wired network support.

The question of classroom technologies and wired versus wireless was discussed. Tim referred to a comment that indicated wired structures are not needed because most schools have WiFi routers now. Dale Smythe disagreed and said there is still a place for hard data in schools, and he did not think it was going away and should not be excluded. Randy Williams asked if there were any security risks with WiFi as opposed to wired networks.

Tim read from the general use classroom as follows: Special systems in a general use classroom, phone/intercom, synchronized clock, interactive display, wireless Internet, duplex data ports approximately one per four students plus a teaching station. There were no offers or suggestions to rewrite or give a different opinion, so there were no changes to that section.

- Full operable partitions vs. communicating hinged double doors.

Tim noted that there were a couple of comments regarding the use of full height operable partitions allowing opportunity for flexible uses. Some comment responses indicate that this could be handled through the section that speaks to innovative design practices. Wants to provide

an opportunity for supporting of counter views. Operable partitions do not seem to have been very durable in use or function in Alaska schools, but that is not a fully vetted position.

Gary Eckenweiler agreed; they had an architect who wanted a bunch of flexible rooms with dividers that roll across. The few they've had over the years were taken out and made solid walls; partitions lack in durability and sound control.

Dale Smythe stated that he can't argue with the durability and maintenance issues; however, if designed correctly with the right support, backing, and product, which is not cheap, they can perform, and you do get double use from the space. Dale offered that partitions are not appropriate for classrooms, but there are two areas they work well. The first is separating a stage area from a multipurpose room or gym, so that it can be used as a music or other classroom when the stage is not in use. The second is in a small school with a home economic-style classroom adjacent to the gym, and the partition allowed it to function as a cafeteria. That partition was a motor-operated, vertically folding partition, not cheap but within budget, and it has performed well.

Branzon Anania said that Southeast Island School District has two schools with these that don't get a lot of use but have held up well. It is a neat option for smaller schools. An effective use is off their library, and the space doubles as an office. But where he's seen it used to divide general classrooms it gets beat up a lot more.

Lori Weed summarized that people have agreed for general classroom use it should remain premium, but it works better in support spaces. Tim Mearig observed that it may be challenging to put it into certain categories of where it's not possible. He hadn't considered an upward acting vertical door. One reason that the partitions may not have worked well in some buildings, is the amount of movement, particularly for buildings on piles.

- Headbolt heaters.

Headbolt heaters are listed as provisional in climates 8 and 9 and 50 percent of staff in Zone 7. No one gets a headbolt heater in Zone 6 as a state-funded item. Gary Eckenweiler said that in the Bering Straits, that's more than adequate, especially since there are not a lot of cars and trucks in the villages. Clay Anderson reported that Fairbanks has headbolt heaters in both the staff and student parking lots, and they cycle on and off automatically every 15 minutes.

- Support of renewable or combined-heat-power energy systems.

Currently anything that a district chooses to do with alternative renewable energy is treated as a premium item at district expense. Tim explained that much of the renewable energy is still experimental in Alaska, even in the area of wood fired boilers, which the department has not funded in the past.

Dale Smythe imagined that the department's position is to have both the school's first cost and operational cost be as low as possible, and he questioned what the difference would be between that ultra-efficient boiler versus a standard boiler. He also pointed out that a wind turbine would be difficult for a school to maintain, but a wood fired boiler might make a lot of sense.

Branzon Anania said it would be nice if there was something that said if you have an existing experimental system and you build a new building, being able to tie that into your new building would be helpful.

Dale Smythe stated that if the project can afford it, that should not be limited. Tim Mearig stated that these determinations are not based on whether or not the project can afford it. The question is, is this an element of cost-effective school construction?

Randy Williams asked why this language is proposed to be added, because the premium section already speaks to alternative energy and renewable energy. Tim thought the earlier design background information might have addressed that. He asked Randy what his reaction was to the specific comment about making provisions for electrical equipment to include renewable energy systems or combined heat power systems as a provisional factor. Randy replied that it's the cost of providing that intertie after it's already been built that becomes a problem, but he thought that it was established that the state does not want to be funding that.

Tim said that there are a few schools where plate heat exchangers were installed in advance of them hooking up to an alternative renewable energy source, and the state has funded that piece of equipment on a life cycle cost basis.

Randy Williams pointed out that High Performance Building, Premium item 19 lists, "On-site harvesting of renewable energy such as wind and solar," so the state would not participate in that funding.

Randy Williams **MOVED** that BR&GR approve the proposed review comments as revised for distribution, **SECONDED** by Dale Smythe. Hearing no objections, the motion **PASSED.**

Kevin Lyon **MOVED** that the Bond Reimbursement and Grant Review Committee approve the updated draft of the school design and construction documents as edited for a second period of public comment, **SECONDED** by Dale Smythe. Hearing no objections, the motion **PASSED**.

COMMITTEE MEMBER COMMENTS

- Branzon Anania thanked and appreciated everybody's hard work on everything they got through today.
- Kevin Lyon thanked everyone and asked for smaller packets if possible.
- James Estes thanked the department and subcommittee for their expertise and for a lot of tedious work. The committee is educational and fun to be a part of.
- Dale Smythe also thanked everyone and mentioned the 357-page packet, which was a lot of work. He thanked all the volunteers and stated he's proud to be a part of it.
- Randy Williams liked everyone's comments thus far, and said he was glad to be a member.
- Chair Teshner thanked all the members and non-members for all their work and made the following announcements:
    - The Annual School Capital Project Funding report was transmitted to the legislature today, so that should be posted on the Facilities website soon.

- Tomorrow and Wednesday the State Board of Education will meet and will review and hopefully approve the school construction and major maintenance grant fund list.
- Hopefully the State Board will put out for public comment an amendment to the School Facility Planning and Construction regulations to be adopted through regulation at June's meeting. The three publications were:
  - *Guidelines to School Equipment Purchases*;
  - *Swimming Pool Guidelines for Educational Facilities*;
  - *Site Selection Criteria and Evaluation Handbook*.

Chair Teshner further commented and appreciated that the committee has been supported through this meeting the Facilities staff of Tim Mearig, Lori Weed, Sharol Roys, and Wayne Norlund, as well as Wayne Marquis who is absent today.

The next meeting is scheduled for April 19th and 20th in Juneau.

MEETING ADJOURNED

Chair Teshner adjourned the meeting at 4:17 p.m.

THE STATE of ALASKA
GOVERNOR MIKE DUNLEAVY

Department of Education & Early Development
FINANCE & SUPPORT SERVICES
PO Box 110500
Juneau, Alaska 99811-0500
Telephone: 907.465.6906

To: Bond Reimbursement & Grant Review Committee
From: School Facilities
Date: April 19, 2022

DEPARTMENT BRIEFING

FY 2023 CIP Report

The department received reconsideration requests from three districts on five projects. In the lists issued December 21, 2021, the department reconsidered its determination on these projects and adjusted the budget of one project.

No appeals were received within the statutory deadline. No changes were made to the reconsideration lists and the final lists were issued January 14, 2022. The final lists are included in the packet. These were approved by the State Board of Education meeting on March 2, 2022.

The major maintenance list contains a total of 97 projects amounting to a total state share request of $196,637,613, and the school construction list contains 13 projects with a state share request of $192,775,088.

An updated sheet on the CIP grant request and funding history FY13-FY23 is included for reference.

Preventive Maintenance Update (PM State-of-the-State)

The Preventive Maintenance State of the State Report was updated on August 15, 2021, and is included in the packet. For the current FY23 CIP cycle, 47 of 53 school districts have certified preventive maintenance programs.

Districts not currently certified include:

- Aleutian Region
- Klawock City
- Lake & Peninsula
- Nenana City
- Skagway
- Yukon Flats

Districts granted provisional certification and working with the department to develop a full year of evidence of plan adherence include:

- Bristol Bay Borough
- Kake City
- Yakutat

Problem areas continue to be maintenance management, tracking and reporting energy consumption, and maintaining maintenance and custodial personnel training plans and records.

In-person site visits for current fiscal year 2022 are scheduled to take place between November and April for the following school districts:

- Alaska Gateway
- Chatham
- Copper River
- Craig City
- Delta/Greely
- Hoonah City
- Hydaburg City
- Klawock City
- Mat-Su Borough
- Nome City
- Sitka City Borough
- Southeast Island

School Capital Project Funding Report

AS 14.11.035 requires, beginning in February 2013, an annual report on school construction and major maintenance funding. The statute requires reports of spending from each of the three funding programs providing state aid for capital improvement projects—school construction and major maintenance grants under AS 14.11.011, REAA and small municipal district allocations under AS 14.11.025, and school construction debt reimbursement under AS 14.11.100. Summary tables from the 2022 report showing the funding activity by program, fiscal year, and category are included in the packet. The final report is available on the department's website.

REAA & Small Municipality Fund Report

The Regional Education Attendance Area fund was established by chapter 93, SLA 2010 (SB 237). The amount of money available each fiscal year is tied to the annual debt service incurred under AS 14.11.100. In 2013, the fund was amended to include "small municipal school districts". In 2018, the fund was amended to allow funding of major maintenance grants, but maintaining the primary function to fund school construction projects. Since the first appropriation in FY 2013, $297,766,878 has been deposited into the Regional Education Attendance Area and Small Municipal School -District (REAA) fund. From FY13 through FY15, $869,528 in interest also accrued to the fund for a total of $298,636,406. A total of 14 projects have obligated $290,799,625.

The combined projected FY23 REAA fund appropriation and unobligated fund balance is anticipated to be approximately $40,621,000. If appropriated, this funding is not sufficient to provide the state share of $54,895,544 for the priority #1 project on the School Construction Grant Fund list, William N. Miller K-12 Memorial School Replacement, Napakiak; however, the governor's FY2022 supplemental budget proposes additional funding to fully fund the project. Options for use of the remaining balance will be evaluated in accordance with 4 AAC 31.023(b).

Legislative Action

Governor introduced the FY2023 budget bills for the Second Session of the 32nd Legislature. The operating budget (HB 281/SB 162) as introduced provides for an allocation of $78,975,672 for state aid for costs of school construction under AS 14.11.100 (debt reimbursement) and $32,784,000 to the regional education attendance area and small municipal school district fund. These amounts are the full reimbursement entitlement and fund calculation for FY2023. The capital budget introduced (HB 283/SB 164) does not include funding for either the School Construction Grant Fund or the Major Maintenance Grant Fund. The governor's FY2022 supplemental operating and capital bill (HB284/SB165) as introduced provides for the appropriation of the FY23 REAA Fund balance and an additional $22,111,544 together into the School Construction Grant Fund, which fully funds

the priority #1 project on the School Construction Grant Fund list, William N. Miller K-12 Memorial School Replacement, Napakiak. Amendments to the operating budget made by the House Finance Committee include supplemental appropriations to the REAA Fund and debt reimbursement program for the 50 percent of the calculations that did not get funded in FY2022.

HB 350 BY Rep. Drummond proposes to reestablish the debt reimbursement program and end the moratorium on July 1, 2022. Sets reimbursement rates for voter approved debt at 70% and 60% reimbursement. HB 350 is in the House Finance Committee.

SB 17 by Sen. Begich proposes that the state energy policy include a goal of a least 50% of energy used by state and state-funded facilities (including public school buildings) be obtained from clean energy sources by 2026. Proposes that the state perform energy audits of public facilities (including schools), periodically review energy audits, and coordinate retrofit projects. SB 17 is in the Senate Finance Committee.

SB 225 by the Senate Education Committee proposes was amended to propose that the department conduct a study to assess the needs for teacher housing in rural areas of the state, including an inventory, projection of need, and capital plan for funding the housing needs.

Regulations Update

Updated references in 4 AAC 31.020(a) to the *Swimming Pool Guidelines for Educational Facilities*, approved by BRGR 7/18/19; *Site Selection Criteria and Evaluation Handbook*, approved by BRGR 9/8/21; and the *Guidelines to School Equipment Purchases*, approved by by BRGR 12/9/21, went before the State Board of Education and Early Development at its March 1-2, 2022 meeting. The Board put out the proposed regulation change for a period of public comment from March 29, 2022 to April 28, 2022. The Board will consider the adoption of the proposed regulation change at its June 8, 2022 meeting.

Cost Model Update

The DEED Program Demand Cost Model, which is a tool used to assist school districts in estimating construction and renovation costs, will be updated again in 2022. This will be the 21st Edition of the tool. The contract with HMS, Inc. calls for final products on April 30 for use in the FY2024 application cycle and will be posted on the department's website before the annual CIP training workshop.

A teleconference with HMS, Inc. has been scheduled to allow the committee to provide input on potential changes to the elements of the Model School Building Escalation Study per the Model Alaskan School subcommittee recommendation. See separate agenda item and supplemental materials.

Department Projects

The department received funding in FY2022 for a Statewide School Capital Funding Forecast Database. The department issued a request for information (RFI) in February and March 2022. A request for proposals is currently being developed for advertisement. The attached graphic, outlining the relationship of data and information has been prepared for inclusion in the RFP.

Publications Update

Following is a list of publications currently managed by the department along with an estimated revision priority, and the year of publication or latest draft. Those in bold are publications proposed for committee approval.

1. **Alaska School Facilities Preventive Maintenance Handbook** (1999) *[Proposed update 2022]*
2. **School Design and Construction Standards Handbook** (new) *[Proposed 2022]*
3. Capital Project Administration Handbook (2017) *[Proposed update 2022]*
4. Project Delivery Method Handbook (2017) *[Proposed update 2022]*
5. **Space Guidelines Handbook** (1996)
6. Facility Appraisal Guide (1997)
7. Renewal & Replacement Schedule (2001)
8. Outdoor Facility Guidelines for Secondary Schools (new)
9. **Life Cycle Cost Analysis Handbook** (2018)
10. Professional Services for School Capital Projects (2018)
11. **Swimming Pool Guidelines** (2019)
12. **A Handbook to Writing Educational Specifications** (2019)
13. **Guide for School Facility Condition Surveys** (2020)
14. Cost Format – *DEED Standard Construction Cost Estimate Format* (2020 3rd Ed.)
15. Site Selection Criteria & Evaluation Handbook (2021)
16. **Guidelines for School Equipment Purchases** (2021)

See specific cover memos and materials for the publications being presented under separate agenda items.

Alaska Department of Education and Early Development
FY2023 Capital Improvement Projects
School Construction Grant Fund

Final List

Jan 14 Rank	Dec 21 Rank	Nov 5 Rank	School District	Project Name	Amount Requested	Eligible Amount	Prior Funding	DEED Recommended Amount	Participating Share	State Share	Aggregate Amount
1	1	1	Lower Kuskokwim	William N. Miller K-12 Memorial School Replacement, Napakiak	$65,150,907	$59,210,501	$3,194,640	$56,015,861	$1,120,317	$54,895,544	$54,895,544
2	2	2	Lower Kuskokwim	Newtok K-12 School Relocation/Replacement, Mertarvik	$68,067,766	$57,525,549	$0	$57,525,549	$1,150,511	$56,375,038	$111,270,582
3	3	3	Lower Kuskokwim	Anna Tobeluk Memorial K-12 School Renovation/Addition, Nunapitchuk	$63,106,706	$46,131,534	$0	$46,131,534	$922,631	$45,208,903	$156,479,485
4	4	4	Yukon-Koyukuk	Minto K-12 School Renovation/Addition	$12,091,453	$12,091,453	$0	$12,091,453	$241,829	$11,849,624	$168,329,109
5	5	5	Anchorage	Gruening Middle School Non-Seismic Improvements	$20,582,983	$20,582,983	$0	$20,582,983	$7,204,044	$13,378,939	$181,708,048
6	6	6	Anchorage	Homestead Elementary School Safety Improvements	$4,897,249	$4,897,249	$0	$4,897,249	$1,714,037	$3,183,212	$184,891,260
7	7	7	Hoonah City	Hoonah School Playground Improvements	$227,747	$227,747	$0	$227,747	$68,324	$159,423	$185,050,683
8	8	8	Anchorage	Security Vestibules Group 2, 3 Sites	$951,669	$951,669	$0	$951,669	$333,084	$618,585	$185,669,268
9	9	9	Anchorage	Security Vestibules Group 1, 3 Sites	$1,231,000	$1,231,000	$0	$1,231,000	$430,850	$800,150	$186,469,418
10	10	10	Lower Kuskokwim	Water Storage And Treatment, Kongiganak	$3,586,007	$3,586,007	$0	$3,586,007	$71,720	$3,514,287	$189,983,705
11	11	11	Kenai Peninsula Borough	Kenai Middle School Security Remodel	$1,292,560	$1,711,015	$0	$1,711,015	$598,855	$1,112,160	$191,095,865
12	12	12	Anchorage	Chugiak High School Track Improvements	$926,000	$926,000	$0	$926,000	$324,100	$601,900	$191,697,765
13	13	13	Lower Kuskokwim	Bethel Campus Transportation and Drainage Upgrades	$1,099,309	$1,099,309	$0	$1,099,309	$21,986	$1,077,323	$192,775,088
				Totals:	**$243,211,356**	**$210,172,016**	**$3,194,640**	**$206,977,376**	**$14,202,288**	**$192,775,088**	

Alaska Department of Education and Early Development
FY2023 Capital Improvement Projects
Major Maintenance Grant Fund

Final List

Jan 14 Rank	Dec 21 Rank	Nov 5 Rank	School District	Project Name	Amount Requested	Eligible Amount	Prior Funding	DEED Recommended Amount	Participating Share	State Share	Aggregate Amount
1	1	1	Galena City	Galena Interior Learning Academy Composite Building Renovation	$6,214,822	$6,214,822	$0	$6,214,822	$310,741	$5,904,081	$5,904,081
2	2	2	Craig City	Craig Middle School Rehabilitation	$6,297,916	$6,297,916	$0	$6,297,916	$629,792	$5,668,124	$11,572,205
3	3	3	Anchorage	Eagle River Elementary School Improvements	$8,342,084	$8,342,084	$0	$8,342,084	$2,919,729	$5,422,355	$16,994,560
4	4	4	Denali Borough	Anderson K-12 School Partial Roof Replacement	$1,269,468	$1,269,468	$0	$1,269,468	$253,894	$1,015,574	$18,010,134
5	5	5	Craig City	Craig Elementary School Rehabilitation	$2,215,494	$2,117,210	$0	$2,117,210	$211,721	$1,905,489	$19,915,623
6	6	6	Kake City	Kake Schools Heating Upgrades	$239,522	$239,522	$0	$239,522	$47,904	$191,618	$20,107,241
7	7	7	Chugach	Chenega Bay K-12 School Renovation	$5,877,492	$5,877,492	$0	$5,877,492	$117,550	$5,759,942	$25,867,183
8	8	8	Chugach	Tatitlek K-12 School Renovation	$7,114,554	$7,114,554	$0	$7,114,554	$142,291	$6,972,263	$32,839,446
9	9	9	Copper River	Copper River District Office Roof Replacement	$593,424	$593,424	$0	$593,424	$11,868	$581,556	$33,421,002
10	10	10	Anchorage	West High School Partial Roof Replacement	$7,154,552	$6,649,629	$0	$6,649,629	$2,327,370	$4,322,259	$37,743,261
11	11	11	Valdez City	Valdez High and Hermon Hutchens Elementary Schools Domestic Water Piping Replacement	$1,277,956	$1,277,956	$0	$1,277,956	$447,285	$830,671	$38,573,932
12	12	12	Anchorage	Taku Elementary School Roof Replacement	$3,562,698	$3,562,698	$0	$3,562,698	$1,246,944	$2,315,754	$40,889,686
13	13	13	Juneau Borough	Sayéik: Gastineau Community School Partial Roof Replacement	$1,599,135	$1,599,135	$0	$1,599,135	$559,697	$1,039,438	$41,929,124
14	14	14	Lower Yukon	Sheldon Point K-12 School Foundation Cooling and Repairs, Nunam Iqua	$3,221,809	$3,221,809	$0	$3,221,809	$64,436	$3,157,373	$45,086,497
15	15	15	Anchorage	East High School Gym Improvements	$10,505,016	$8,726,669	$0	$8,726,669	$3,054,334	$5,672,335	$50,758,832
16	16	16	Aleutians East Borough	Sand Point K-12 School Major Maintenance	$2,968,577	$2,968,577	$0	$2,968,577	$1,039,002	$1,929,575	$52,688,407
17	17	17	Bristol Bay Borough	Bristol Bay School Elementary and Gym Roof Replacement	$2,735,697	$2,583,861	$0	$2,583,861	$904,351	$1,679,510	$54,367,917
18	18	18	Iditarod Area	David-Louis Memorial K-12 School HVAC Control	$116,071	$116,071	$0	$116,071	$2,321	$113,750	$54,481,667
19	19	19	Anchorage	Government Hill Elementary School Roof Replacement	$3,158,027	$2,635,154	$0	$2,635,154	$922,304	$1,712,850	$56,194,517
20	20	20	Iditarod Area	Blackwell K-12 School Fire Alarm Upgrades, Anvik	$81,607	$81,607	$0	$81,607	$1,632	$79,975	$56,274,492
21	21	21	Yukon-Koyukuk	YKSD District Office Roof Replacement	$160,325	$160,325	$0	$160,325	$3,206	$157,119	$56,431,611
22	22	22	Lower Yukon	Hooper Bay K-12 School Exterior Repairs	$2,777,531	$2,296,607	$0	$2,296,607	$45,932	$2,250,675	$58,682,286
23	23	23	Fairbanks Borough	Woodriver Elementary School Roof Replacement	$1,919,504	$1,802,954	$0	$1,802,954	$631,034	$1,171,920	$59,854,206
24	24	24	Nome City	Nome Beltz Jr/Sr High School Boiler Replacement	$102,856	$102,856	$0	$102,856	$30,857	$71,999	$59,926,205
25	25	25	Nome City	Anvil City Charter School Restroom Renovation	$369,359	$369,359	$0	$369,359	$110,808	$258,551	$60,184,756
26	26	26	Lower Kuskokwim	Qugcuun Memorial K-12 School Renovation, Oscarville	$5,194,378	$4,078,400	$0	$4,078,400	$81,568	$3,996,832	$64,181,588
27	27	27	Anchorage	Homestead Elementary School Roof Replacement	$4,051,144	$3,515,805	$0	$3,515,805	$1,230,532	$2,285,273	$66,466,861
28	28	28	Fairbanks Borough	Lathrop High School Gym Partial Roof	$686,219	$631,507	$0	$631,507	$221,027	$410,480	$66,877,341
29	29	29	Anchorage	King Tech High School Roof Replacement	$3,829,327	$3,829,327	$0	$3,829,327	$1,340,264	$2,489,063	$69,366,404
30	30	30	Nome City	Nome Beltz Jr/Sr High School Generator	$865,503	$865,503	$0	$865,503	$259,651	$605,852	$69,972,256
31	31	31	Valdez City	Districtwide Generator Replacement	$1,146,505	$1,039,811	$0	$1,039,811	$363,934	$675,877	$70,648,133
32	32	32	Ketchikan Borough	Ketchikan High School Security Upgrades	$514,012	$514,012	$0	$514,012	$179,904	$334,108	$70,982,241

Alaska Department of Education and Early Development
FY2023 Capital Improvement Projects
Major Maintenance Grant Fund

Final List

Jan 14 Rank	Dec 21 Rank	Nov 5 Rank	School District	Project Name	Amount Requested	Eligible Amount	Prior Funding	DEED Recommended Amount	Participating Share	State Share	Aggregate Amount
33	33	33	Yukon-Koyukuk	Ella B. Vernetti K-12 School Boiler Replacement, Koyukuk	$509,119	$509,119	$0	$509,119	$10,182	$498,937	$71,481,178
34	34	34	Fairbanks Borough	Administrative Center Air Conditioning and Ventilation Replacement	$1,404,510	$1,404,510	$0	$1,404,510	$491,578	$912,932	$72,394,110
35	35	35	Northwest Arctic Borough	June Nelson Elementary School Roof Replacement	$1,014,064	$1,014,064	$0	$1,014,064	$202,813	$811,251	$73,205,361
36	36	36	Anchorage	North Star Elementary School Roof Replacement	$3,432,852	$3,003,681	$0	$3,003,681	$1,051,288	$1,952,393	$75,157,754
37	37	37	Anchorage	Service High School Health and Safety Upgrades	$6,298,005	$5,462,781	$0	$5,462,781	$1,911,973	$3,550,808	$78,708,562
38	38	38	Aleutians East Borough	Sand Point K-12 School Pool Major Maintenance	$102,608	$102,608	$0	$102,608	$35,913	$66,695	$78,775,257
39	39	39	Lower Yukon	Marshall K-12 School Tank Farm Emergency Repair	$1,809,501	$1,809,501	$0	$1,809,501	$36,190	$1,773,311	$80,548,568
40	40	40	Kake City	Exterior Upgrades - Main School Facilities	$369,990	$369,990	$0	$369,990	$73,998	$295,992	$80,844,560
41	41	41	Lower Kuskokwim	Akula Elitnauvik K-12 School Renovation, Kasigluk-Akula	$5,366,636	$4,537,997	$0	$4,537,997	$90,760	$4,447,237	$85,291,797
42	42	42	Anchorage	Bayshore Elementary School Boiler Replacement	$1,192,000	$1,192,000	$0	$1,192,000	$417,200	$774,800	$86,066,597
43	43	43	Anchorage	O'Malley Elementary School Renovation	$4,565,554	$3,693,410	$0	$3,693,410	$1,292,693	$2,400,717	$88,467,314
44	44	44	Lower Kuskokwim	Gladys Jung Elementary School Heating Mains Replacement	$1,273,095	$1,188,713	$0	$1,188,713	$23,774	$1,164,939	$89,632,253
45	45	45	Mat-Su Borough	Big Lake Elementary School Water System Replacement, Ph 2	$1,145,300	$970,758	$0	$970,758	$291,227	$679,531	$90,311,784
46	46	46	Fairbanks Borough	Ben Eielson Jr/Sr High School Roof Replacement	$3,493,585	$3,057,716	$0	$3,057,716	$1,070,201	$1,987,515	$92,299,299
47	47	47	Lower Yukon	Hooper Bay K-12 School Emergency Lighting and Retrofit	$234,545	$234,545	$0	$234,545	$4,691	$229,854	$92,529,153
48	48	48	Chatham	Fire Alarm Upgrades, 3 Sites	$229,294	$229,294	$0	$229,294	$4,586	$224,708	$92,753,861
49	49	49	Denali Borough	Generator Replacement, 3 Schools	$1,299,994	$1,299,994	$0	$1,299,994	$259,999	$1,039,995	$93,793,856
50	50	50	Hoonah City	Hoonah Central Boiler Replacement	$310,154	$310,154	$0	$310,154	$93,046	$217,108	$94,010,964
51	51	51	Haines Borough	Haines High School Locker Room Renovation	$964,563	$964,563	$0	$964,563	$337,597	$626,966	$94,637,930
52	52	52	Anchorage	Bear Valley Elementary Domestic Water	$2,677,578	$2,677,578	$0	$2,677,578	$937,152	$1,740,426	$96,378,356
53	53	53	Lower Yukon	Scammon Bay K-12 School Emergency Lighting and Retrofit	$119,467	$119,467	$0	$119,467	$2,389	$117,078	$96,495,434
54	54	54	Northwest Arctic Borough	Buckland K-12 School HVAC Renewal and Upgrades	$1,272,931	$1,095,572	$0	$1,095,572	$219,114	$876,458	$97,371,892
55	55	55	Fairbanks Borough	Anderson Elementary School Exterior Renovation	$5,917,763	$4,859,429	$0	$4,859,429	$1,700,800	$3,158,629	$100,530,521
56	56	56	Kuspuk	Jack Egnaty Sr. K-12 School Roof Replacement, Sleetmute	$1,491,201	$1,491,201	$0	$1,491,201	$29,824	$1,461,377	$101,991,898
57	57	57	Denali Borough	Tri-Valley School Partial Roof Replacement	$843,177	$843,177	$0	$843,177	$168,635	$674,542	$102,666,440
58	58	58	Northwest Arctic	Davis-Ramoth K-12 School Rehabilitation,	$11,523,662	$9,406,168	$0	$9,406,168	$1,881,234	$7,524,934	$110,191,374
59	59	59	Kodiak Island Borough	Peterson Elementary School Roof Replacement	$2,451,319	$2,755,796	$0	$2,755,796	$964,529	$1,791,267	$111,982,641

Alaska Department of Education and Early Development
FY2023 Capital Improvement Projects
Major Maintenance Grant Fund

Final List

Jan 14 Rank	Dec 21 Rank	Nov 5 Rank	School District	Project Name	Amount Requested	Eligible Amount	Prior Funding	DEED Recommended Amount	Participating Share	State Share	Aggregate Amount
60	60	60	Southeast Island	Thorne Bay K-12 School Fire Suppression System	$582,233	$582,233	$0	$582,233	$11,645	$570,588	$112,553,229
61	61	61	Kenai Peninsula Borough	Homer High School Partial Roof Replacement	$3,815,959	$3,348,543	$0	$3,348,543	$1,171,990	$2,176,553	$114,729,782
62	62	62	Haines Borough	Haines High School Roof Replacement	$2,646,738	$2,646,738	$0	$2,646,738	$926,358	$1,720,380	$116,450,162
63	63	63	Chatham	Klukwan K-12 School Roof Replacement	$1,722,994	$1,722,994	$0	$1,722,994	$34,460	$1,688,534	$118,138,696
64	64	64	Sitka Borough	Keet Gooshi Heen Elementary Covered PE Structure Renovation	$519,794	$519,794	$0	$519,794	$181,928	$337,866	$118,476,562
65	65	65	Nome City	Nome Elementary School Fire Alarm Replacement	$479,640	$479,640	$0	$479,640	$143,892	$335,748	$118,812,310
66	66	66	Southeast Island	Thorne Bay K-12 School Flooring Replacement	$71,549	$71,549	$0	$71,549	$1,431	$70,118	$118,882,428
67	67	67	Lower Kuskokwim	Bethel Regional High School Boardwalk Replacement	$1,740,630	$1,740,630	$0	$1,740,630	$34,813	$1,705,817	$120,588,245
68	68	68	Kodiak Island Borough	Chiniak K-12 School Water Treatment Code Compliance and Upgrade	$374,533	$374,533	$0	$374,533	$131,087	$243,446	$120,831,691
69	69	69	Southeast Island	Thorne Bay K-12 School Mechanical Control Upgrades	$1,280,658	$1,280,658	$0	$1,280,658	$25,613	$1,255,045	$122,086,736
70	70	70	Anchorage	Mears Middle School Roof Replacement	$6,509,383	$6,509,383	$0	$6,509,383	$2,278,284	$4,231,099	$126,317,835
71	71	71	Kodiak Island Borough	Main Elementary School Roof Replacement	$1,222,108	$1,092,466	$0	$1,092,466	$382,363	$710,103	$127,027,938
72	72	72	Mat-Su Borough	Butte and Snowshoe Elementary Schools Water System Replacement	$2,252,695	$2,252,695	$0	$2,252,695	$675,808	$1,576,887	$128,604,825
73	73	73	Lower Kuskokwim	Akiuk Memorial K-12 School Renovation, Kasigluk-Akiuk	$4,897,126	$3,287,332	$0	$3,287,332	$65,747	$3,221,585	$131,826,410
74	74	74	Saint Marys City	St. Mary's Campus Renewal and Repairs	$207,994	$207,994	$0	$207,994	$20,799	$187,195	$132,013,605
75	75	75	Juneau Borough	Dzantik'i Heeni Middle School Roof Replacement	$2,734,005	$2,734,005	$0	$2,734,005	$956,902	$1,777,103	$133,790,708
76	76	76	Iditarod Area	David-Louis Memorial K-12 School Roof Replacement, Grayling	$3,138,274	$3,138,274	$0	$3,138,274	$62,765	$3,075,509	$136,866,217
77	77	77	Kake City	Kake Schools Flooring Replacement	$840,409	$840,409	$0	$840,409	$168,082	$672,327	$137,538,544
78	78	78	Anchorage	West High School Utilidor Improvements	$2,494,378	$2,494,378	$0	$2,494,378	$873,032	$1,621,346	$139,159,890
79	79	79	Lower Yukon	Scammon Bay K-12 School Siding Replacement	$1,236,384	$1,236,384	$0	$1,236,384	$24,728	$1,211,656	$140,371,546
80	80	80	Lower Yukon	LYSD Central Office Renovation	$4,478,160	$4,478,160	$0	$4,478,160	$89,563	$4,388,597	$144,760,143
81	81	81	Fairbanks Borough	Administrative Center Exterior Renovation	$4,229,724	$3,660,688	$0	$3,660,688	$1,281,241	$2,379,447	$147,139,590
82	82	82	Kake City	Kake High School Plumbing Replacement	$967,502	$967,502	$0	$967,502	$193,500	$774,002	$147,913,592
83	83	83	Fairbanks Borough	Tanana Middle School Classroom Upgrades	$8,915,780	$7,348,179	$0	$7,348,179	$2,571,863	$4,776,316	$152,689,908
84	84	84	Mat-Su Borough	Elevator Code and Compliance Upgrades, 6	$1,612,539	$1,612,539	$0	$1,612,539	$483,762	$1,128,777	$153,818,685
85	85	85	Fairbanks Borough	Arctic Light Elementary School Exterior Renovation	$7,810,368	$6,670,798	$0	$6,670,798	$2,334,779	$4,336,019	$158,154,704
86	86	86	Mat-Su Borough	Structural Seismic Upgrades, 5 Sites	$12,216,962	$12,216,962	$0	$12,216,962	$3,665,089	$8,551,873	$166,706,577
87	87	87	Kenai Peninsula Borough	Seward Middle School Exterior Repair	$912,005	$912,005	$0	$912,005	$319,202	$592,803	$167,299,380
88	88	88	Kake City	Kake High School Gym Floor Replacement	$358,694	$358,694	$0	$358,694	$71,739	$286,955	$167,586,335
89	89	89	Southeast Island	Thorne Bay K-12 School Underground Storage Tank Replacement	$714,093	$714,093	$0	$714,093	$14,282	$699,811	$168,286,146

Alaska Department of Education and Early Development
FY2023 Capital Improvement Projects
Major Maintenance Grant Fund

Final List

Jan 14 Rank	Dec 21 Rank	Nov 5 Rank	School District	Project Name	Amount Requested	Eligible Amount	Prior Funding	DEED Recommended Amount	Participating Share	State Share	Aggregate Amount
90	90	90	Mat-Su Borough	Colony and Wasilla Middle Schools Roof Replacement	$4,514,921	$4,760,012	$0	$4,760,012	$1,428,004	$3,332,008	$171,618,154
91	91	91	Juneau Borough	Riverbend Elementary School Roof Replacement	$2,888,760	$2,888,760	$0	$2,888,760	$1,011,066	$1,877,694	$173,495,848
92	92	92	Fairbanks Borough	Anne Wien Elementary School Exterior Renovation	$7,194,803	$5,777,007	$0	$5,777,007	$2,021,952	$3,755,055	$177,250,903
93	93	93	Mat-Su Borough	Ceiling and Sprinkler Seismic Mitigation, 5 Sites	$3,785,344	$3,785,344	$0	$3,785,344	$1,135,603	$2,649,741	$179,900,644
94	94	94	Mat-Su Borough	HVAC Control Upgrades, 5 Sites	$10,618,114	$10,017,741	$0	$10,017,741	$3,005,322	$7,012,419	$186,913,063
95	95	95	Lower Yukon	Kotlik and Pilot Station K-12 Schools Renewal and Repair	$4,163,157	$4,163,157	$0	$4,163,157	$83,263	$4,079,894	$190,992,957
96	96	96	Lower Yukon	Sheldon Point K-12 School Exterior Repairs, Nunam Iqua	$1,903,482	$1,903,482	$0	$1,903,482	$38,070	$1,865,412	$192,858,369
97	97	97	Fairbanks Borough	Crawford Elementary School Exterior Renovation	$7,241,306	$5,814,221	$0	$5,814,221	$2,034,977	$3,779,244	$196,637,613
				Totals:	**$280,768,249**	**$259,909,886**	**$0**	**$259,909,886**	**$63,272,273**	**$196,637,613**	

Alaska Department of Education and Early Development
FY2023 Capital Improvement Projects
School Construction Grant Fund
Total Points - Formula Driven and Evaluative
Final List

Jan 14 Rank	Dec 21 Rank	Nov 5 Rank	School District	Project Name	School Dist Rank	Weight Avg Age	Prev. 14.11 Fund	Plan and Design	Prior Design Use	Avg Expend Maint	Un-Housed Today	Un-Housed 7 Years	Type of Space	Cond Survey	O&M Rpts	Maint Mgt	Energy Mgt	Cusd Pgm	Maint Train	Capital Plan	Emer-gency	Life/Safety and Code Conditions	Exist-ing Space	Cost Esti-mate	Proj vs Oper Cost	Altern at-ives	Options	Total Project Points
1	1	1	Lower Kuskokwim	William N. Miller K-12 Memorial School Replacement, Napakiak	30.00	30.00	30.00	10.00	0.00	3.30	5.83	13.10	22.60	10.00	30.00	4.00	2.00	2.33	2.00	2.00	25.00	14.05	0.00	23.00	4.00	3.33	11.67	278.21
2	2	2	Lower Kuskokwim	Newtok K-12 School Relocation/Replacement, Mertarvik	27.00	10.33	0.00	10.00	0.00	3.30	50.00	30.00	22.24	10.00	30.00	4.00	2.00	2.33	2.00	2.00	20.00	6.65	6.33	15.67	3.00	4.33	12.00	273.19
3	3	3	Lower Kuskokwim	Anna Tobeluk Memorial K-12 School Renovation/Addition, Nunapitchuk	21.00	25.45	0.00	10.00	0.00	3.30	26.50	17.55	21.89	10.00	30.00	4.00	2.00	2.33	2.00	2.00	0.00	15.82	20.00	13.33	4.00	3.00	13.67	247.84
4	4	4	Yukon-Koyukuk	Minto K-12 School Renovation/Addition	30.00	23.78	0.00	20.00	0.00	2.82	0.00	3.41	23.85	10.00	25.00	3.67	2.67	3.00	3.33	3.00	0.00	23.58	15.33	18.33	4.00	4.00	13.00	232.77
5	5	5	Anchorage	Gruening Middle School Non-Seismic Improvements	30.00	23.00	0.00	25.00	0.00	4.82	0.00	0.00	21.11	10.00	30.00	4.33	3.67	3.67	3.67	5.00	0.00	10.50	10.67	25.00	1.33	3.00	9.67	224.44
6	6	6	Anchorage	Homestead Elementary School Safety Improvements	0.00	30.00	0.00	25.00	0.00	4.63	0.00	0.00	16.57	10.00	30.00	4.00	2.33	2.00	3.00	4.00	0.00	12.58	2.33	26.00	3.67	0.00	5.00	181.11
7	7	7	Hoonah City	Hoonah School Playground Improvements	27.00	30.00	0.00	25.00	0.00	1.72	0.00	0.00	0.00	0.00	30.00	3.00	3.67	3.00	2.33	2.00	0.00	6.34	2.00	29.00	0.00	1.67	8.33	175.06
8	8	8	Anchorage	Security Vestibules Group 2, 3 Sites	21.00	21.18	0.00	25.00	0.00	4.82	0.00	0.00	0.00	0.00	30.00	4.33	3.67	3.67	3.67	5.00	0.00	0.00	6.00	25.67	0.00	3.00	4.67	161.67
9	9	9	Anchorage	Security Vestibules Group 1, 3 Sites	24.00	9.52	0.00	25.00	0.00	4.82	0.00	0.00	0.00	0.00	30.00	4.33	3.67	3.67	3.67	5.00	0.00	0.00	6.00	26.00	0.00	3.00	4.67	153.35
10	10	10	Lower Kuskokwim	Water Storage And Treatment, Kongiganak	18.00	0.00	0.00	20.00	0.00	3.46	0.00	0.00	0.00	8.00	30.00	4.00	2.67	3.33	3.00	3.33	0.00	17.33	0.00	17.33	2.67	2.00	10.33	145.46
11	11	11	Kenai Peninsula Bor	Kenai Middle School Security Remodel	30.00	30.00	0.00	10.00	0.00	2.94	0.00	0.00	0.00	0.00	30.00	3.33	2.00	3.00	3.00	3.00	0.00	3.24	5.67	12.67	0.00	0.00	6.33	145.18
12	12	12	Anchorage	Chugiak High School Track Improvements	3.00	4.00	0.00	25.00	0.00	4.82	0.00	0.00	0.00	10.00	30.00	4.33	3.67	3.67	3.67	5.00	0.00	2.67	4.00	26.67	0.00	2.67	5.33	138.49
13	13	13	Lower Kuskokwim	Bethel Campus Transportation and Drainage Upgrades	6.00	27.80	0.00	10.00	0.00	3.46	0.00	0.00	0.00	8.00	30.00	4.00	2.67	3.33	3.00	3.33	0.00	12.35	0.00	15.00	1.67	2.67	4.33	137.60

Alaska Department of Education and Early Development
FY2023 Capital Improvement Projects
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1	1	1	Galena City	Galena Interior Learning Academy Composite Building Renovation	30.00	21.25	0.00	25.00	0.00	5.00	0.00	0.00	0.00	10.00	25.00	3.67	3.33	3.33	2.67	3.33	0.00	48.30	5.00	25.00	9.33	0.00	11.67	231.88
2	2	2	Craig City	Craig Middle School Rehabilitation	30.00	28.56	0.00	25.00	0.00	2.15	0.00	0.00	0.00	10.00	25.00	3.00	3.00	3.33	2.33	3.00	0.00	39.33	3.33	23.33	3.67	0.00	9.33	214.37
3	3	3	Anchorage	Eagle River Elementary School Improvements	27.00	30.00	0.00	25.00	0.00	4.82	0.00	0.00	0.00	10.00	30.00	4.33	3.67	3.67	3.67	5.00	0.00	28.40	3.00	24.00	2.00	0.00	5.67	210.22
4	4	4	Denali Borough	Anderson K-12 School Partial Roof Replacement	30.00	30.00	0.00	25.00	0.00	2.60	0.00	0.00	0.00	10.00	30.00	3.00	2.67	3.00	3.00	3.33	5.00	6.00	2.00	29.33	6.00	0.00	17.33	208.27
5	5	5	Craig City	Craig Elementary School Rehabilitation	27.00	30.00	0.00	25.00	0.00	2.01	0.00	0.00	0.00	10.00	30.00	2.00	2.33	3.00	2.00	3.00	0.00	34.03	5.00	23.33	2.00	0.00	7.00	207.70
6	6	6	Kake City	Kake Schools Heating Upgrades	30.00	29.39	0.00	25.00	0.00	1.63	0.00	0.00	0.00	8.00	30.00	2.67	3.67	3.00	3.33	3.00	0.00	17.33	3.33	28.33	7.00	0.00	10.00	205.69
7	7	7	Chugach	Chenega Bay K-12 School Renovation	30.00	13.88	0.00	20.00	0.00	1.42	0.00	0.00	0.00	10.00	25.00	3.00	3.00	3.33	2.67	2.67	0.00	50.00	1.33	18.33	2.00	0.00	13.33	199.96
8	8	8	Chugach	Tatitlek K-12 School Renovation	27.00	22.12	0.00	20.00	0.00	1.42	0.00	0.00	0.00	10.00	25.00	3.00	3.00	3.33	2.67	2.67	5.00	41.42	0.00	19.33	0.00	0.00	13.33	199.29
9	9	9	Copper River	Copper River District Office Roof Replacement	30.00	30.00	0.00	25.00	0.00	1.23	0.00	0.00	0.00	10.00	30.00	3.00	2.33	2.00	2.00	3.00	6.33	11.14	3.00	28.67	3.00	0.00	8.33	199.04
10	10	10	Anchorage	West High School Partial Roof Replacement	0.00	30.00	0.00	25.00	2.00	4.63	0.00	0.00	0.00	10.00	30.00	4.00	2.33	2.00	3.00	4.00	0.00	41.50	1.67	27.00	3.67	0.00	7.33	198.13
11	11	11	Valdez City	Valdez High and Hermon Hutchens Elementary Schools Domestic Water Piping Replacement	30.00	30.00	0.00	25.00	0.00	1.37	0.00	0.00	0.00	10.00	30.00	3.00	3.00	2.33	2.33	2.33	5.00	17.26	0.00	27.00	3.00	0.00	6.00	197.63
12	12	12	Anchorage	Taku Elementary School Roof Replacement	0.00	30.00	0.00	20.00	0.00	4.63	0.00	0.00	0.00	10.00	30.00	4.00	2.33	2.00	3.00	4.00	0.00	48.17	2.00	27.67	3.67	0.00	5.67	197.13
13	13	13	Juneau Borough	Sayéik: Gastineau Community School Partial Roof Replacement	30.00	30.00	0.00	25.00	0.00	2.33	0.00	0.00	0.00	5.00	30.00	3.00	2.67	3.67	3.33	4.00	0.00	21.00	0.00	20.67	7.33	0.00	7.00	194.99
14	14	14	Lower Yukon	Sheldon Point K-12 School Foundation Cooling and Repairs, Nunam Iqua	30.00	1.50	0.00	25.00	0.00	2.18	0.00	0.00	0.00	8.00	30.00	3.67	2.00	2.33	3.67	2.00	10.33	26.76	4.00	28.00	0.33	0.00	8.00	187.78
15	15	15	Anchorage	East High School Gym Improvements	18.00	30.00	0.00	25.00	0.00	4.63	0.00	0.00	0.00	10.00	30.00	4.00	2.33	2.00	3.00	4.00	0.00	20.98	1.33	25.67	3.00	0.00	2.00	185.94
16	16	16	Aleutians East Borou	Sand Point K-12 School Major Maintenance	30.00	23.82	0.00	10.00	0.00	1.51	0.00	0.00	0.00	10.00	30.00	3.00	2.67	2.67	2.67	2.67	0.00	38.00	0.67	14.67	3.33	0.00	8.67	184.33
17	17	17	Bristol Bay Borough	Bristol Bay School Elementary and Gym Roof Replacement	30.00	20.62	0.00	20.00	0.00	0.85	0.00	0.00	0.00	10.00	30.00	2.00	2.00	2.33	2.00	2.00	0.00	19.78	1.00	20.67	3.67	0.00	15.00	181.92
18	18	18	Iditarod Area	David-Louis Memorial K-12 School HVAC Control Upgrades, Grayling	27.00	16.00	0.00	25.00	0.00	2.53	0.00	0.00	0.00	8.00	25.00	2.00	2.00	2.33	2.33	2.33	5.00	20.71	0.00	28.00	5.67	0.00	7.67	181.58
19	19	19	Anchorage	Government Hill Elementary School Roof Replacement	0.00	30.00	0.00	25.00	0.00	4.63	0.00	0.00	0.00	10.00	30.00	4.00	2.33	2.00	3.00	4.00	0.00	27.66	2.00	27.67	3.00	0.00	5.33	180.63
20	20	20	Iditarod Area	Blackwell K-12 School Fire Alarm Upgrades, Anvik	30.00	30.00	0.00	10.00	0.00	2.66	0.00	0.00	0.00	8.00	25.00	2.00	2.00	2.33	1.67	2.67	10.00	18.00	0.00	28.00	2.67	0.00	5.33	180.33
21	21	21	Yukon-Koyukuk	YKSD District Office Roof Replacement	27.00	30.00	0.00	25.00	0.00	2.82	0.00	0.00	0.00	0.00	25.00	3.67	2.67	3.00	3.33	3.00	0.00	7.60	1.00	28.67	5.00	0.00	9.67	177.42
22	22	22	Lower Yukon	Hooper Bay K-12 School Exterior Repairs	24.00	2.50	0.00	25.00	0.00	2.18	0.00	0.00	0.00	8.00	30.00	3.67	2.00	2.33	3.67	2.00	5.00	19.25	3.67	27.00	4.00	0.00	12.33	176.60
23	23	23	Fairbanks Borough	Woodriver Elementary School Roof Replacement	21.00	30.00	0.00	10.00	0.00	3.46	0.00	0.00	0.00	0.00	30.00	2.67	3.00	3.00	3.00	3.00	0.00	25.56	1.00	27.33	7.00	0.00	6.00	176.01
24	24	24	Nome City	Nome Beltz Jr/Sr High School Boiler Replacement	30.00	30.00	0.00	25.00	0.00	1.31	0.00	0.00	0.00	0.00	30.00	2.67	3.00	2.33	2.33	2.67	0.00	7.34	0.00	29.00	3.00	0.00	7.00	175.65
25	25	25	Nome City	Anvil City Charter School Restroom Renovation	27.00	30.00	0.00	25.00	0.00	1.31	0.00	0.00	0.00	0.00	30.00	2.67	3.00	2.33	2.33	2.67	0.00	3.25	4.67	30.00	3.00	0.00	7.67	174.90
26	26	26	Lower Kuskokwim	Qugcuun Memorial K-12 School Renovation, Oscarville	3.00	30.00	0.00	10.00	0.00	3.30	0.00	0.00	0.00	10.00	30.00	4.00	2.00	2.33	2.00	2.00	0.00	50.00	1.67	13.33	3.67	0.00	7.33	174.63

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27	27	27	Anchorage	Homestead Elementary School Roof Replacement	0.00	30.00	0.00	25.00	0.00	4.63	0.00	0.00	0.00	10.00	30.00	4.00	2.33	2.00	3.00	4.00	0.00	21.05	1.67	27.00	2.67	0.00	5.33	172.69
28	28	28	Fairbanks Borough	Lathrop High School Gym Partial Roof Replacement	27.00	21.25	0.00	10.00	0.00	3.46	0.00	0.00	0.00	0.00	30.00	2.67	3.00	3.00	3.00	3.00	0.00	25.00	0.00	27.33	6.33	0.00	7.00	172.04
29	29	29	Anchorage	King Tech High School Roof Replacement	0.00	30.00	0.00	25.00	0.00	4.63	0.00	0.00	0.00	10.00	30.00	4.00	2.33	2.00	3.00	4.00	0.00	21.35	1.67	27.33	1.67	0.00	5.00	171.98
30	30	30	Nome City	Nome Beltz Jr/Sr High School Generator Replacement	21.00	30.00	0.00	25.00	0.00	1.31	0.00	0.00	0.00	0.00	30.00	2.67	3.00	2.33	2.33	2.67	0.00	15.00	0.00	24.33	0.00	0.00	12.00	171.65
31	31	31	Valdez City	Districtwide Generator Replacement	27.00	19.69	0.00	25.00	0.00	1.37	0.00	0.00	0.00	10.00	30.00	3.00	3.00	2.33	2.33	2.33	0.00	4.00	0.00	28.33	2.33	0.00	10.67	171.40
32	32	32	Ketchikan Borough	Ketchikan High School Security Upgrades	30.00	30.00	0.00	25.00	0.00	3.39	0.00	0.00	0.00	0.00	25.00	3.00	3.00	2.33	2.33	3.33	0.00	0.00	0.00	24.00	12.00	0.00	7.33	170.73
33	33	33	Yukon-Koyukuk	Ella B. Vernetti K-12 School Boiler Replacement, Koyukuk	24.00	21.28	0.00	20.00	0.00	2.82	0.00	0.00	0.00	8.00	25.00	3.67	2.67	3.00	3.33	3.00	0.00	19.88	0.00	18.33	4.33	0.00	11.33	170.65
34	34	34	Fairbanks Borough	Administrative Center Air Conditioning and Ventilation Replacement	30.00	11.00	0.00	10.00	0.00	3.46	0.00	0.00	0.00	8.00	30.00	2.67	3.00	3.00	3.00	3.00	5.00	7.41	0.00	26.67	8.67	0.00	15.00	169.86
35	35	35	Northwest Arctic Bor	June Nelson Elementary School Roof Replacement	30.00	30.00	0.00	10.00	0.00	2.69	0.00	0.00	0.00	10.00	25.00	3.00	2.33	3.00	2.33	2.67	3.33	12.66	2.33	16.00	4.33	0.00	8.67	168.35
36	36	36	Anchorage	North Star Elementary School Roof Replacement	0.00	30.00	0.00	25.00	0.00	4.63	0.00	0.00	0.00	10.00	30.00	4.00	2.33	2.00	3.00	4.00	0.00	16.34	1.67	26.00	3.00	0.00	5.67	167.63
37	37	37	Anchorage	Service High School Health and Safety Upgrades	0.00	30.00	0.00	25.00	0.00	4.63	0.00	0.00	0.00	5.00	30.00	4.00	2.33	2.00	3.00	4.00	0.00	20.20	2.67	27.00	2.33	0.00	5.33	167.50
38	38	38	Aleutians East Borou	Sand Point K-12 School Pool Major Maintenance	27.00	22.07	0.00	25.00	0.00	1.52	0.00	0.00	0.00	0.00	30.00	2.67	3.00	2.00	2.67	2.33	0.00	4.00	0.33	29.00	7.67	0.00	6.67	165.92
39	39	39	Lower Yukon	Marshall K-12 School Tank Farm Emergency Repair	27.00	0.50	0.00	25.00	0.00	2.18	0.00	0.00	0.00	10.00	30.00	3.67	2.00	2.33	3.67	2.00	6.67	9.61	0.00	28.00	4.33	0.00	7.67	164.63
40	40	40	Kake City	Exterior Upgrades - Main School Facilities	24.00	30.00	0.00	10.00	0.00	1.56	0.00	0.00	0.00	0.00	30.00	2.67	2.33	2.00	2.33	2.00	5.00	28.62	0.00	14.33	1.33	0.00	8.33	164.52
41	41	41	Lower Kuskokwim	Akula Elitnauvik K-12 School Renovation, Kasigluk-Akula	15.00	26.76	0.00	10.00	0.00	3.30	0.00	0.00	0.00	10.00	30.00	4.00	2.00	2.33	2.00	2.00	5.00	23.04	2.33	14.00	3.33	0.00	9.33	164.43
42	42	42	Anchorage	Bayshore Elementary School Boiler Replacement	15.00	29.15	0.00	20.00	0.00	4.82	0.00	0.00	0.00	0.00	30.00	4.33	3.67	3.67	3.67	5.00	0.00	12.50	1.00	25.67	1.67	0.00	3.67	163.81
43	43	43	Anchorage	O'Malley Elementary School Renovation	0.00	30.00	0.00	10.00	0.00	4.63	0.00	0.00	0.00	10.00	30.00	4.00	2.33	2.00	3.00	4.00	0.00	22.84	1.33	27.00	4.67	0.00	7.67	163.47
44	44	44	Lower Kuskokwim	Gladys Jung Elementary School Heating Mains Replacement	24.00	2.80	0.00	25.00	0.00	3.30	0.00	0.00	0.00	3.00	30.00	4.00	2.00	2.33	2.00	2.00	5.00	17.64	0.00	29.00	2.33	0.00	7.67	162.07
45	45	45	Mat-Su Borough	Big Lake Elementary School Water System Replacement, Ph 2	30.00	30.00	0.00	25.00	0.00	2.25	0.00	0.00	0.00	10.00	20.00	1.00	1.00	2.00	2.00	2.00	0.00	11.00	2.33	16.33	1.33	0.00	5.33	161.58
46	46	46	Fairbanks Borough	Ben Eielson Jr/Sr High School Roof Replacement	24.00	30.00	0.00	10.00	0.00	3.46	0.00	0.00	0.00	0.00	30.00	2.67	3.00	3.00	3.00	3.00	0.00	8.00	0.00	27.33	6.67	0.00	6.33	160.46
47	47	47	Lower Yukon	Hooper Bay K-12 School Emergency Lighting and Retrofit	21.00	2.50	0.00	25.00	0.00	2.18	0.00	0.00	0.00	5.00	30.00	3.67	2.00	2.33	3.67	2.00	0.00	9.07	1.67	28.67	11.00	0.00	10.00	159.75
48	48	48	Chatham	Fire Alarm Upgrades, 3 Sites	27.00	30.00	0.00	10.00	0.00	1.10	0.00	0.00	0.00	0.00	30.00	3.00	3.00	2.67	3.00	2.67	5.00	7.00	0.00	24.67	0.67	0.00	9.33	159.10
49	49	49	Denali Borough	Generator Replacement, 3 Schools	27.00	30.00	0.00	10.00	0.00	2.93	0.00	0.00	0.00	10.00	30.00	3.33	4.00	3.33	3.33	3.33	0.00	8.82	0.00	14.67	1.33	0.00	6.00	158.09
50	50	50	Hoonah City	Hoonah Central Boiler Replacement	30.00	30.00	0.00	10.00	0.00	1.49	0.00	0.00	0.00	8.00	30.00	1.67	2.00	2.00	2.67	2.00	0.00	6.00	0.00	14.00	8.33	0.00	9.67	157.83
51	51	51	Haines Borough	Haines High School Locker Room Renovation	27.00	26.50	0.00	10.00	0.00	1.28	0.00	0.00	0.00	3.00	30.00	2.67	2.67	3.00	2.00	2.67	0.00	21.84	0.00	12.67	3.67	0.00	8.67	157.62
52	52	52	Anchorage	Bear Valley Elementary Domestic Water Replacement	12.00	23.00	0.00	20.00	0.00	4.82	0.00	0.00	0.00	0.00	30.00	4.33	3.67	3.67	3.67	5.00	0.00	15.95	0.00	26.33	1.67	0.00	2.67	156.77
53	53	53	Lower Yukon	Scammon Bay K-12 School Emergency Lighting and Retrofit	18.00	3.00	0.00	25.00	0.00	2.18	0.00	0.00	0.00	5.00	30.00	3.67	2.00	2.33	3.67	2.00	0.00	9.07	1.67	28.67	10.33	0.00	10.00	156.59

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54	54	54	Northwest Arctic Bor	Buckland K-12 School HVAC Renewal and Upgrades	24.00	9.65	0.00	25.00	0.00	2.69	0.00	0.00	0.00	5.00	25.00	3.00	2.33	3.00	2.33	2.67	0.00	7.36	2.00	22.67	10.33	0.00	9.33	156.37
55	55	55	Fairbanks Borough	Anderson Elementary School Exterior Renovation	18.00	30.00	0.00	0.00	0.00	3.46	0.00	0.00	0.00	0.00	30.00	2.67	3.00	3.00	3.00	3.00	0.00	27.90	0.00	14.33	6.67	0.00	11.33	156.35
56	56	56	Kuspuk	Jack Egnaty Sr. K-12 School Roof Replacement, Sleetmute	30.00	30.00	0.00	0.00	0.00	1.99	0.00	0.00	0.00	0.00	30.00	3.00	2.67	2.67	2.33	2.00	8.67	12.92	1.00	14.67	4.33	0.00	8.33	154.58
57	57	57	Denali Borough	Tri-Valley School Partial Roof Replacement	24.00	17.75	0.00	10.00	0.00	2.93	0.00	0.00	0.00	10.00	30.00	3.33	4.00	3.33	3.33	3.33	0.00	14.95	2.33	14.00	3.33	0.00	7.00	153.63
58	58	58	Northwest Arctic Bor	Davis-Ramoth K-12 School Rehabilitation, Selawik	27.00	14.73	0.00	10.00	0.00	2.69	0.00	0.00	0.00	10.00	25.00	3.00	2.33	3.00	2.33	2.67	0.00	11.50	5.33	17.33	4.67	0.00	11.67	153.25
59	59	59	Kodiak Island Borou	Peterson Elementary School Roof Replacement	30.00	30.00	0.00	10.00	0.00	2.82	0.00	0.00	0.00	8.00	30.00	1.00	1.00	2.00	2.33	1.67	0.00	10.67	2.00	12.33	3.33	0.00	4.67	151.82
60	60	60	Southeast Island	Thorne Bay K-12 School Fire Suppression System	30.00	13.49	0.00	10.00	0.00	2.57	0.00	0.00	0.00	8.00	30.00	1.67	3.00	2.00	2.00	2.00	10.00	6.87	0.00	13.67	5.00	0.00	10.33	150.60
61	61	61	Kenai Peninsula Bor	Homer High School Partial Roof Replacement	27.00	23.00	0.00	10.00	0.00	2.94	0.00	0.00	0.00	5.00	30.00	3.33	2.00	3.00	3.00	3.00	0.00	13.53	0.00	14.00	3.00	0.00	7.00	149.81
62	62	62	Haines Borough	Haines High School Roof Replacement	30.00	30.00	0.00	0.00	0.00	1.28	0.00	0.00	0.00	0.00	30.00	2.67	2.67	3.00	2.00	2.67	5.00	15.00	0.00	14.00	3.33	0.00	7.67	149.28
63	63	63	Chatham	Klukwan K-12 School Roof Replacement	30.00	26.50	0.00	0.00	0.00	1.05	0.00	0.00	0.00	3.00	30.00	2.00	2.00	3.00	2.00	2.00	5.00	12.25	2.67	15.33	4.67	0.00	7.00	148.47
64	64	64	Sitka Borough	Keet Gooshi Heen Elementary Covered PE Structure Renovation	30.00	16.00	0.00	10.00	0.00	1.02	0.00	0.00	0.00	8.00	30.00	3.67	2.00	1.67	1.67	3.00	0.00	10.40	1.33	17.67	2.67	0.00	9.33	148.42
65	65	65	Nome City	Nome Elementary School Fire Alarm Replacement	24.00	17.75	0.00	25.00	0.00	1.43	0.00	0.00	0.00	0.00	25.00	3.00	2.33	2.33	2.00	3.00	5.00	6.33	0.00	22.33	1.33	0.00	6.00	146.85
66	66	66	Southeast Island	Thorne Bay K-12 School Flooring Replacement	21.00	13.49	0.00	25.00	0.00	2.57	0.00	0.00	0.00	0.00	30.00	1.67	3.00	2.00	2.00	2.00	0.00	4.00	0.00	28.00	3.33	0.00	8.67	146.73
67	67	67	Lower Kuskokwim	Bethel Regional High School Boardwalk Replacement	9.00	30.00	0.00	10.00	0.00	3.46	0.00	0.00	0.00	10.00	30.00	4.00	2.67	3.33	3.00	3.33	0.00	14.93	0.00	15.00	1.67	0.00	6.33	146.72
68	68	68	Kodiak Island Borou	Chiniak K-12 School Water Treatment Code Compliance and Upgrade	27.00	30.00	0.00	10.00	0.00	2.82	0.00	0.00	0.00	0.00	30.00	1.00	1.00	2.00	2.33	1.67	0.00	16.00	0.00	13.67	2.67	0.00	3.67	143.82
69	69	69	Southeast Island	Thorne Bay K-12 School Mechanical Control Upgrades	27.00	13.49	0.00	10.00	0.00	2.57	0.00	0.00	0.00	8.00	30.00	1.67	3.00	2.00	2.00	2.00	3.33	8.00	0.00	14.33	8.00	0.00	6.33	141.73
70	70	70	Anchorage	Mears Middle School Roof Replacement	6.00	21.25	0.00	10.00	0.00	4.82	0.00	0.00	0.00	0.00	30.00	4.33	3.67	3.67	3.67	5.00	0.00	9.80	2.00	26.67	2.67	0.00	6.33	139.87
71	71	71	Kodiak Island Borou	Main Elementary School Roof Replacement	24.00	30.00	0.00	10.00	0.00	2.82	0.00	0.00	0.00	8.00	30.00	1.00	1.00	2.00	2.33	1.67	0.00	6.00	2.00	13.00	2.33	0.00	3.67	139.82
72	72	72	Mat-Su Borough	Butte and Snowshoe Elementary Schools Water System Replacement	27.00	30.00	0.00	10.00	0.00	2.25	0.00	0.00	0.00	8.00	20.00	1.00	1.00	2.00	2.00	2.00	0.00	10.67	2.67	13.33	1.33	0.00	5.00	138.25
73	73	73	Lower Kuskokwim	Akiuk Memorial K-12 School Renovation, Kasigluk-Akiuk	12.00	11.50	0.00	10.00	0.00	3.30	0.00	0.00	0.00	10.00	30.00	4.00	2.00	2.33	2.00	2.00	0.00	22.99	2.00	14.00	2.67	0.00	6.33	137.12
74	74	74	Saint Marys City	St. Mary's Campus Renewal and Repairs	30.00	30.00	0.00	10.00	0.00	1.23	0.00	0.00	0.00	0.00	30.00	3.00	3.00	3.33	3.33	3.00	0.00	0.00	0.33	13.00	0.67	0.00	4.67	135.56
75	75	75	Juneau Borough	Dzantik'i Heeni Middle School Roof Replacement	27.00	9.50	0.00	10.00	0.00	2.33	0.00	0.00	0.00	8.00	30.00	2.67	2.67	3.67	3.33	4.00	0.00	8.00	0.00	15.33	3.00	0.00	5.33	134.83
76	76	76	Iditarod Area	David-Louis Memorial K-12 School Roof Replacement, Grayling	24.00	19.50	0.00	10.00	0.00	2.67	0.00	0.00	0.00	5.00	30.00	2.00	1.67	1.00	1.00	2.00	0.00	5.42	0.00	14.33	2.67	0.00	10.67	131.92
77	77	77	Kake City	Kake Schools Flooring Replacement	21.00	30.00	0.00	10.00	0.00	1.56	0.00	0.00	0.00	0.00	30.00	2.67	2.33	2.00	2.33	2.00	0.00	4.00	0.00	14.67	1.00	0.00	8.00	131.56
78	78	78	Anchorage	West High School Utilidor Improvements	9.00	30.00	0.00	10.00	0.00	4.82	0.00	0.00	0.00	0.00	30.00	4.33	3.67	3.67	3.67	5.00	0.00	10.56	0.33	12.33	1.33	0.00	2.67	131.38

Alaska Department of Education and Early Development
FY2023 Capital Improvement Projects
Major Maintenance Grant Fund
Total Points - Formula Driven and Evaluative
Final List

Jan 14 Rank	Dec 21 Rank	Nov 5 Rank	School District	Project Name	School Dist Rank	Weight Avg Age	Prev. 14.11 Fund	Plan and Design	Prior Design Use	Avg Expend Maint	Un-Housed Today	Un-Housed 7 Years	Type of Space	Cond Survey	O&M Rpts	Maint Mgt	Energy Mgt	Cusd Pgm	Maint Train	Capital Plan	Emer-gency	Life/Safety and Code Conditions	Exist-ing Space	Cost Esti-mate	Proj vs Oper Cost	Altern at-ives	Options	Total Project Points
79	79	79	Lower Yukon	Scammon Bay K-12 School Siding Replacement	15.00	2.50	0.00	25.00	0.00	2.18	0.00	0.00	0.00	8.00	30.00	3.67	3.33	3.00	3.67	3.00	0.00	1.90	0.00	16.67	3.33	0.00	9.67	130.91
80	80	80	Lower Yukon	LYSD Central Office Renovation	12.00	29.69	0.00	0.00	0.00	2.18	0.00	0.00	0.00	0.00	30.00	3.67	2.00	2.33	3.67	2.00	0.00	16.53	0.00	13.00	5.33	0.00	7.33	129.74
81	81	81	Fairbanks Borough	Administrative Center Exterior Renovation	15.00	11.00	0.00	0.00	0.00	3.46	0.00	0.00	0.00	10.00	30.00	2.67	3.00	3.00	3.00	3.00	0.00	11.43	0.00	14.67	5.67	0.00	7.33	123.22
82	82	82	Kake City	Kake High School Plumbing Replacement	27.00	30.00	0.00	0.00	0.00	1.56	0.00	0.00	0.00	0.00	30.00	2.67	2.33	2.00	2.33	2.00	0.00	0.00	0.00	14.00	1.33	0.00	7.00	122.23
83	83	83	Fairbanks Borough	Tanana Middle School Classroom Upgrades	9.00	30.00	0.00	0.00	0.00	3.46	0.00	0.00	0.00	0.00	30.00	2.67	3.00	3.00	3.00	3.00	0.00	17.77	0.00	14.00	0.00	0.00	3.33	122.22
84	84	84	Mat-Su Borough	Elevator Code and Compliance Upgrades, 6 Sites	21.00	28.25	0.00	10.00	0.00	2.25	0.00	0.00	0.00	10.00	20.00	1.00	1.00	2.00	2.00	2.00	0.00	4.20	0.00	13.00	1.33	0.00	4.00	122.03
85	85	85	Fairbanks Borough	Arctic Light Elementary School Exterior Renovation	6.00	11.00	0.00	0.00	0.00	3.46	0.00	0.00	0.00	0.00	30.00	2.67	3.00	3.00	3.00	3.00	0.00	29.19	0.00	14.00	5.33	0.00	6.67	120.31
86	86	86	Mat-Su Borough	Structural Seismic Upgrades, 5 Sites	18.00	30.00	0.00	10.00	0.00	2.25	0.00	0.00	0.00	10.00	20.00	1.00	1.00	2.00	2.00	2.00	0.00	6.00	0.00	10.33	1.00	0.00	3.33	118.91
87	87	87	Kenai Peninsula Bor	Seward Middle School Exterior Repair	24.00	3.00	0.00	10.00	0.00	2.94	0.00	0.00	0.00	8.00	30.00	3.33	2.00	3.00	3.00	3.00	0.00	8.00	0.00	12.67	1.00	0.00	4.00	117.94
88	88	88	Kake City	Kake High School Gym Floor Replacement	18.00	30.00	0.00	0.00	0.00	1.56	0.00	0.00	0.00	0.00	30.00	2.67	2.33	2.00	2.33	2.00	0.00	4.00	0.00	14.00	1.00	0.00	7.67	117.56
89	89	89	Southeast Island	Thorne Bay K-12 School Underground Storage Tank Replacement	24.00	13.49	0.00	10.00	0.00	2.57	0.00	0.00	0.00	0.00	30.00	1.67	3.00	2.00	2.00	2.00	0.00	2.00	0.00	15.00	0.00	0.00	6.00	113.73
90	90	90	Mat-Su Borough	Colony and Wasilla Middle Schools Roof Replacement	24.00	15.30	0.00	10.00	0.00	2.25	0.00	0.00	0.00	8.00	20.00	1.00	1.00	2.00	2.00	2.00	0.00	8.02	0.00	14.00	2.00	0.00	2.00	113.56
91	91	91	Juneau Borough	Riverbend Elementary School Roof Replacement	24.00	7.25	0.00	0.00	0.00	2.33	0.00	0.00	0.00	3.00	30.00	3.00	2.67	3.67	3.33	4.00	0.00	6.56	0.00	15.00	1.67	0.00	7.00	113.47
92	92	92	Fairbanks Borough	Anne Wien Elementary School Exterior Renovation	12.00	9.50	0.00	0.00	0.00	3.46	0.00	0.00	0.00	0.00	30.00	2.67	3.00	3.00	3.00	3.00	0.00	13.52	0.00	14.67	6.00	0.00	6.67	110.48
93	93	93	Mat-Su Borough	Ceiling and Sprinkler Seismic Mitigation, 5 Sites	15.00	30.00	0.00	10.00	0.00	2.25	0.00	0.00	0.00	0.00	20.00	1.00	1.00	2.00	2.00	2.00	0.00	3.75	0.00	11.33	1.00	0.00	3.33	104.66
94	94	94	Mat-Su Borough	HVAC Control Upgrades, 5 Sites	12.00	24.51	0.00	10.00	0.00	2.25	0.00	0.00	0.00	0.00	20.00	1.00	1.00	2.00	2.00	2.00	0.00	5.60	2.33	12.00	4.33	0.00	3.00	104.03
95	95	95	Lower Yukon	Kotlik and Pilot Station K-12 Schools Renewal and Repair	6.00	4.00	0.00	10.00	0.00	2.18	0.00	0.00	0.00	5.00	30.00	3.67	3.33	3.00	3.67	3.00	0.00	5.25	0.00	13.00	2.67	0.00	5.00	99.76
96	96	96	Lower Yukon	Sheldon Point K-12 School Exterior Repairs, Nunam Iqua	9.00	1.00	0.00	0.00	0.00	2.18	0.00	0.00	0.00	5.00	30.00	3.67	3.33	3.00	3.67	3.00	0.00	0.62	0.00	13.00	3.33	0.00	7.67	88.46
97	97	97	Fairbanks Borough	Crawford Elementary School Exterior Renovation	3.00	8.00	0.00	0.00	0.00	3.46	0.00	0.00	0.00	0.00	30.00	2.67	3.00	3.00	3.00	3.00	0.00	2.80	0.00	14.00	5.67	0.00	6.67	88.26
98	98	98	Mat-Su Borough	Talkeetna Elementary School Roof Replacement	24.00	21.20	0.00	10.00	0.00	2.35	0.00	0.00	0.00	8.00	5.00	2.67	2.00	2.33	0.00	3.00	0.00	6.00	3.33	14.00	2.00	0.00	1.67	107.55

Alaska Department of Education and Early Development
FY2023 Capital Improvement Projects
School Construction and Major Maintenance by Districts

Total Points - Formula-Driven and Evaluative
Final List

School District	Jan 14 Rank	Dec 21 Rank	Nov 5 Rank	MM/ SC	Project Name	School Dist Rank	Weight Avg Age	Prev. 14.11 Fund	Plan and Design	Prior Design Use	Avg Expend Maint	Un-Housed Today	Un-Housed 7 Years	Type of Space	Cond Survey	O&M Rpts	Maint Mgt	Energy Mgt	Cusd Pgm	Maint Train	Capital Plan	Emer-gency	Life/Safety and Code Conditions	Exist-ing Space	Cost Esti-mate	Proj vs Oper Cost	Alter nat-ives	Options	Total Project Points
Aleutians East Boro	16	16	16	M	Sand Point K-12 School Major Maintenance	30.00	23.82	0.00	10.00	0.00	1.51	0.00	0.00	0.00	10.00	30.00	3.00	2.67	2.67	2.67	2.67	0.00	38.00	0.67	14.67	3.33	0.00	8.67	184.33
Aleutians East Boro	38	38	38	M	Sand Point K-12 School Pool Major	27.00	22.07	0.00	25.00	0.00	1.52	0.00	0.00	0.00	0.00	30.00	2.67	3.00	2.00	2.67	2.33	0.00	4.00	0.33	29.00	7.67	0.00	6.67	165.92
Anchorage	5	5	5	C	Gruening Middle School Non-Seismic Improvements	30.00	23.00	0.00	25.00	0.00	4.82	0.00	0.00	21.11	10.00	30.00	4.33	3.67	3.67	3.67	5.00	0.00	10.50	10.67	25.00	1.33	3.00	9.67	224.44
Anchorage	6	6	6	C	Homestead Elementary School Safety Improvements	0.00	30.00	0.00	25.00	0.00	4.63	0.00	0.00	16.57	10.00	30.00	4.00	2.33	2.00	3.00	4.00	0.00	12.58	2.33	26.00	3.67	0.00	5.00	181.11
Anchorage	8	8	8	C	Security Vestibules Group 2, 3 Sites	21.00	21.18	0.00	25.00	0.00	4.82	0.00	0.00	0.00	0.00	30.00	4.33	3.67	3.67	3.67	5.00	0.00	0.00	6.00	25.67	0.00	3.00	4.67	161.67
Anchorage	9	9	9	C	Security Vestibules Group 1, 3 Sites	24.00	9.52	0.00	25.00	0.00	4.82	0.00	0.00	0.00	0.00	30.00	4.33	3.67	3.67	3.67	5.00	0.00	0.00	6.00	26.00	0.00	3.00	4.67	153.35
Anchorage	12	12	12	C	Chugiak High School Track Improvements	3.00	4.00	0.00	25.00	0.00	4.82	0.00	0.00	0.00	10.00	30.00	4.33	3.67	3.67	3.67	5.00	0.00	2.67	4.00	26.67	0.00	2.67	5.33	138.49
Anchorage	3	3	3	M	Eagle River Elementary School Improvements	27.00	30.00	0.00	25.00	0.00	4.82	0.00	0.00	0.00	10.00	30.00	4.33	3.67	3.67	3.67	5.00	0.00	28.40	3.00	24.00	2.00	0.00	5.67	210.22
Anchorage	10	10	10	M	West High School Partial Roof Replacement	0.00	30.00	0.00	25.00	2.00	4.63	0.00	0.00	0.00	10.00	30.00	4.00	2.33	2.00	3.00	4.00	0.00	41.50	1.67	27.00	3.67	0.00	7.33	198.13
Anchorage	12	12	12	M	Taku Elementary School Roof Replacement	0.00	30.00	0.00	20.00	0.00	4.63	0.00	0.00	0.00	10.00	30.00	4.00	2.33	2.00	3.00	4.00	0.00	48.17	2.00	27.67	3.67	0.00	5.67	197.13
Anchorage	15	15	15	M	East High School Gym Improvements	18.00	30.00	0.00	25.00	0.00	4.63	0.00	0.00	0.00	10.00	30.00	4.00	2.33	2.00	3.00	4.00	0.00	20.98	1.33	25.67	3.00	0.00	2.00	185.94
Anchorage	19	19	19	M	Government Hill Elementary School Roof Replacement	0.00	30.00	0.00	25.00	0.00	4.63	0.00	0.00	0.00	10.00	30.00	4.00	2.33	2.00	3.00	4.00	0.00	27.66	2.00	27.67	3.00	0.00	5.33	180.63
Anchorage	27	27	27	M	Homestead Elementary School Roof Replacement	0.00	30.00	0.00	25.00	0.00	4.63	0.00	0.00	0.00	10.00	30.00	4.00	2.33	2.00	3.00	4.00	0.00	21.05	1.67	27.00	2.67	0.00	5.33	172.69
Anchorage	29	29	29	M	King Tech High School Roof Replacement	0.00	30.00	0.00	25.00	0.00	4.63	0.00	0.00	0.00	10.00	30.00	4.00	2.33	2.00	3.00	4.00	0.00	21.35	1.67	27.33	1.67	0.00	5.00	171.98
Anchorage	36	36	36	M	North Star Elementary School Roof Replacement	0.00	30.00	0.00	25.00	0.00	4.63	0.00	0.00	0.00	10.00	30.00	4.00	2.33	2.00	3.00	4.00	0.00	16.34	1.67	26.00	3.00	0.00	5.67	167.63
Anchorage	37	37	37	M	Service High School Health and Safety Upgrades	0.00	30.00	0.00	25.00	0.00	4.63	0.00	0.00	0.00	5.00	30.00	4.00	2.33	2.00	3.00	4.00	0.00	20.20	2.67	27.00	2.33	0.00	5.33	167.50
Anchorage	42	42	42	M	Bayshore Elementary School Boiler Replacement	15.00	29.15	0.00	20.00	0.00	4.82	0.00	0.00	0.00	0.00	30.00	4.33	3.67	3.67	3.67	5.00	0.00	12.50	1.00	25.67	1.67	0.00	3.67	163.81
Anchorage	43	43	43	M	O'Malley Elementary School Renovation	0.00	30.00	0.00	10.00	0.00	4.63	0.00	0.00	0.00	10.00	30.00	4.00	2.33	2.00	3.00	4.00	0.00	22.84	1.33	27.00	4.67	0.00	7.67	163.47
Anchorage	52	52	52	M	Bear Valley Elementary Domestic Water Replacement	12.00	23.00	0.00	20.00	0.00	4.82	0.00	0.00	0.00	0.00	30.00	4.33	3.67	3.67	3.67	5.00	0.00	15.95	0.00	26.33	1.67	0.00	2.67	156.77
Anchorage	70	70	70	M	Mears Middle School Roof Replacement	6.00	21.25	0.00	10.00	0.00	4.82	0.00	0.00	0.00	0.00	30.00	4.33	3.67	3.67	3.67	5.00	0.00	9.80	2.00	26.67	2.67	0.00	6.33	139.87
Anchorage	78	78	78	M	West High School Utilidor Improvements	9.00	30.00	0.00	10.00	0.00	4.82	0.00	0.00	0.00	0.00	30.00	4.33	3.67	3.67	3.67	5.00	0.00	10.56	0.33	12.33	1.33	0.00	2.67	131.38
Bristol Bay Borough	17	17	17	M	Bristol Bay School Elementary and Gym Roof Replacement	30.00	20.62	0.00	20.00	0.00	0.85	0.00	0.00	0.00	10.00	30.00	2.00	2.00	2.33	2.00	2.00	0.00	19.78	1.00	20.67	3.67	0.00	15.00	181.92
Chatham	48	48	48	M	Fire Alarm Upgrades, 3 Sites	27.00	30.00	0.00	10.00	0.00	1.10	0.00	0.00	0.00	0.00	30.00	3.00	3.00	2.67	3.00	2.67	5.00	7.00	0.00	24.67	0.67	0.00	9.33	159.10
Chatham	63	63	63	M	Klukwan K-12 School Roof Replacement	30.00	26.50	0.00	0.00	0.00	1.05	0.00	0.00	0.00	3.00	30.00	2.00	2.00	3.00	2.00	2.00	5.00	12.25	2.67	15.33	4.67	0.00	7.00	148.47
Chugach	7	7	7	M	Chenega Bay K-12 School Renovation	30.00	13.88	0.00	20.00	0.00	1.42	0.00	0.00	0.00	10.00	25.00	3.00	3.00	3.33	2.67	2.67	0.00	50.00	1.33	18.33	2.00	0.00	13.33	199.96
Chugach	8	8	8	M	Tatitlek K-12 School Renovation	27.00	22.12	0.00	20.00	0.00	1.42	0.00	0.00	0.00	10.00	25.00	3.00	3.00	3.33	2.67	2.67	5.00	41.42	0.00	19.33	0.00	0.00	13.33	199.29
Copper River	9	9	9	M	Copper River District Office Roof Replacement	30.00	30.00	0.00	25.00	0.00	1.23	0.00	0.00	0.00	10.00	30.00	3.00	2.33	2.00	2.00	3.00	6.33	11.14	3.00	28.67	3.00	0.00	8.33	199.04
Craig City	2	2	2	M	Craig Middle School Rehabilitation	30.00	28.56	0.00	25.00	0.00	2.15	0.00	0.00	0.00	10.00	25.00	3.00	3.00	3.33	2.33	3.00	0.00	39.33	3.33	23.33	3.67	0.00	9.33	214.37
Craig City	5	5	5	M	Craig Elementary School Rehabilitation	27.00	30.00	0.00	25.00	0.00	2.01	0.00	0.00	0.00	10.00	30.00	2.00	2.33	3.00	2.00	3.00	0.00	34.03	5.00	23.33	2.00	0.00	7.00	207.70
Denali Borough	4	4	4	M	Anderson K-12 School Partial Roof	30.00	30.00	0.00	25.00	0.00	2.60	0.00	0.00	0.00	10.00	30.00	3.00	2.67	3.00	3.00	3.33	5.00	6.00	2.00	29.33	6.00	0.00	17.33	208.27
Denali Borough	49	49	49	M	Generator Replacement, 3 Schools	27.00	30.00	0.00	10.00	0.00	2.93	0.00	0.00	0.00	10.00	30.00	3.33	4.00	3.33	3.33	3.33	0.00	8.82	0.00	14.67	1.33	0.00	6.00	158.09
Denali Borough	57	57	57	M	Tri-Valley School Partial Roof Replacement	24.00	17.75	0.00	10.00	0.00	2.93	0.00	0.00	0.00	10.00	30.00	3.33	4.00	3.33	3.33	3.33	0.00	14.95	2.33	14.00	3.33	0.00	7.00	153.63
Fairbanks Borough	23	23	23	M	Woodriver Elementary School Roof Replacement	21.00	30.00	0.00	10.00	0.00	3.46	0.00	0.00	0.00	0.00	30.00	2.67	3.00	3.00	3.00	3.00	0.00	25.56	1.00	27.33	7.00	0.00	6.00	176.01
Fairbanks Borough	28	28	28	M	Lathrop High School Gym Partial Roof Replacement	27.00	21.25	0.00	10.00	0.00	3.46	0.00	0.00	0.00	0.00	30.00	2.67	3.00	3.00	3.00	3.00	0.00	25.00	0.00	27.33	6.33	0.00	7.00	172.04
Fairbanks Borough	34	34	34	M	Administrative Center Air Conditioning and Ventilation Replacement	30.00	11.00	0.00	10.00	0.00	3.46	0.00	0.00	0.00	8.00	30.00	2.67	3.00	3.00	3.00	3.00	5.00	7.41	0.00	26.67	8.67	0.00	15.00	169.86
Fairbanks Borough	46	46	46	M	Ben Eielson Jr/Sr High School Roof Replacement	24.00	30.00	0.00	10.00	0.00	3.46	0.00	0.00	0.00	0.00	30.00	2.67	3.00	3.00	3.00	3.00	0.00	8.00	0.00	27.33	6.67	0.00	6.33	160.46
Fairbanks Borough	55	55	55	M	Anderson Elementary School Exterior Renovation	18.00	30.00	0.00	0.00	0.00	3.46	0.00	0.00	0.00	0.00	30.00	2.67	3.00	3.00	3.00	3.00	0.00	27.90	0.00	14.33	6.67	0.00	11.33	156.35

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Fairbanks Borough	81	81	81	M	Administrative Center Exterior Renovation	15.00	11.00	0.00	0.00	0.00	3.46	0.00	0.00	0.00	10.00	30.00	2.67	3.00	3.00	3.00	3.00	0.00	11.43	0.00	14.67	5.67	0.00	7.33	123.22
Fairbanks Borough	83	83	83	M	Tanana Middle School Classroom Upgrades	9.00	30.00	0.00	0.00	0.00	3.46	0.00	0.00	0.00	0.00	30.00	2.67	3.00	3.00	3.00	3.00	0.00	17.77	0.00	14.00	0.00	0.00	3.33	122.22
Fairbanks Borough	85	85	85	M	Arctic Light Elementary School Exterior Renovation	6.00	11.00	0.00	0.00	0.00	3.46	0.00	0.00	0.00	0.00	30.00	2.67	3.00	3.00	3.00	3.00	0.00	29.19	0.00	14.00	5.33	0.00	6.67	120.31
Fairbanks Borough	92	92	92	M	Anne Wien Elementary School Exterior Renovation	12.00	9.50	0.00	0.00	0.00	3.46	0.00	0.00	0.00	0.00	30.00	2.67	3.00	3.00	3.00	3.00	0.00	13.52	0.00	14.67	6.00	0.00	6.67	110.48
Fairbanks Borough	97	97	97	M	Crawford Elementary School Exterior	3.00	8.00	0.00	0.00	0.00	3.46	0.00	0.00	0.00	0.00	30.00	2.67	3.00	3.00	3.00	3.00	0.00	2.80	0.00	14.00	5.67	0.00	6.67	88.26
Galena City	1	1	1	M	Galena Interior Learning Academy Composite Building Renovation	30.00	21.25	0.00	25.00	0.00	5.00	0.00	0.00	0.00	10.00	25.00	3.67	3.33	3.33	2.67	3.33	0.00	48.30	5.00	25.00	9.33	0.00	11.67	231.88
Haines Borough	51	51	51	M	Haines High School Locker Room Renovation	27.00	26.50	0.00	10.00	0.00	1.28	0.00	0.00	0.00	3.00	30.00	2.67	2.67	3.00	2.00	2.67	0.00	21.84	0.00	12.67	3.67	0.00	8.67	157.62
Haines Borough	62	62	62	M	Haines High School Roof Replacement	30.00	30.00	0.00	0.00	0.00	1.28	0.00	0.00	0.00	0.00	30.00	2.67	2.67	3.00	2.00	2.67	5.00	15.00	0.00	14.00	3.33	0.00	7.67	149.28
Hoonah City	7	7	7	C	Hoonah School Playground Improvements	27.00	30.00	0.00	25.00	0.00	1.72	0.00	0.00	0.00	0.00	30.00	3.00	3.67	3.00	2.33	2.00	0.00	6.34	2.00	29.00	0.00	1.67	8.33	175.06
Hoonah City	50	50	50	M	Hoonah Central Boiler Replacement	30.00	30.00	0.00	10.00	0.00	1.49	0.00	0.00	0.00	8.00	30.00	1.67	2.00	2.00	2.67	2.00	0.00	6.00	0.00	14.00	8.33	0.00	9.67	157.83
Iditarod Area	18	18	18	M	David-Louis Memorial K-12 School HVAC Control Upgrades, Grayling	27.00	16.00	0.00	25.00	0.00	2.53	0.00	0.00	0.00	8.00	25.00	2.00	2.00	2.33	2.33	2.33	5.00	20.71	0.00	28.00	5.67	0.00	7.67	181.58
Iditarod Area	20	20	20	M	Blackwell K-12 School Fire Alarm Upgrades, Anvik	30.00	30.00	0.00	10.00	0.00	2.66	0.00	0.00	0.00	8.00	25.00	2.00	2.00	2.33	1.67	2.67	10.00	18.00	0.00	28.00	2.67	0.00	5.33	180.33
Iditarod Area	76	76	76	M	David-Louis Memorial K-12 School Roof Replacement, Grayling	24.00	19.50	0.00	10.00	0.00	2.67	0.00	0.00	0.00	5.00	30.00	2.00	1.67	1.00	1.00	2.00	0.00	5.42	0.00	14.33	2.67	0.00	10.67	131.92
Juneau Borough	13	13	13	M	Sayéik: Gastineau Community School Partial Roof Replacement	30.00	30.00	0.00	25.00	0.00	2.33	0.00	0.00	0.00	5.00	30.00	3.00	2.67	3.67	3.33	4.00	0.00	21.00	0.00	20.67	7.33	0.00	7.00	194.99
Juneau Borough	75	75	75	M	Dzantik'i Heeni Middle School Roof	27.00	9.50	0.00	10.00	0.00	2.33	0.00	0.00	0.00	8.00	30.00	2.67	2.67	3.67	3.33	4.00	0.00	8.00	0.00	15.33	3.00	0.00	5.33	134.83
Juneau Borough	91	91	91	M	Riverbend Elementary School Roof Replacement	24.00	7.25	0.00	0.00	0.00	2.33	0.00	0.00	0.00	3.00	30.00	3.00	2.67	3.67	3.33	4.00	0.00	6.56	0.00	15.00	1.67	0.00	7.00	113.47
Kake City	6	6	6	M	Kake Schools Heating Upgrades	30.00	29.39	0.00	25.00	0.00	1.63	0.00	0.00	0.00	8.00	30.00	2.67	3.67	3.00	3.33	3.00	0.00	17.33	3.33	28.33	7.00	0.00	10.00	205.69
Kake City	40	40	40	M	Exterior Upgrades - Main School Facilities	24.00	30.00	0.00	10.00	0.00	1.56	0.00	0.00	0.00	0.00	30.00	2.67	2.33	2.00	2.33	2.00	5.00	28.62	0.00	14.33	1.33	0.00	8.33	164.52
Kake City	77	77	77	M	Kake Schools Flooring Replacement	21.00	30.00	0.00	10.00	0.00	1.56	0.00	0.00	0.00	0.00	30.00	2.67	2.33	2.00	2.33	2.00	0.00	4.00	0.00	14.67	1.00	0.00	8.00	131.56
Kake City	82	82	82	M	Kake High School Plumbing Replacement	27.00	30.00	0.00	0.00	0.00	1.56	0.00	0.00	0.00	0.00	30.00	2.67	2.33	2.00	2.33	2.00	0.00	0.00	0.00	14.00	1.33	0.00	7.00	122.23
Kake City	88	88	88	M	Kake High School Gym Floor Replacement	18.00	30.00	0.00	0.00	0.00	1.56	0.00	0.00	0.00	0.00	30.00	2.67	2.33	2.00	2.33	2.00	0.00	4.00	0.00	14.00	1.00	0.00	7.67	117.56
Kenai Peninsula Borough	11	11	11	C	Kenai Middle School Security Remodel	30.00	30.00	0.00	10.00	0.00	2.94	0.00	0.00	0.00	0.00	30.00	3.33	2.00	3.00	3.00	3.00	0.00	3.24	5.67	12.67	0.00	0.00	6.33	145.18
Kenai Peninsula Borough	61	61	61	M	Homer High School Partial Roof Replacement	27.00	23.00	0.00	10.00	0.00	2.94	0.00	0.00	0.00	5.00	30.00	3.33	2.00	3.00	3.00	3.00	0.00	13.53	0.00	14.00	3.00	0.00	7.00	149.81
Kenai Peninsula Borough	87	87	87	M	Seward Middle School Exterior Repair	24.00	3.00	0.00	10.00	0.00	2.94	0.00	0.00	0.00	8.00	30.00	3.33	2.00	3.00	3.00	3.00	0.00	8.00	0.00	12.67	1.00	0.00	4.00	117.94
Ketchikan Borough	32	32	32	M	Ketchikan High School Security Upgrades	30.00	30.00	0.00	25.00	0.00	3.39	0.00	0.00	0.00	0.00	25.00	3.00	3.00	2.33	2.33	3.33	0.00	0.00	0.00	24.00	12.00	0.00	7.33	170.73
Kodiak Island Borough	59	59	59	M	Peterson Elementary School Roof Replacement	30.00	30.00	0.00	10.00	0.00	2.82	0.00	0.00	0.00	8.00	30.00	1.00	1.00	2.00	2.33	1.67	0.00	10.67	2.00	12.33	3.33	0.00	4.67	151.82
Kodiak Island Borough	68	68	68	M	Chiniak K-12 School Water Treatment Code Compliance and Upgrade	27.00	30.00	0.00	10.00	0.00	2.82	0.00	0.00	0.00	0.00	30.00	1.00	1.00	2.00	2.33	1.67	0.00	16.00	0.00	13.67	2.67	0.00	3.67	143.82
Kodiak Island Borough	71	71	71	M	Main Elementary School Roof Replacement	24.00	30.00	0.00	10.00	0.00	2.82	0.00	0.00	0.00	8.00	30.00	1.00	1.00	2.00	2.33	1.67	0.00	6.00	2.00	13.00	2.33	0.00	3.67	139.82
Kuspuk	56	56	56	M	Jack Egnaty Sr. K-12 School Roof Replacement, Sleetmute	30.00	30.00	0.00	0.00	0.00	1.99	0.00	0.00	0.00	0.00	30.00	3.00	2.67	2.67	2.33	2.00	8.67	12.92	1.00	14.67	4.33	0.00	8.33	154.58
Lower Kuskokwim	1	1	1	C	William N. Miller K-12 Memorial School Replacement, Napakiak	30.00	30.00	30.00	10.00	0.00	3.30	5.83	13.10	22.60	10.00	30.00	4.00	2.00	2.33	2.00	2.00	25.00	14.05	0.00	23.00	4.00	3.33	11.67	278.21
Lower Kuskokwim	2	2	2	C	Newtok K-12 School Relocation/Replacement, Mertarvik	27.00	10.33	0.00	10.00	0.00	3.30	50.00	30.00	22.24	10.00	30.00	4.00	2.00	2.33	2.00	2.00	20.00	6.65	6.33	15.67	3.00	4.33	12.00	273.19
Lower Kuskokwim	3	3	3	C	Anna Tobeluk Memorial K-12 School Renovation/Addition, Nunapitchuk	21.00	25.45	0.00	10.00	0.00	3.30	26.50	17.55	21.89	10.00	30.00	4.00	2.00	2.33	2.00	2.00	0.00	15.82	20.00	13.33	4.00	3.00	13.67	247.84
Lower Kuskokwim	10	10	10	C	Water Storage And Treatment, Kongiganak	18.00	0.00	0.00	20.00	0.00	3.46	0.00	0.00	0.00	8.00	30.00	4.00	2.67	3.33	3.00	3.33	0.00	17.33	0.00	17.33	2.67	2.00	10.33	145.46
Lower Kuskokwim	13	13	13	C	Bethel Campus Transportation and Drainage Upgrades	6.00	27.80	0.00	10.00	0.00	3.46	0.00	0.00	0.00	8.00	30.00	4.00	2.67	3.33	3.00	3.33	0.00	12.35	0.00	15.00	1.67	2.67	4.33	137.60

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Lower Kuskokwim	26	26	26	M	Qugcuun Memorial K-12 School Renovation, Oscarville	3.00	30.00	0.00	10.00	0.00	3.30	0.00	0.00	0.00	10.00	30.00	4.00	2.00	2.33	2.00	2.00	0.00	50.00	1.67	13.33	3.67	0.00	7.33	174.63
Lower Kuskokwim	41	41	41	M	Akula Elitnauvik K-12 School Renovation, Kasigluk-Akula	15.00	26.76	0.00	10.00	0.00	3.30	0.00	0.00	0.00	10.00	30.00	4.00	2.00	2.33	2.00	2.00	5.00	23.04	2.33	14.00	3.33	0.00	9.33	164.43
Lower Kuskokwim	44	44	44	M	Gladys Jung Elementary School Heating Mains Replacement	24.00	2.80	0.00	25.00	0.00	3.30	0.00	0.00	0.00	3.00	30.00	4.00	2.00	2.33	2.00	2.00	5.00	17.64	0.00	29.00	2.33	0.00	7.67	162.07
Lower Kuskokwim	67	67	67	M	Bethel Regional High School Boardwalk Replacement	9.00	30.00	0.00	10.00	0.00	3.46	0.00	0.00	0.00	10.00	30.00	4.00	2.67	3.33	3.00	3.33	0.00	14.93	0.00	15.00	1.67	0.00	6.33	146.72
Lower Kuskokwim	73	73	73	M	Akiuk Memorial K-12 School Renovation, Kasigluk-Akiuk	12.00	11.50	0.00	10.00	0.00	3.30	0.00	0.00	0.00	10.00	30.00	4.00	2.00	2.33	2.00	2.00	0.00	22.99	2.00	14.00	2.67	0.00	6.33	137.12
Lower Yukon	14	14	14	M	Sheldon Point K-12 School Foundation Cooling and Repairs, Nunam Iqua	30.00	1.50	0.00	25.00	0.00	2.18	0.00	0.00	0.00	8.00	30.00	3.67	2.00	2.33	3.67	2.00	10.33	26.76	4.00	28.00	0.33	0.00	8.00	187.78
Lower Yukon	22	22	22	M	Hooper Bay K-12 School Exterior Repairs	24.00	2.50	0.00	25.00	0.00	2.18	0.00	0.00	0.00	8.00	30.00	3.67	2.00	2.33	3.67	2.00	5.00	19.25	3.67	27.00	4.00	0.00	12.33	176.60
Lower Yukon	39	39	39	M	Marshall K-12 School Tank Farm Emergency Repair	27.00	0.50	0.00	25.00	0.00	2.18	0.00	0.00	0.00	10.00	30.00	3.67	2.00	2.33	3.67	2.00	6.67	9.61	0.00	28.00	4.33	0.00	7.67	164.63
Lower Yukon	47	47	47	M	Hooper Bay K-12 School Emergency Lighting and Retrofit	21.00	2.50	0.00	25.00	0.00	2.18	0.00	0.00	0.00	5.00	30.00	3.67	2.00	2.33	3.67	2.00	0.00	9.07	1.67	28.67	11.00	0.00	10.00	159.75
Lower Yukon	53	53	53	M	Scammon Bay K-12 School Emergency Lighting and Retrofit	18.00	3.00	0.00	25.00	0.00	2.18	0.00	0.00	0.00	5.00	30.00	3.67	2.00	2.33	3.67	2.00	0.00	9.07	1.67	28.67	10.33	0.00	10.00	156.59
Lower Yukon	79	79	79	M	Scammon Bay K-12 School Siding Replacement	15.00	2.50	0.00	25.00	0.00	2.18	0.00	0.00	0.00	8.00	30.00	3.67	3.33	3.00	3.67	3.00	0.00	1.90	0.00	16.67	3.33	0.00	9.67	130.91
Lower Yukon	80	80	80	M	LYSD Central Office Renovation	12.00	29.69	0.00	0.00	0.00	2.18	0.00	0.00	0.00	0.00	30.00	3.67	2.00	2.33	3.67	2.00	0.00	16.53	0.00	13.00	5.33	0.00	7.33	129.74
Lower Yukon	95	95	95	M	Kotlik and Pilot Station K-12 Schools Renewal and Repair	6.00	4.00	0.00	10.00	0.00	2.18	0.00	0.00	0.00	5.00	30.00	3.67	3.33	3.00	3.67	3.00	0.00	5.25	0.00	13.00	2.67	0.00	5.00	99.76
Lower Yukon	96	96	96	M	Sheldon Point K-12 School Exterior Repairs, Nunam Iqua	9.00	1.00	0.00	0.00	0.00	2.18	0.00	0.00	0.00	5.00	30.00	3.67	3.33	3.00	3.67	3.00	0.00	0.62	0.00	13.00	3.33	0.00	7.67	88.46
Mat-Su Borough	45	45	45	M	Big Lake Elementary School Water System Replacement, Ph 2	30.00	30.00	0.00	25.00	0.00	2.25	0.00	0.00	0.00	10.00	20.00	1.00	1.00	2.00	2.00	2.00	0.00	11.00	2.33	16.33	1.33	0.00	5.33	161.58
Mat-Su Borough	72	72	72	M	Butte and Snowshoe Elementary Schools Water System Replacement	27.00	30.00	0.00	10.00	0.00	2.25	0.00	0.00	0.00	8.00	20.00	1.00	1.00	2.00	2.00	2.00	0.00	10.67	2.67	13.33	1.33	0.00	5.00	138.25
Mat-Su Borough	84	84	84	M	Elevator Code and Compliance Upgrades, 6 Sites	21.00	28.25	0.00	10.00	0.00	2.25	0.00	0.00	0.00	10.00	20.00	1.00	1.00	2.00	2.00	2.00	0.00	4.20	0.00	13.00	1.33	0.00	4.00	122.03
Mat-Su Borough	86	86	86	M	Structural Seismic Upgrades, 5 Sites	18.00	30.00	0.00	10.00	0.00	2.25	0.00	0.00	0.00	10.00	20.00	1.00	1.00	2.00	2.00	2.00	0.00	6.00	0.00	10.33	1.00	0.00	3.33	118.91
Mat-Su Borough	90	90	90	M	Colony and Wasilla Middle Schools Roof Replacement	24.00	15.30	0.00	10.00	0.00	2.25	0.00	0.00	0.00	8.00	20.00	1.00	1.00	2.00	2.00	2.00	0.00	8.02	0.00	14.00	2.00	0.00	2.00	113.56
Mat-Su Borough	93	93	93	M	Ceiling and Sprinkler Seismic Mitigation, 5 Sites	15.00	30.00	0.00	10.00	0.00	2.25	0.00	0.00	0.00	0.00	20.00	1.00	1.00	2.00	2.00	2.00	0.00	3.75	0.00	11.33	1.00	0.00	3.33	104.66
Mat-Su Borough	94	94	94	M	HVAC Control Upgrades, 5 Sites	12.00	24.51	0.00	10.00	0.00	2.25	0.00	0.00	0.00	0.00	20.00	1.00	1.00	2.00	2.00	2.00	0.00	5.60	2.33	12.00	4.33	0.00	3.00	104.03
Nome City	24	24	24	M	Nome Beltz Jr/Sr High School Boiler Replacement	30.00	30.00	0.00	25.00	0.00	1.31	0.00	0.00	0.00	0.00	30.00	2.67	3.00	2.33	2.33	2.67	0.00	7.34	0.00	29.00	3.00	0.00	7.00	175.65
Nome City	25	25	25	M	Anvil City Charter School Restroom Renovation	27.00	30.00	0.00	25.00	0.00	1.31	0.00	0.00	0.00	0.00	30.00	2.67	3.00	2.33	2.33	2.67	0.00	3.25	4.67	30.00	3.00	0.00	7.67	174.90
Nome City	30	30	30	M	Nome Beltz Jr/Sr High School Generator Replacement	21.00	30.00	0.00	25.00	0.00	1.31	0.00	0.00	0.00	0.00	30.00	2.67	3.00	2.33	2.33	2.67	0.00	15.00	0.00	24.33	0.00	0.00	12.00	171.65
Nome City	65	65	65	M	Nome Elementary School Fire Alarm Replacement	24.00	17.75	0.00	25.00	0.00	1.43	0.00	0.00	0.00	0.00	25.00	3.00	2.33	2.33	2.00	3.00	5.00	6.33	0.00	22.33	1.33	0.00	6.00	146.85
Northwest Arctic Borough	35	35	35	M	June Nelson Elementary School Roof Replacement	30.00	30.00	0.00	10.00	0.00	2.69	0.00	0.00	0.00	10.00	25.00	3.00	2.33	3.00	2.33	2.67	3.33	12.66	2.33	16.00	4.33	0.00	8.67	168.35
Northwest Arctic Borough	54	54	54	M	Buckland K-12 School HVAC Renewal and Upgrades	24.00	9.65	0.00	25.00	0.00	2.69	0.00	0.00	0.00	5.00	25.00	3.00	2.33	3.00	2.33	2.67	0.00	7.36	2.00	22.67	10.33	0.00	9.33	156.37
Northwest Arctic Borough	58	58	58	M	Davis-Ramoth K-12 School Rehabilitation, Selawik	27.00	14.73	0.00	10.00	0.00	2.69	0.00	0.00	0.00	10.00	25.00	3.00	2.33	3.00	2.33	2.67	0.00	11.50	5.33	17.33	4.67	0.00	11.67	153.25
Saint Marys City	74	74	74	M	St. Mary's Campus Renewal and Repairs	30.00	30.00	0.00	10.00	0.00	1.23	0.00	0.00	0.00	0.00	30.00	3.00	3.00	3.33	3.33	3.00	0.00	0.00	0.33	13.00	0.67	0.00	4.67	135.56
Sitka Borough	64	64	64	M	Keet Gooshi Heen Elementary Covered PE Structure Renovation	30.00	16.00	0.00	10.00	0.00	1.02	0.00	0.00	0.00	8.00	30.00	3.67	2.00	1.67	1.67	3.00	0.00	10.40	1.33	17.67	2.67	0.00	9.33	148.42
Southeast Island	60	60	60	M	Thorne Bay K-12 School Fire Suppression System	30.00	13.49	0.00	10.00	0.00	2.57	0.00	0.00	0.00	8.00	30.00	1.67	3.00	2.00	2.00	2.00	10.00	6.87	0.00	13.67	5.00	0.00	10.33	150.60
Southeast Island	66	66	66	M	Thorne Bay K-12 School Flooring Replacement	21.00	13.49	0.00	25.00	0.00	2.57	0.00	0.00	0.00	0.00	30.00	1.67	3.00	2.00	2.00	2.00	0.00	4.00	0.00	28.00	3.33	0.00	8.67	146.73

Alaska Department of Education and Early Development
FY2023 Capital Improvement Projects
School Construction and Major Maintenance by Districts

Total Points - Formula-Driven and Evaluative
Final List

School District	Jan 14 Rank	Dec 21 Rank	Nov 5 Rank	MM/ SC	Project Name	School Dist Rank	Weight Avg Age	Prev. 14.11 Fund	Plan and Design	Prior Design Use	Avg Expend Maint	Un-Housed Today	Un-Housed 7 Years	Type of Space	Cond Survey	O&M Rpts	Maint Mgt	Energy Mgt	Cusd Pgm	Maint Train	Capital Plan	Emer-gency	Life/Safety and Code Conditions	Exist-ing Space	Cost Esti-mate	Proj vs Oper Cost	Alter nat-ives	Options	Total Project Points
Southeast Island	69	69	69	M	Thorne Bay K-12 School Mechanical Control Upgrades	27.00	13.49	0.00	10.00	0.00	2.57	0.00	0.00	0.00	8.00	30.00	1.67	3.00	2.00	2.00	2.00	3.33	8.00	0.00	14.33	8.00	0.00	6.33	141.73
Southeast Island	89	89	89	M	Thorne Bay K-12 School Underground Storage Tank Replacement	24.00	13.49	0.00	10.00	0.00	2.57	0.00	0.00	0.00	0.00	30.00	1.67	3.00	2.00	2.00	2.00	0.00	2.00	0.00	15.00	0.00	0.00	6.00	113.73
Valdez City	11	11	11	M	Valdez High and Hermon Hutchens Elementary Schools Domestic Water Piping Replacement	30.00	30.00	0.00	25.00	0.00	1.37	0.00	0.00	0.00	10.00	30.00	3.00	3.00	2.33	2.33	2.33	5.00	17.26	0.00	27.00	3.00	0.00	6.00	197.63
Valdez City	31	31	31	M	Districtwide Generator Replacement	27.00	19.69	0.00	25.00	0.00	1.37	0.00	0.00	0.00	10.00	30.00	3.00	3.00	2.33	2.33	2.33	0.00	4.00	0.00	28.33	2.33	0.00	10.67	171.40
Yukon-Koyukuk	4	4	4	C	Minto K-12 School Renovation/Addition	30.00	23.78	0.00	20.00	0.00	2.82	0.00	3.41	23.85	10.00	25.00	3.67	2.67	3.00	3.33	3.00	0.00	23.58	15.33	18.33	4.00	4.00	13.00	232.77
Yukon-Koyukuk	21	21	21	M	YKSD District Office Roof Replacement	27.00	30.00	0.00	25.00	0.00	2.82	0.00	0.00	0.00	0.00	25.00	3.67	2.67	3.00	3.33	3.00	0.00	7.60	1.00	28.67	5.00	0.00	9.67	177.42
Yukon-Koyukuk	33	33	33	M	Ella B. Vernetti K-12 School Boiler Replacement, Koyukuk	24.00	21.28	0.00	20.00	0.00	2.82	0.00	0.00	0.00	8.00	25.00	3.67	2.67	3.00	3.33	3.00	0.00	19.88	0.00	18.33	4.33	0.00	11.33	170.65

CIP Grant Requests and Funding History FY13 to FY23

	FY2013	FY2014	FY2015	FY2016	FY2017	FY2018	FY2019	FY2020	FY2021	FY2022	FY2023
CIP Grant Requests											
Total Applications	158	137	121	126	127	131	105	86	120	125	113
Percent of Districts Applying	64%	66%	64%	66%	68%	70%	58%	51%	64%	57%	55%
# Projects Reusing Scores	20	52	23	57	27	67	39	24	40	55	41
Major Maintenance	120	111	102	102	98	107	84	72	102	108	97
MM Total $ (*)	$267,017,375	$253,682,082	$183,505,181	$172,195,526	$181,570,096	$164,887,094	$142,892,281	$113,787,100	$148,986,253	$187,285,413	$196,637,613
School Construction	27	24	17	18	18	15	11	11	14	17	13
SC Total $ (*)	$276,691,304	$284,133,432	$274,150,436	$230,920,120	$206,267,345	$123,294,419	$179,214,343	$190,238,739	$142,797,809	$162,305,916	$192,775,088

Notes:
(*) Total $ is State Share

School Construction and Major Maintenance Funding										
Grant Projects Funded	$78,952,700	$94,171,539	$43,279,791	$56,728,592	$74,715,471 (1)	$53,177,429 (1)	$82,665,391 (1)	$42,489,249 (1)	$1,896,395 (1)	$12,608,008 (1)
Percent Grant $ Funded	14.5%	17.5%	9.5%	14.1%	8.6%	17.3%	15.5%	14.0%	0.6%	3.6%
Percent Applications Funde	10.9%	11.9%	1.7%	4.2%	3.4%	16.4%	25.3%	3.6%	0.9%	1.6%
Debt Projects	$78,525,000 (2)	$138,622,000 (2)	$13,353,394 (2)	$0	$0	$0	$0	$0	$0	$0

Notes:
Grant Projects Funded includes all reappropriated or reallocated funding, including grant funding reported in prior fiscal years, as of November 5, 2021
(1) Includes AS 14.11.025 grants
(2) SB237 debt projects DEED & voter approved, effective 7/1/2010 - 12/31/2014

PM State-of-the-State

Report of DEED Maintenance Assessments and Related Data

AS OF 08/15/2021

District	Date of Last Visit	Year of Next Visit	Approved FAIS	Maintenance Management	Energy	Custodial	Training	R&R Schedule	Status	Maint. Program	Program Name	CIP Eligible
Alaska Gateway	3/30/2017	2022	Y	Y	Y	Y	Y	Y	6 of 6	W	Dude Solutions	Yes
Aleutian Region	7/19/2011	2016	Y	N	Y	Y	Y	Y	5 of 6	W	Dude Solutions	No
Aleutians East	11/12/2019	2025	Y	Y	Y	Y	Y	Y	6 of 6	W	MC*	Yes
Anchorage	1/23/2018	2023	Y	Y	Y	Y	Y	Y	6 of 6	W	Dude Solutions	Yes
Annette Island	2/12/2021	2026	Y	Y	Y	Y	Y	Y	6 of 6	W	Dude Solutions	Yes
Bering Strait	4/14/2019	2024	Y	Y	Y	Y	Y	Y	6 of 6	W	Dude Solutions	Yes
Bristol Bay Borough	1/18/2019	2024	Y	Y	Y P	Y	Y	Y	6 of 6	W	MC*	Yes
Chatham	3/6/2017	2022	Y	Y	Y	Y	Y	Y	6 of 6	W	MC*	Yes
Chugach	1/26/2018	2023	Y	Y	Y	Y	Y	Y	6 of 6	W	MC*	Yes
Copper River	3/31/2017	2022	Y	Y	Y	Y	Y	Y	6 of 6	W	Dude Solutions	Yes
Cordova	1/15/2020	2025	Y	Y	Y	Y	Y	Y	6 of 6	W	Dude Solutions	Yes
Craig City	11/14/2016	2022	Y	Y	Y	Y	Y	Y	6 of 6	W	MC*	Yes
Delta/Greely	3/28/2017	2022	Y	Y	Y	Y	Y	Y	6 of 6	W	Dude Solutions	Yes
Denali Borough	12/18/2019	2025	Y	Y	Y	Y	Y	Y	6 of 6	W	MC*	Yes
Dillingham City	4/6/2021	2026	Y	Y	Y	Y	Y	Y	6 of 6	W	MC*	Yes
Fairbanks	3/27/2018	2023	Y	Y	Y	Y	Y	Y	6 of 6	W	Web Help Desk	Yes
Galena	3/22/2018	2023	Y	Y	Y	Y	Y	Y	6 of 6	W	MC*	Yes
Haines	1/19/2021	2026	Y	Y	Y	Y	Y	Y	6 of 6	W	Dude Solutions	Yes
Hoonah City	4/17/2017	2022	Y	Y	Y	Y	Y	Y	6 of 6	W	MC*	Yes
Hydaburg City	11/16/2016	2022	Y	Y	Y	Y	Y	Y	6 of 6	W	MC*	Yes
Iditarod Area	4/8/2019	2024	Y	Y	Y	Y	Y	Y	6 of 6	W	Dude Solutions	Yes
Juneau	5/17/2021	2026	Y	Y	Y	Y	Y	Y	6 of 6	L	TMA	Yes
Kake City	2/4/2020	2025	Y	Y	Y P	Y	Y	Y	6 of 6	W	MC*	Yes
Kashunamiut	2/25/2020	2025	Y	Y	Y	Y	Y	Y	6 of 6	W	MC*	Yes
Kenai Peninsula	3/1/2018	2023	Y	Y	Y	Y	Y	Y	6 of 6	W	Dude Solutions	Yes
Ketchikan	2/8/2021	2026	Y	Y	Y	Y	Y	Y	6 of 6	W	Dude Solutions	Yes
Klawock City	12/19/2016	2022	Y	Y	N	Y	Y	Y	5 of 6	W	MC*	No
Kodiak Island	5/29/2020	2025	Y	Y	Y	Y	Y	Y	6 of 6	W	Dude Solutions	Yes
Kuspuk	3/3/2020	2025	Y	Y	Y	Y	Y	Y	6 of 6	W	MC*	Yes
Lake & Peninsula	1/16/2019	2024	Y	Y	N	Y	Y	Y	5 of 6	W	Manager Plus	No
Lower Kuskokwim	3/25/2019	2024	Y	Y	Y	Y	Y	Y	6 of 6	W	Manager Plus	Yes
Lower Yukon	3/20/2019	2024	Y	Y	Y	Y	Y	Y	6 of 6	W	MC*	Yes
Mat-Su Borough	2/3/2017	2022	Y	Y	Y	Y	Y	Y	6 of 6	W	Team Dynamix	Yes
Nenana City	12/17/2019	2025	Y	Y	N	Y	Y	Y	5 of 6	W	MC*	No
Nome City	4/28/2017	2022	Y	Y	Y	Y	Y	Y	6 of 6	W	Dude Solutions	Yes
North Slope Borough	5/21/2018	2023	Y	Y	Y	Y	Y	Y	6 of 6	W	Dude Solutions	Yes
Northwest Arctic	5/4/2021	2026	Y	Y	Y	Y	Y	Y	6 of 6	W	MC*	Yes
Pelican City	4/9/2018	2023	Y	Y	Y	Y	Y	Y	6 of 6	W	MC*	Yes
Petersburg City	3/9/2021	2026	Y	Y	Y	Y	Y	Y	6 of 6	W	Dude Solutions	Yes
Pribilof Island	5/25/2020	2025	Y	Y	Y	Y	Y	Y	6 of 6	W	MC*	Yes
Sitka City Borough	4/24/2017	2022	Y	Y	Y	Y	Y	Y	6 of 6	W	Dude Solutions	Yes
Skagway City	9/5/2018	2024	Y	N	N	Y	N	Y	3 of 6	W	Dude Solutions	No
Southeast Island	11/18/2016	2022	Y	Y	Y	Y	Y	Y	6 of 6	W	MC*	Yes
Southwest Region	4/7/2021	2026	Y	Y	Y	Y	Y	Y	6 of 6	W	Dude Solutions	Yes
St Mary's	3/18/2019	2024	Y	Y	Y	Y	Y	Y	6 of 6	W	MC*	Yes
Tanana City	3/23/2018	2023	Y	Y	Y	Y	Y	Y	6 of 6	W	MC*	Yes
Unalaska City	5/25/2020	2025	Y	Y	Y	Y	Y	Y	6 of 6	W	Dude Solutions	Yes
Valdez City	4/18/2018	2023	Y	Y	Y	Y	Y	Y	6 of 6	W	MC	Yes
Wrangell City	3/11/2021	2026	Y	Y	Y	Y	Y	Y	6 of 6	W	MC*	Yes
Yakutat City	1/14/2020	2025	Y	Y	Y P	Y	Y P	Y	6 of 6	W	MC*	Yes
Yukon Flats	11/12/2018	2024	Y	N	N	Y	N	Y	3 of 6	W	MC*	No
Yukon-Koyukuk	11/15/2018	2024	Y	Y	Y	Y	Y	Y	6 of 6	W	Dude Solutions	Yes
Yupiit	2/27/2020	2025	Y	Y	Y	Y	Y	Y	6 of 6	W	MC*	Yes
In Compliance			53	50	48	53	51	53	47			47

Legend

N = Not in compliance
Y = In full compliance
Y P = Provisional compliance
FAIS = Fixed Asset Inventory System
W= Web-based Computerized Maintenance Management System
L = Local Area Network (LAN) Computerized Maintenance Management System
* = Use MC (Maintenance Connection) through SERRC Service Contract
Bold - Site visit pending

"Year of Next Visit" dates are subject to change at the department's discretion. School Districts will be notified in a timely manner if scheduled visit dates listed on this report are altered.

SCHOOL CAPITAL PROJECT FUNDING UNDER SB 237

Excerpts from 2022 Report

Table 1 Total Funding Summary by Fiscal Year

Fiscal Year	Construction City/Borough	Construction REAA	Maintenance City/Borough	Maintenance REAA
FY2011	$500,000	$128,500,000	$112,973,055	$2,965,455
FY2012	$316,064,997	$61,910,901*	$88,017,366	$21,752,950
FY2013	$66,473,304	$62,230,515	$14,018,188	$16,012,693
FY2014	$36,839,182	$60,619,572	$109,599,491	$15,563,759*
FY2015	$18,119,988	$31,516,900	$6,996,297	$0
FY2016	$43,237,400	$0	$0	$2,623,689*
FY2017	$10,010,000	$62,867,968	$0	$0
FY2018	$7,238,422	$39,771,675	$0*	$0*
FY2019	$0*	$42,527,459*	$15,378,459*	$12,274,841*
FY2020	$0	$20,082,467*	$7,365,723	$0
FY2021	$0	$0	$0	$34,277*
FY2022	$0	$12,608,008	$0	$0
Totals	**$498,483,293**	**$522,635,465**	**$354,348,579**	**$71,227,664**

Table 2 Total Funding Summary by Program

Program	Construction City/Borough	Construction REAA	Maintenance City/Borough	Maintenance REAA
Grant	$72,248,713	$522,635,465	$58,061,217	$71,227,664
Debt	$426,234,580	$0	$296,287,362	$0
Totals	**$498,483,293**	**$522,635,465**	**$354,348,579**	**$71,227,664**

Table 3 Total Funding Summary by Fiscal Year and Program

Program	Construction City/Borough	Construction REAA	Maintenance City/Borough	Maintenance REAA
FY2011 Grant	$0	$128,500,000	$21,821,504	$2,965,455
FY2011 Debt	$500,000	$0	$91,151,551	$0
FY2012 Grant	$0	$61,910,901*	$4,101,741	$21,752,950
FY2012 Debt	$316,064,997	$0	$83,915,625	$0
FY2013 Grant	$0	$62,230,515	$1,966,492	$16,012,693
FY2013 Debt	$66,473,304	$0	$12,051,696	$0
FY2014 Grant	$0	$60,619,572	$7,427,298	$15,563,759*
FY2014 Debt	$36,839,182	$0	$102,172,193	$0
FY2015 Grant	$11,762,891	$31,516,900	$0	$0
FY2015 Debt	$6,357,097	$0	$6,996,297	$0
FY2016 Grant	$43,237,400	$0	$0	$2,623,689*
FY2016 Debt	$0	$0	$0	$0
FY2017 Grant	$10,010,000	$62,867,968	$0	$0
FY2017 Debt	$0	$0	$0	$0
FY2018 Grant	$7,238,422	$39,771,675	$0*	$0*
FY2018 Debt	$0	$0	$0	$0
FY2019 Grant	$0*	$42,527,459*	$15,378,459	$12,274,841
FY2019 Debt	$0	$0	$0	$0
FY2020 Grant	$0	$20,082,467*	$7,365,723	$0
FY2020 Debt	$0	$0	$0	$0
FY2021 Grant	$0	$0	$0	$34,277*
FY2021 Debt	$0	$0	$0	$0
FY2022 Grant	$0	$12,608,008	$0	$0
FY2022 Debt	$0	$0	$0	$0
Totals	**$498,483,293**	**$522,635,465**	**$354,348,579**	**$71,227,664**

**Grant projects with funds approved before 7/1/2010 show the amount less the reappropriated money so that this report accurately represents funding only during the stated reporting period.*

*** Debt projects that were approved by the department after 7/1/2010, but funded with redirected funds from bonds authorized before 7/1/2010, were not included so that this report accurately represents funding only during the stated reporting period.*

School Capital Funding Forecast Database
Business Level Data Flow Diagram

The data flow diagram illustrates how the Capital Forecast DB is anticipated to interact with external systems, along with its standard inputs and outputs.

THE STATE of ALASKA
GOVERNOR MIKE DUNLEAVY

Department of Education & Early Development
FINANCE & SUPPORT SERVICES
PO Box 110500
Juneau, Alaska 99811-0500
Telephone: 907.465.6906

To: Bond Reimbursement & Grant Review Committee
From: School Facilities
Date: April 19, 2022

FY2024 CIP APPLICATION BRIEFING

Protection of Structure / Life Safety / Code Deficiencies

Matrix Scores

Review of the Protection of Structure / Life Safety / Code Deficiencies matrix by the committee in its March meeting did not highlight a particular need for change regarding point balancing. The department is proposing minor edits for clarity and balance. Point changes are recommended for Elevators Issues and Intercom Issues. Siding Failure is adjusted for its age-related constraint. The ADA title is clarified to better reflect current practices. Last, clarifying edits have been made to identify the applicability of point increases related to involvement of design professionals.

Alternate Weighting

The department is proposing a modification to the method of weighting this scoring category for mixed scope projects. The proposal is a modification of the 'alternate' weighting for project conditions that have a high point value not commensurate with its cost to correct. The FY23CIP alternate weighting is based on a ratio of condition points to the total raw points for all conditions and is not affected by cost. Particularly for project with only a few conditions, this did not correct as intended and inflated the condition score.

The proposed weighting for the FY24CIP cycle is to base the initial cost to score ratio on the estimated cost to correct the LS/Code conditions; in FY23 this initial ratio was based on the total eligible construction cost. Basing the cost on the cost to correct softens when the alternative weighting method is used, and is beneficial to the project score. Furthered slightly by basing the ratio on the average total points and average condition costs (affected one project in the sample set).

Instead of a ratio of condition point to total points, the proposed alternate weighting is based on a ratio of the condition's cost to correct to the total eligible score increased by the percentage of the points to the total points, so long as the points do not increase beyond what would have been score with the standard total cost to correct to total eligible construction cost.

The department is also proposing lowering the minimum score from one point to half a point. This lessens the inflated scores for projects that have multiple conditions, lessening the gap between renovation-type project and single-scope project, and allows 1-point conditions to be modified as needed.

Preventive Maintenance and Facility Management Scoring

Revised matrices for scoring preventive maintenance and facility management narrative questions are being presented per committee direction in the March meeting to "recognize and accept that the new matrix will influence scoring but to work to make adjustments to ensure that there are fair targets established that are attainable—something like 'every district should be able to score a three with reasonable effort'." In general, requirements for formalized policy and comprehensive, written plans were removed from criteria in scoring elements 1 through 3 of each category. In addition, the spectrum of topics needing to be addressed within each category was reduced in the lower scoring elements. Formality and comprehensive narratives were retained at scores of 4 and 5. However, at these upper scores, the complexity of backup data supporting high performance was reduced, as were some high-performance tasks. An example of this would be the removal of the requirement to implement and document analyses of program effectiveness.

Appendix D – Type of Space Added or Improved

Efforts are ongoing to conform naming conventions across multiple department publications, including the CIP Application, *Alaska School Design and Construction Standards*, and *Program Demand Cost Model*. For the most part, the application instructions' Appendix D is the primary source. The department is proposing changes for committee consideration to reorganize and update the space types to modern name usages that will be carried through the other documents.

Proposed FY2024 Application Changes

The proposed identified changes to the FY2024 CIP application and support materials are generally summarized as follows. An itemized list is provided as an aide for committee review as an attachment.

- Throughout: conforming changes to fiscal year information.
- Throughout: wording edits for clarification purposes.
- Revisions to Sec. 9 Preventive Maintenance narrative sections.
- Addition of new section requesting contact information for reconsideration purposes.

CIP #	Project Title	Total Condition Points	FY20-FY21 LS/Const $ %	FY22 CIP LS	FY23 CIP LS (Min 1pt)	Mod.A Wtg Cost/Const$ (Min 1pt)	Mod.C Wtg Cost/LS$ Avg (Min 1pt)	Mod.D Prop. FY24 Wtg Cost/LS$ Avg (Min .5pt)	LS Construction Cost	Total Construction Cost	% LS Construction / Total Construction	# of Conditions
1	Sand Point K-12 School Major Maintenance	100.00	69.73	38.11	32.84	23.83	25.62	24.13	$1,658,165	$2,377,987	69.73%	11
2	Sand Point K-12 School Pool Major Maintenance	4.00	4.00	4.00	4.00	4.00	4.00	4.00	$102,608	$102,608	100.00%	1
3	Gruening Middle School Non-Seismic Improvemen	46.00	5.96	10.49	12.80	8.00	8.55	5.35	$1,902,686	$14,688,709	12.95%	8
4	Eagle River Elementary School Improvements	73.00	38.15	28.89	25.17	19.71	19.71	18.21	$2,725,589	$5,214,921	52.27%	6
7	East High School Gym Improvements	106.00	36.00	23.87	20.91	13.15	17.28	15.78	$2,491,407	$7,336,425	33.96%	11
8	Bayshore Elementary School Boiler Replacement	25.00	12.67	12.53	11.64	11.64	11.64	11.14	$313,537	$618,560	50.69%	2
9	Bear Valley Elementary Domestic Water Replacem	29.00	17.15	15.93	15.74	13.47	16.38	15.88	$598,861	$1,012,421	59.15%	3
10	West High School Utilidor Improvements	21.00	10.50	10.50	10.76	9.19	10.50	10.50	$484,148	$968,295	50.00%	2
11	Mears Middle School Roof Replacement	35.00	28.70	9.78	25.48	10.02	10.02	9.52	$4,514,206	$5,504,890	82.00%	3
12	Chugiak High School Track Improvements	4.00	2.00	2.00	4.00	2.00	2.00	2.00	$293,434	$586,868	50.00%	1
13	Taku Elementary School Roof Replacement	81.00	77.42	50.12	49.39	42.52	42.52	41.52	$2,512,248	$2,628,299	95.58%	6
14	Government Hill Elementary School Roof Replacem	38.00	36.52	36.52	27.66	26.43	26.43	25.93	$2,326,614	$2,420,783	96.11%	3
15	West High School Partial Roof Replacement	44.00	42.46	42.46	42.46	42.46	42.46	42.46	$5,277,431	$5,469,031	96.50%	4
16	O'Malley Elementary School Renovation	75.00	49.32	23.07	28.71	26.04	26.04	23.54	$2,000,668	$3,042,348	65.76%	11
17	Homestead Elementary School Roof Replacement	38.00	29.56	29.56	23.08	21.48	21.48	20.98	$2,256,754	$2,901,308	77.78%	3
18	North Star Elementary School Roof Replacement	28.00	21.96	21.96	16.33	14.77	20.61	20.11	$1,840,570	$2,346,955	78.42%	3
19	Service High School Health and Safety Upgrades	57.00	21.88	17.64	19.40	14.13	18.35	17.12	$1,755,910	$4,574,734	38.38%	9
20	King Tech High School Roof Replacement	28.00	22.79	22.79	21.35	21.35	22.79	22.79	$2,554,841	$3,138,745	81.40%	3
21	Homestead Elementary School Safety Improvemen	54.00	13.29	12.55	13.49	7.44	12.35	10.85	$639,072	$2,596,031	24.62%	6
22	Bristol Bay School Elementary and Gym Roof Repla	21.00	20.82	15.58	13.69	9.93	9.93	8.93	$1,264,679	$1,275,812	99.13%	3
23	Klukwan K-12 School Roof Replacement	16.00	16.00	16.00	12.25	7.14	7.14	7.14	$554,241	$554,241	100.00%	2
24	Fire Alarm Upgrades, 3 Sites	7.00	7.00	7.00	7.00	7.00	7.00	6.50	$179,785	$179,785	100.00%	2
25	Chenega Bay K-12 School Renovation	116.00	69.38	66.99	50.16	49.47	60.22	58.22	$1,613,138	$2,697,018	59.81%	13
26	Tatitlek K-12 School Renovation	105.00	76.79	40.45	36.14	30.67	30.67	27.69	$1,945,429	$2,660,086	73.13%	14
27	Copper River District Office Roof Replacement	16.00	13.05	13.05	11.14	6.75	6.75	6.75	$183,637	$225,153	81.56%	2
28	Craig Middle School Rehabilitation	78.00	48.16	39.27	35.54	35.26	35.26	32.76	$1,891,300	$3,062,930	61.75%	13
29	Craig Elementary School Rehabilitation	76.00	48.81	59.23	30.57	22.94	48.81	48.81	$663,665	$1,033,448	64.22%	6
31	Anderson K-12 School Partial Roof Replacement	6.00	6.00	6.00	6.00	6.00	6.00	6.00	$1,064,125	$1,064,125	100.00%	1
32	Generator Replacement, 3 Schools	15.00	13.98	9.79	11.33	5.66	5.66	5.23	$825,000	$885,000	93.22%	2
33	Tri-Valley School Partial Roof Replacement	45.00	15.97	17.73	19.66	10.37	13.42	12.92	$101,147	$284,939	35.50%	3
34	Administrative Center Air Conditioning and Ventila	12.00	9.11	9.11	7.40	7.07	7.07	6.57	$848,302	$1,117,748	75.89%	2
35	Lathrop High School Gym Partial Roof Replacemen	25.00	25.00	25.00	25.00	25.00	25.00	25.00	$561,703	$561,703	100.00%	1
36	Ben Eielson Jr/Sr High School Roof Replacement	8.00	8.00	8.00	8.00	8.00	8.00	8.00	$2,975,300	$2,975,300	100.00%	1
37	Woodriver Elementary School Roof Replacement	28.00	27.50	27.50	25.56	25.56	25.56	25.06	$1,709,650	$1,740,608	98.22%	2
38	Anderson Elementary School Exterior Renovation	40.00	29.08	29.08	27.90	27.90	27.90	27.40	$1,845,458	$2,538,813	72.69%	3

CIP #	Project Title	Total Condition Points	FY20-FY21 LS/Const $ %	FY22 CIP LS	FY23 CIP LS (Min 1pt)	Mod.A Wtg Cost/Const$ (Min 1pt)	Mod.C Wtg Cost/LS$ Avg (Min 1pt)	Mod.D Prop. FY24 Wtg Cost/LS$ Avg (Min .5pt)	LS Construction Cost	Total Construction Cost	% LS Construction / Total Construction	# of Conditions
39	Administrative Center Exterior Renovation	18.00	12.51	12.51	11.43	11.43	11.43	10.93	$1,225,729	$1,763,544	69.50%	3
40	Anne Wien Elementary School Exterior Renovation	23.00	18.00	18.00	13.52	10.09	10.09	9.59	$2,330,154	$2,977,887	78.25%	3
41	Tanana Middle School Classroom Upgrades	21.00	17.23	17.23	16.77	16.77	16.77	16.09	$3,107,199	$3,787,782	82.03%	6
42	Arctic Light Elementary School Exterior Renovation	40.00	30.47	30.47	29.19	29.19	29.19	28.69	$2,496,660	$3,277,189	76.18%	3
43	Crawford Elementary School Exterior Renovation	5.00	0.91	0.91	2.80	2.00	2.00	1.00	$545,540	$2,997,069	18.20%	2
44	Galena Interior Learning Academy Composite Build	99.00	63.15	50.09	37.98	35.16	45.10	43.60	$1,407,156	$2,206,076	63.79%	13
46	Haines High School Roof Replacement	32.00	20.15	20.15	17.48	15.09	20.15	20.15	$235,507	$373,975	62.97%	7
48	Hoonah Central Boiler Replacement	7.00	7.00	7.00	7.00	7.00	7.00	7.00	$120,930	$120,930	100.00%	1
49	Hoonah School Playground Improvements	13.00	6.34	5.85	6.85	6.85	6.85	6.35	$96,794	$198,389	48.79%	2
50	Blackwell K-12 School Fire Alarm Upgrades, Anvik	18.00	18.00	18.00	18.00	18.00	18.00	18.00	$74,912	$74,912	100.00%	2
51	David-Louis Memorial K-12 School HVAC Control U	23.00	20.71	13.51	16.29	14.51	14.51	14.01	$90,599	$100,599	90.06%	2
52	David-Louis Memorial K-12 School Roof Replaceme	6.00	5.42	5.42	5.42	5.42	5.42	5.42	$876,166	$969,978	90.33%	1
53	Sayéik: Gastineau Community School Partial Roof F	21.00	21.00	21.00	15.76	14.42	14.42	14.42	$800,834	$800,834	100.00%	3
54	Dzantik'i Heeni Middle School Roof Replacement	8.00	8.00	8.00	8.00	8.00	8.00	8.00	$1,058,662	$1,058,662	100.00%	1
55	Riverbend Elementary School Roof Replacement	8.00	6.56	6.56	6.56	6.56	6.56	6.56	$912,600	$1,112,800	82.01%	1
58	Exterior Upgrades - Main School Facilities	58.00	57.64	55.05	30.74	20.77	20.77	20.77	$128,696	$129,496	99.38%	4
59	Kake Schools Flooring Replacement	4.00	4.00	4.00	4.00	4.00	4.00	4.00	$279,993	$279,993	100.00%	1
60	Kake High School Gym Floor Replacement	4.00	4.00	4.00	4.00	4.00	4.00	4.00	$118,427	$118,427	100.00%	1
61	Kenai Middle School Security Remodel	11.00	4.45	4.45	4.45	4.00	5.05	4.55	$294,538	$727,655	40.48%	4
62	Homer High School Partial Roof Replacement	18.00	17.95	17.95	13.53	9.98	9.98	9.98	$1,632,321	$1,636,535	99.74%	2
63	Seward Middle School Exterior Repair	8.00	8.00	8.00	8.00	8.00	8.00	8.00	$385,000	$385,000	100.00%	2
65	Peterson Elementary School Roof Replacement	8.00	8.00	8.00	8.00	8.00	8.00	8.00	$1,102,657	$1,102,657	100.00%	1
66	Chiniak K-12 School Water Treatment Code Compl	16.00	16.00	16.00	16.00	16.00	16.00	16.00	$140,000	$140,000	100.00%	1
67	Main Elementary School Roof Replacement	6.00	6.00	6.00	6.00	6.00	6.00	6.00	$476,340	$476,340	100.00%	1
68	Jack Egnaty Sr. K-12 School Roof Replacement, Slee	19.00	18.87	13.00	12.22	7.96	7.96	7.08	$397,120	$399,930	99.30%	3
69	William N. Miller K-12 Memorial School Replaceme	58.00	9.79	12.22	14.05	8.00	8.69	5.55	$3,106,237	$18,399,508	16.88%	8
70	Newtok K-12 School Relocation/Replacement, Mer	19.00	0.74	0.99	6.89	6.00	6.00	3.00	$717,987	$18,396,955	3.90%	6
71	Gladys Jung Elementary School Heating Mains Repl	22.00	22.00	22.00	17.64	17.00	17.00	16.50	$1,236,015	$1,236,015	100.00%	2
72	Anna Tobeluk Memorial K-12 School Renovation/A	80.00	8.46	11.45	16.23	11.00	11.86	7.49	$2,367,015	$22,380,188	10.58%	11
73	Water Storage And Treatment, Kongiganak	20.00	20.00	20.00	20.00	20.00	20.00	20.00	$1,313,004	$1,313,004	100.00%	2
74	Akula Elitnauvik K-12 School Renovation, Kasigluk-A	94.00	31.55	12.06	21.34	13.38	13.39	10.89	$1,188,680	$3,541,917	33.56%	9
75	Akiuk Memorial K-12 School Renovation, Kasigluk-A	86.00	32.66	15.64	23.63	19.43	19.43	17.19	$737,380	$1,941,443	37.98%	8
76	Bethel Regional High School Boardwalk Replaceme	20.00	15.92	15.92	13.94	13.94	16.13	15.92	$528,786	$664,164	79.62%	3
77	Bethel Campus Transportation and Drainage Upgra	13.00	12.35	12.35	9.78	9.55	9.55	9.05	$296,806	$312,427	95.00%	3
78	Qugcuun Memorial K-12 School Renovation, Oscar	129.00	112.17	59.77	56.48	53.82	53.82	50.85	$1,736,413	$1,996,947	86.95%	11

CIP #	Project Title	Total Condition Points	FY20-FY21 LS/Const $ %	FY22 CIP LS	FY23 CIP LS (Min 1pt)	Mod.A Wtg Cost/Const$ (Min 1pt)	Mod.C Wtg Cost/LS$ Avg (Min 1pt)	Mod.D Prop. FY24 Wtg Cost/LS$ Avg (Min .5pt)	LS Construction Cost	Total Construction Cost	% LS Construction / Total Construction	# of Conditions
79	Sheldon Point K-12 School Foundation Cooling and	29.00	26.76	26.76	26.76	26.76	26.76	26.76	$2,704,437	$2,930,834	92.28%	3
80	Marshall K-12 School Tank Farm Emergency Repair	15.00	9.61	9.61	9.61	9.61	9.61	9.61	$1,047,277	$1,634,891	64.06%	1
81	Hooper Bay K-12 School Exterior Repairs	33.00	20.86	17.41	19.44	9.31	9.31	8.81	$2,223,279	$3,516,908	63.22%	4
82	Hooper Bay K-12 School Emergency Lighting and R	16.00	9.07	9.07	9.07	9.07	9.07	9.07	$102,897	$181,500	56.69%	1
83	Scammon Bay K-12 School Emergency Lighting and	16.00	9.07	9.07	9.07	9.07	9.07	9.07	$46,489	$82,002	56.69%	1
84	Scammon Bay K-12 School Siding Replacement	2.00	1.90	1.90	1.90	1.90	1.90	1.90	$925,327	$976,126	94.80%	1
85	LYSD Central Office Renovation	53.00	21.03	20.40	14.85	9.61	17.48	16.77	$489,979	$1,234,677	39.68%	7
86	Sheldon Point K-12 School Exterior Repairs, Nunam	2.00	0.63	0.63	2.00	1.26	1.26	0.63	$313,658	$997,853	31.43%	1
87	Kotlik and Pilot Station K-12 Schools Renewal and F	7.00	5.24	5.24	5.24	5.24	5.24	5.24	$818,540	$1,094,207	74.81%	2
88	Big Lake Elementary School Water System Replace	9.00	9.00	9.00	7.00	7.00	7.00	6.50	$438,762	$438,762	100.00%	3
89	Butte and Snowshoe Elementary Schools Water Sy	18.00	15.01	15.01	13.00	7.78	7.78	7.78	$1,198,182	$1,436,951	83.38%	3
90	Colony and Wasilla Middle Schools Roof Replacem	13.00	13.00	8.80	10.69	4.00	4.00	3.65	$2,624,400	$2,624,400	100.00%	2
91	Elevator Code and Compliance Upgrades, 6 Sites	5.00	4.00	4.00	4.20	3.16	3.16	2.96	$1,048,806	$1,311,007	80.00%	2
92	Structural Seismic Upgrades, 5 Sites	6.00	6.00	6.00	6.00	6.00	6.00	6.00	$10,138,558	$10,138,558	100.00%	1
93	Ceiling and Sprinkler Seismic Mitigation, 5 Sites	3.00	3.00	3.00	3.00	3.00	3.00	3.00	$1,882,751	$1,882,751	100.00%	1
94	HVAC Control Upgrades, 5 Sites	8.00	5.60	5.60	5.60	5.60	5.60	5.60	$5,942,728	$8,489,611	70.00%	1
95	Nome Beltz Jr/Sr High School Boiler Replacement	13.00	11.93	11.93	11.93	11.93	11.93	11.93	$89,034	$97,034	91.76%	1
96	Anvil City Charter School Restroom Renovation	4.00	4.00	4.00	3.25	2.00	2.00	1.89	$327,474	$327,474	100.00%	2
97	Nome Elementary School Fire Alarm Replacement	6.00	6.00	6.00	6.00	6.00	6.00	6.00	$257,599	$257,599	100.00%	1
98	Nome Beltz Jr/Sr High School Generator Replacem	15.00	15.00	15.00	15.00	15.00	15.00	15.00	$720,225	$720,225	100.00%	1
99	June Nelson Elementary School Roof Replacement	35.00	35.00	23.64	14.71	11.76	11.76	9.76	$804,813	$804,813	100.00%	6
100	Davis-Ramoth K-12 School Rehabilitation, Selawik	31.00	13.03	7.37	11.71	7.26	8.62	6.96	$1,649,244	$3,925,000	42.02%	7
101	Buckland K-12 School HVAC Renewal and Upgrades	10.00	8.19	8.19	7.36	5.60	5.60	5.60	$413,223	$504,625	81.89%	2
102	Keet Gooshi Heen Elementary Covered PE Structur	19.00	9.81	9.81	11.68	5.64	5.64	5.15	$128,100	$248,150	51.62%	3
103	Thorne Bay K-12 School Fire Suppression System	13.00	13.00	13.00	9.92	9.00	9.00	8.90	$469,535	$469,535	100.00%	2
104	Thorne Bay K-12 School Mechanical Control Upgra	8.00	8.00	8.00	8.00	8.00	8.00	8.00	$399,026	$399,026	100.00%	1
105	Thorne Bay K-12 School Underground Storage Tanl	2.00	2.00	2.00	2.00	2.00	2.00	2.00	$210,794	$210,794	100.00%	1
106	Thorne Bay K-12 School Flooring Replacement	4.00	4.00	4.00	4.00	4.00	4.00	4.00	$65,641	$65,641	100.00%	1
112	Valdez High and Hermon Hutchens Elementary Sch	21.00	19.29	8.61	16.23	6.51	6.51	6.17	$1,074,000	$1,169,000	91.87%	2
113	Districtwide Generator Replacement	4.00	4.00	4.00	4.00	4.00	4.00	4.00	$983,860	$984,067	99.98%	1
114	Minto K-12 School Renovation/Addition	90.00	23.63	25.17	17.13	12.05	16.61	12.74	$1,117,211	$4,254,939	26.26%	12
115	YKSD District Office Roof Replacement	8.00	7.60	7.60	7.60	7.60	7.60	7.60	$147,559	$155,325	95.00%	1
116	Ella B. Vernetti K-12 School Boiler Replacement, Ko	23.00	20.52	20.52	20.52	20.52	20.52	20.52	$185,380	$207,755	89.23%	2

Supplemental Evaluative Rating Form
Code Deficiency/Protection of Structure/Life Safety

District: Anchorage
Project: Mears Middle School Roof Replacement
CIP #: 23-011

Code Deficiency / Protection of Structure / Life Safety Conditions	Raw Pts	FY20-FY21 LS/Const $ %	FY22 CIP LS	FY23 CIP LS (Min 1pt)	Mod A Initial Wtg Cost/Const$ (Min 1pt)	Mod B Initial Wtg Cost/LS$ (Min 1pt)	Mod C Initial Wtg Cost/LS$ Avg (Min 1pt)	Mod D Initial Wtg Cost/LS$ Avg (Min .5pt)	Mod E Initial Wtg Cost/LS$ Avg (Min .25pt)	Cost Estimate	Notes
SAMPLE FOR COMPARISON PURPOSES ONLY											
Structural_Roof Structure - PE	24	19.68	0.76	16.46	1.00	1.00	1.00	0.50	0.30	$40,766	from 65%D
Env/Roof_Roof, age Warranty +10	0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		Superceded
Env/Roof_Roof Leaks - avg WO<3/	8	6.56	6.56	6.56	6.56	6.56	6.56	6.56	6.56	$3,739,873	contract les
Env/Roof_Roof Leaks affect space,	0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		Insufficient
HazMat_HazMat (all) Low Exposur	3	2.46	2.46	2.46	2.46	2.46	2.46	2.46	2.46	$733,567	from 65%D
Total Points	35.00	28.70	9.78	25.48	10.02	10.02	10.02	9.52	9.32	$4,514,206	Estimated c
Number of Conditions	3										
DEED Eligible Construction Cost										$5,504,890	**DEED Elig**
Weighting Adjustment	100%	82.00%	27.96%	72.79%	28.63%	28.63%	28.63%	27.20%	26.63%	82.00%	

Supplemental Evaluative Rating Form
Code Deficiency/Protection of Structure/Life Safety

District: Chatham
Project: Klukwan K-12 School Roof Replacement
CIP #: 23-023

Code Deficiency / Protection of Structure / Life Safety Conditions	Raw Pts	FY20-FY21 LS/Const $ %	FY22 CIP LS	FY23 CIP LS (Min 1pt)	Mod A Initial Wtg Cost/Const$ (Min 1pt)	Mod B Initial Wtg Cost/LS$ (Min 1pt)	Mod C Initial Wtg Cost/LS$ Avg (Min 1pt)	Mod D Initial Wtg Cost/LS$ Avg (Min .5pt)	Mod E Initial Wtg Cost/LS$ Avg (Min .25pt)	Cost Estimate
SAMPLE FOR COMPARISON PURPOSES ONLY										
Env/Roof_Roof, age Warranty +10	6	6.00	6.00	6.00	6.00	6.00	6.00	6.00	6.00	$515,480
Env/Roof_ASHRAE 90.1 Insulation	10	10.00	10.00	6.25	1.14	1.14	1.14	1.14	1.14	$38,761
Total Points	16.00	16.00	16.00	12.25	7.14	7.14	7.14	7.14	7.14	$554,241
Number of Conditions	2									
DEED Eligible Construction Cost										$554,241
Weighting Adjustment	100%	100.00%	100.00%	76.56%	44.60%	44.60%	44.60%	44.60%	44.60%	100.00%

Supplemental Evaluative Rating Form
Code Deficiency/Protection of Structure/Life Safety

District: Chugach
Project: Chenega Bay K-12 School Renovation
CIP #: 23-025

Code Deficiency / Protection of Structure / Life Safety Conditions	Raw Pts	FY20-FY21 LS/Const $ %	FY22 CIP LS	FY23 CIP LS (Min 1pt)	Mod A Initial Wtg Cost/Const$ (Min 1pt)	Mod B Initial Wtg Cost/LS$ (Min 1pt)	Mod C Initial Wtg Cost/LS$ Avg (Min 1pt)	Mod D Initial Wtg Cost/LS$ Avg (Min .5pt)	Mod E Initial Wtg Cost/LS$ Avg (Min .25pt)	Cost Estimate
SAMPLE FOR COMPARISON PURPOSES ONLY										
Structural_Seismic - no restrictions	3	1.79	0.45	1.00	1.00	1.00	1.00	0.50	0.25	$10,621
Env/Roof_Doors, age >20yr	3	1.79	1.34	1.00	1.00	1.79	1.79	1.79	1.79	$25,020
Env/Roof_Roof, age >Warranty +5	3	1.79	1.79	1.79	1.79	1.79	1.79	1.79	1.79	$257,602
Env/Roof_Siding Material, age >25	12	7.18	5.40	1.24	1.00	7.18	7.18	7.18	7.18	$100,382
Arch_Ceiling Finishes age >25yr	3	1.79	0.09	1.00	1.00	1.00	1.00	0.50	0.25	$2,393
Arch_Wall Finishes age >25yr	3	1.79	1.79	1.79	1.79	1.79	1.79	1.79	1.79	$76,927
Arch_ADA - 3 issues	3	1.79	0.68	1.00	1.00	1.00	1.00	0.50	0.25	$14,992
Arch_Floor Finishes >15yr	4	2.39	2.39	2.39	2.39	2.39	2.39	2.39	2.39	$110,994
Mech_Pneumatic Controls	8	4.78	5.11	1.00	1.00	4.78	4.78	4.78	4.78	$84,128
Mech_Codes: Ventilation + PE	15	8.97	8.97	8.97	8.97	8.97	8.97	8.97	8.97	$246,709
Mech_Codes: Heating + PE	16	9.57	9.57	9.57	9.57	9.57	9.57	9.57	9.57	$246,709
Electric_Codes, Lighting + PE	13	7.78	2.30	1.46	1.00	1.00	1.00	0.50	0.28	$52,745
Fire_Sprinkler Non-op	30	17.94	27.09	17.94	17.94	17.94	17.94	17.94	17.94	$383,916
Total Points	116.00	69.38	66.99	50.16	49.47	60.22	60.22	58.22	57.26	$1,613,138
Number of Conditions	13									
DEED Eligible Construction Cost										$2,697,018
Weighting Adjustment	100%	59.81%	57.75%	43.25%	42.64%	51.92%	51.92%	50.19%	49.36%	59.81%

Supplemental Evaluative Rating Form
Code Deficiency/Protection of Structure/Life Safety

District: Denali Borough
Project: Tri-Valley School Partial Roof Replacement
CIP #: 23-033

Code Deficiency / Protection of Structure / Life Safety Conditions	Raw Pts	FY20-FY21 LS/Const $ %	FY22 CIP LS	FY23 CIP LS (Min 1pt)	Mod A Initial Wtg Cost/Const$ (Min 1pt)	Mod B Initial Wtg Cost/LS$ (Min 1pt)	Mod C Initial Wtg Cost/LS$ Avg (Min 1pt)	Mod D Initial Wtg Cost/LS$ Avg (Min .5pt)	Mod E Initial Wtg Cost/LS$ Avg (Min .25pt)	Cost Estimate
SAMPLE FOR COMPARISON PURPOSES ONLY										
Structural_Roof Structure - no PE	10	3.55	5.30	2.22	1.00	1.00	1.00	0.50	0.42	$9,875
Env/Roof_Roof, age Warranty +10	0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
Env/Roof_ASHRAE 90.1 Insulation	10	3.55	3.55	3.55	3.55	3.55	3.55	3.55	3.55	$48,644
Env/Roof_Roof Leaks affect space,	25	8.87	8.87	13.89	5.82	8.87	8.87	8.87	8.87	$42,628
Total Points	45.00	15.97	17.73	19.66	10.37	13.42	13.42	12.92	12.85	$101,147
Number of Conditions	3									
DEED Eligible Construction Cost										$284,939
Weighting Adjustment	100%	35.50%	39.40%	43.69%	23.04%	29.83%	29.83%	28.72%	28.55%	35.50%

Summary of Changes: FY2024 CIP Application & Instructions

Question	Application	Instructions	Guidelines for Raters; Eligibility Checklist; Scoring Forms	Magnitude of Change
Preparing Submitting	Specify 4 total applications	--	--	Minor
1b	Re-combine Grant and Debt Funding Categories to conform to statutory def.	Conforming change.	--	Minor
2a	--	Specify applications for project in first year of six-year plan.	Eligibility: clarify first year of six-year plan.	Minor
4a	Edits to condition categories conforming to Guidelines for Raters.	--	Raters: Edits to condition categories; mixed scope weighting	Minor
6b	Specify "school construction" for previously approved design.	Conforming change.	Scoring: Combine 6b and 6c into single criteria.	Minor
6c	Clarifying edit for "documentation"	--	--	Minor
Sec. 9	--	Conforming to Raters' Guidelines changes.	Changes to narrative matrices.	**Moderate**
New Sec. 10	Add a new section: Sec. 10 District Contact Information.	Conforming – add new language.	--	**Moderate**
Appx D. Space	--	Renaming and removing certain space types for alignment with Construction Standards publication.	--	**Moderate**
Appx. E PM Def.	--	Added new definitions.	--	Minor
All	Footer: conforming changes for new fiscal year and form	Footer: conforming changes for new fiscal year and form	--	Minor

Application for Funding
Capital Improvement Project by Grant
or
State Aid for Debt Retirement

FY2023

PREPARING & SUBMITTING THIS APPLICATION

For each funding request, submit **one original** and **three complete copies of this application** (four total applications) and **two copies of each attachment**. Attachments can be provided in a single copy if electronic files of the attachments are also provided in a portable document file (pdf) format. PDF files of all documents are requested but not required. The grant application deadline is September 1st.

When answering application questions, provide verifiable supporting documentation. Answers that cannot be verified will be considered unsubstantiated and may result in the department finding the application ineligible due to incompleteness.

The department will only score ten project applications from each district during a single rating period. In addition, a district can submit a letter to request reuse of an application's score for one year after the application was filed; or, if the project was substantially complete at the time of the application, the district can request reuse of the application's score for up to five years after the application was filed.

For instructions on completing this application, please refer to the department's Capital Improvement Project Application and Support webpage (education.alaska.gov/facilities/FacilitiesCIP.html).

PROJECT INFORMATION

School District: _____

Community: _____

School Name: _____

Project Name: _____

CERTIFICATION

I hereby certify that this information is true and correct to the best of my knowledge, and that the application has been prepared under the direction of the district school board and is submitted in accordance with law.

_____

Superintendent or Chief School Administrator Date

SEC. 1. CATEGORY OF FUNDING AND PROJECT TYPE

1a. Type of funding requested. Choose only **one** funding source.

☐ Grant Funding ☐ Aid for Debt Retirement (Bonding)

1b. Primary purpose of project. Choose only **one** category. The department will change a project category as necessary to reflect the primary purpose of the project.[1]

School Construction (AS 14.11.135(6)):
- ☐ Health and life-safety (Category A)
- ☐ Unhoused students (Category B)
- ☐ Improve instructional program (Category F)

Major Maintenance (AS 14.11.135(7)):
- ☐ Protection of structure (Category C)
- ☐ Building code deficiencies (Category D)
- ☐ Achieve operating cost savings (Category E)

~~**Grant Funding Categories per AS 14.11.013(a)(1)**~~

~~**School Construction:**~~
- ~~☐ Health and life-safety (Category A)~~
- ~~☐ Unhoused students (Category B)~~
- ~~☐ Improve instructional program (Category F)~~

~~**Major Maintenance:**~~
- ~~☐ Protection of structure (Category C)~~
- ~~☐ Building code deficiencies (Category D)~~
- ~~☐ Achieve operating cost savings (Category E)~~

~~**Debt Funding Categories per AS 14.11.100(j)(4)**~~
- ~~☐ Unhoused students~~
- ~~☐ Health and safety or building code deficiencies~~
- ~~☐ Achieve operating cost savings~~
- ~~☐ Improve instructional program~~

1c. Phases of project to be covered by this funding request. Indicate **all** applicable phases:

☐ Planning (Phase I) ☐ Design (Phase II) ☐ Construction (Phase III)

SEC. 2. ELIGIBILITY REQUIREMENTS TO SUBMIT AN APPLICATION

Questions 2a-2e require a "yes" response, with substantiating documentation as necessary, in order to be eligible for review and rating.

[1] The department's authority to assign a project to its correct category is established in AS 14.11.013(c)(1) and in AS 14.11.013(a)(1) under its obligation to verify a project meets the criteria established by the Bond Reimbursement & Grant Review Committee under AS 14.11.014(b).

2a. Has a six-year Capital Improvement Plan (CIP) been approved by the district school board? ☐ yes ☐ no

(Refer to AS 14.11.011(b), and 4 AAC 31.011(c); attach a copy of the 6-year plan.)

2b. Does the school district have a functional fixed asset inventory system? ☐ yes ☐ no

2c. Is evidence of required insurance attached to this application *or* has evidence been submitted as required to the department? ☐ yes ☐ no

2d. Is the project a capital improvement project and not part of a preventive maintenance program or custodial care? ☐ yes ☐ no

(Supporting evidence must be outlined in the project description, question 3d.Reference AS 14.11.011(b)(3))

2e. Is the district's preventive maintenance program certified by the department? ☐ yes ☐ no

2f. Districtwide replacement cost insurance for the last five years will be gathered by the department from annual insurance certification and schedule of values.

SEC. 3. PROJECT INFORMATION

3a. Priority assigned by the district. (Up to 30 points)
What is the rank of this project under the district's six-year Capital Improvement Plan?

Rank: _____

3b. School facilities within scope (Up to 30 points)
What buildings or building portion (i.e., original building or addition) will be included in the scope of work of the project? (Add additional rows as needed to include all affected buildings or building portions.)

(The department will utilize GSF records to establish project points (up to 30) in the "Weighted Average Age of Facilities" scoring element. For facility number, name, year, and size information on record, refer to the DEED Facilities Database (education.alaska.gov/Facilities/SchoolFacilityReport/SearchforSchoolFac.cfm).

DEED Facility #	Building or Building Portion	Year Built	GSF
TOTAL GSF			

3c. Facility status. Does this project change the status of any facility within the project scope to one of the below? The existing building(s) will be (check all that apply):

☐ renovated ☐ added to ☐ demolished ☐ surplused ☐ other

NOTE: If the project changes the current status of a facility to "demolished" or "surplused," a transition plan is required as part of this application. For state-owned or state-leased facilities, the transition plan should describe how surplused facilities will be secured and maintained during transition. See instructions.

3d. Project description/Scope of work. The project description and scope of work narratives are a required elements of this application (Reference AS 14.11.013(c)(3)(A)). Ensure project aligns with selected funding category.

Project description

In the space below, provide a clear, detailed description of the project. At a minimum, include the following:

- Facilities impacted by the project
- Age of facility/system(s)
- Facility/system conditions requiring capital improvement
- Explain why this project is not preventive maintenance
- Other discussion describing project

Scope of work

In the space below, provide a clear, detailed, and itemized description of the scope of work that addresses the items in the project description. At a minimum, include the following:

- Work items to be completed with this project
- Work items already completed (if any)
- Other discussion pertaining to scope of work

3e. Project schedule. Provide estimated or actual dates for the following project milestones.

Estimated receipt of funding date _____

Contract with design team _____

Begin design _____

Design work 100% complete _____

Project out to bid _____

Begin construction _____

Complete construction _____

Provide additional information regarding the project schedule, if needed (including whether an alternative project delivery method is anticipated).

3f. Is the work identified in this project request partially or fully complete? ☐ yes ☐ no

If the answer is yes, attach 2 copies of documentation that establishes compliance with the department's requirements for bids and awards of construction contracts. (Reference 4 AAC 31.080)

Provide DEED recovery of funds project number: # _____

3g. Will this project require acquisition of additional land or utilization of a new school site? ☐ yes ☐ no

If the answer is yes, attach site description or site requirements. If a new site has been identified, attach the site selection analysis used to select the new site. Note the attachment on the last page of the application.

3h. If the project is a multiple-school or districtwide project, provide justification for cost-effectiveness and how the district intends to award as a single contract.

SEC. 4. CODE DEFICIENCY / PROTECTION OF STRUCTURE / LIFE SAFETY

4a. Code deficiency / Protection of structure / Life safety (Up to 50 points)

Describe in detail the issue, impact, and severity of code deficiency, protection of structure, and/or life safety conditions; attach supporting documentation. Check the box of the specific scoring conditions corrected by the scope of the project and where the supporting documentation is located in the attachments.

Structural

- ☐ Seismic - no restrictions (3 pts)
- ☐ Foundation/Floor - no PE eval (4 pts)
- ☐ Seismic - minimal restrictions (6 pts)
- ☐ Upper Floor Structure - no PE eval (9 pts)
- ☐ Vertical Structure - no PE eval (9 pts)
- ☐ Roof Structure - no PE eval (10 pts)
- ☐ Foundation/Floor – PE eval (15 pts)
- ☐ Seismic - moderate restriction (15 pts)
- ☐ Upper Floor Structure - PE eval (20 pts)
- ☐ Vertical Structure – PE eval (20 pts)
- ☐ Roof Structure - PE eval (24 pts)
- ☐ Seismic/Gravity Partial Closure (28 pts unless does not qualify for space, then 15 pts)
- ☐ Seismic/Gravity Full Closure (50 pts unless does not qualify for space, then 15 pts)

Provide description of structural-related conditions and specific references to title and page of support documents.

Roof/Envelope

- ☐ Siding Failure, age <25yr (2 pts)
- ☐ Siding Finish (2 pts)
- ☐ Door, age >20yr (3 pts)
- ☐ Roof, age >Warranty +5 (3 pts)
- ☐ Roof, age Warranty +10 (6 pts)
- ☐ Roof Leaks, – avg WO<3/yr (8 pts)
- ☐ ASHRAE 90.1 Windows (8 pts)
- ☐ ASHRAE 90.1 Insulation (10 pts)
- ☐ Siding, age >25yr (12 pts)
- ☐ Windows, age >30yrs (12 pts)
- ☐ Siding Failure, age <>3025yr (15 pts)
- ☐ Roof Leaks, avg WO >3/yr (15 pts)
- ☐ Doors w/Egress issues (15 pts)
- ☐ Roof Leaks affect space, with WOs (25 pts)

NOTE: If condition is based on an average number of work orders per year ("avg WO"), provide work orders. Average is over prior three years. See application instructions.
If condition is based on ASHRAE 90.1 code deficiency, provide existing R-value or code violation of system.

Provide description of roof or building envelope-related conditions and specific references to title and page of support documents.

Architectural/Interior/ADA

- ☐ ADA - 1 category issue (1 pts)
- ☐ ADA - 2 categories issues (2 pts)
- ☐ DEC Sanitation (2 pts)
- ☐ ADA - 3 categories issues (3 pts)
- ☐ Ceiling Finishes age >25yr (3 pts)
- ☐ Wall Finishes age >25yr (3 pts)
- ☐ Elevator Code Deficiencies Issues
- ☐ ADA - 4 categories issues (4 pts)
- ☐ Floor Finishes >15yr (4 pts)
- ☐ Building Egress (10 pts)
- ☐ Rated Assemblies (12 pts)
- ☐ Codes + Arch (each system) (+3 pts)

Provide description of architectural, interior, or ADA-related conditions and specific references to title and page of support documents.

Mechanical

DDC Deficiency (3 pts)	☐	Codes: Ventilation (12 pts)	☐
Narrative, System age >30yr (4 pts)	☐	Codes: Plumbing (12 pts)	☐
Ventilation, WO <3/yr (5 pts)	☐	Codes: Heating (13 pts)	☐
Plumbing, WO <3/yr (6 pts)	☐	Codes + PE eval (each system) (+3 pts)	☐
Heating, WO <3/yr (7 pts)	☐	Boilers, 1 of 2 Non-op (13 pts)	☐
Pneumatic Controls (8 pts)	☐	HVAC age >40yr (15 pts)	☐
Ventilation, WO >3/yr (9 pts)	☐	Boilers, 2 of 3 Non-op (18 pts)	☐
Plumbing, WO >3/yr (10 pts)	☐	Mechanical Systems, WO >5/yr2 (21 pts)	☐
Heating, WO >3/yr (11 pts)	☐	Heating Failure (25 pts)	☐

NOTE: If condition is based on an average number of work orders per year ("avg WO"), provide work orders. Average is over prior three years. See application instructions.

Provide description of mechanical-related conditions and specific references to title and page of support documents.

Electrical

Narrative, Lighting age >25yr (2 pts)	☐	Intercom Issues, WO >3/yr (8 pts)	☐
Narrative, Electrical age >30yr (4 pts)	☐	Codes, Lighting (10 pts)	☐
Power, WO <3/yr (4 pts)	☐	Codes, Power (10 pts)	☐
Lighting, WO <3/yr (4 pts)	☐	Codes + PE eval (each system) (+3 pts)	☐
Egress/EM lights, WO <3/yr (5 pts)	☐	Intercom Failure (10 pts)	☐
Back-up Generator In-operable (5 pts)	☐	Electrical, age >40yr (15 pts)	☐
Power, WO >3/yr (7 pts)	☐	Light Levels, <50% of code (16 pts)	☐
Lighting, WO >3/yr (7 pts)	☐	Electrical Systems, WO >5/yr (21 pts)	☐
Egress/EM lights, WO >3/yr (8 pts)	☐	Power Failure (25 pts)	☐

NOTE: If condition is based on an average number of work orders per year ("avg WO"), provide work orders. Average is over prior three years. See application instructions.

Provide description of electrical-related conditions and specific references to title and page of support documents.

Fire Alarm/Sprinkler

Narrative, Fire Alarm age >15yr (2 pts)	☐	Heads Failing, age >40yr (10 pts)	☐
Narrative, Sprinkler >30yr (2 pts)	☐	Fire Alarm/Sprinkler, WO >3/yr (15 pts)	☐
Heads Failing, age >30yr (5 pts)	☐	Fire Alarm Non-op, <3 floors (17 pts)	☐
Sprinkler Coverage Gaps (5 pts)	☐	Fire Alarm/Sprinkler, WO >5/yr (20 pts)	☐
Non-addressable Fire Alarm (6 pts)	☐	Fire Alarm Non-op, >3 floors (25 pts)	☐
Fire Alarm/Sprinkler, WO >1/yr (8 pts)	☐	Sprinkler Non-op (30 pts)	☐

NOTE: If condition is based on an average number of work orders per year ("avg WO"), provide work orders. Average is over prior three years. See application instructions.

Provide description of fire alarm or sprinkler-related conditions and specific references to title and page of support documents.

Site

Vehicle Surfaces (3 pts)	☐	Power Issues (15 pts)	☐
Walkways and Surfaces (4 pts)	☐	Wastewater Issues (15 pts)	☐
Drainage Issues (6 pts)	☐	Water Issues (16 pts)	☐
Playground Code (12 pts)	☐	Wastewater Failure (24 pts)	☐
		Water Failure (25 pts)	☐

Provide description of site-related conditions and specific references to title and page of support documents.

UST/AST/HazMat

HazMat (all) Low Exposures (3 pts)	☐	UST/AST Leak (7 pts)	☐
Narrative, UST age >30yr (2 pts)	☐	USCG/40 CFR Cite (10 pts)	☐
Narrative, AST age >40yr (5 pts)	☐	HazMat (all) Mod Exposures (10 pts)	☐
Sewage Lagoon Failure/Exposure (5 pts)	☐	HazMat (all) High Exposures (22 pts)	☐

Provide description of UST, AST, or HazMat-related conditions and specific references to title and page of support documents.

SEC. 5. REQUIREMENTS FOR SPACE TO BE ADDED OR REPLACED

NOTE: If this project is classified as Major Maintenance (Category C, D, or E) and is not including any new space, skip to 5j. **All applications requesting new or replacement space, or classified as School Construction (Category A, B, or F), must provide the information requested in this section.** For the purposes of this section, gross square footage is calculated in accordance with 4 AAC 31.020(e). Worksheets to be completed are available at the department's website at: Education.Alaska.Gov/facilities/FacilitiesCIP.html

5a. Indicate the student grade levels to be housed in the proposed project facility: _____

5b. Is there any work (other than this project) within the attendance area that has been approved by local voters, or has been funded, or is in progress that houses any student grade levels included in the proposed project? ☐ yes ☐ no

If the answer is yes, in the table below, identify the project and provide information about size, grades to be served, and student capacity.

Project Name	GSF	Grades	Student Capacity

5c. Are there school facilities within the attendance area that house any student grade levels included in the proposed project? ☐ yes ☐ no

If the answer is yes, in the table below, identify the school and provide information about size, grades served, and student capacity.

School Name	GSF	Grades	Student Capacity

In lieu of data in the format above for questions 5b and 5c, we are providing detailed attachments. ☐ yes ☐ no

5d. What is the anticipated date of occupancy for the proposed facility? _____

5e. Unhoused students (Up to 80 points)

In the table below, provide the attendance area's current and projected ADM:

Table 5.1 ATTENDANCE AREA ADM			
School Year	**K-6 ADM**	**7-12 ADM**	**Total ADM**
2020-2021			
2021-2022			
2021-2023			
2021-2024			
2021-2025			
2021-2026			
2021-2027			
2021-2028			
2021-2029			
2029-2030			

5f. Were the ADM projections used by the district based on the department's worksheets? ☐ yes ☐ no

Attach calculations and justifications.

5g. Confirm space eligibility:

Total Existing SF _____
Remaining Existing SF _____
Total Eligible SF _____
Qualifies for _____ additional SF
Applying for _____ additional SF

5h. Regional community facilities (Up to 5 points)

List below any alternative regional, community, and school facilities in the area that are capable of meeting all, or part, of the project needs. Identify the facility by name, its condition, and provide the distance from current school. If attached documentation is intended to address this question, note the attachment on the last page of the application.

5i. Are educational specifications attached? ☐ yes ☐ no

ALL PROJECTS CONTINUE FROM THIS POINT

5j. Project space utilization (Up to 30 points)

Completion of this table is **mandatory for all projects that add space or change existing space utilization**. If the project does not alter the configuration of the existing space, it is not necessary to complete this table. Use gross square feet for space entries in this table.

Table 5.2 PROJECT SPACE EQUATION

Space Utilization	A Existing Space	I Space to remain "as is"	II Space to be Renovated	III Space to be Demolished	IV New Space	B Total Space upon Completion
Elem. Instructional/Resource						
Sec. Instructional/Resource						
Support Teaching						
General Support						
Supplementary						
Total School Space						

SEC. 6: PROJECT PLANNING & DESIGN

NOTE: Reference Appendix B of the instructions for required elements. More developed design documents can be attached in lieu of previous documents.

6a. Condition/Component survey (0 to 10 points)

1. Is a facility or component condition survey attached? ☐ yes ☐ no

   Document title: _____

   Date prepared: _____

6b. Use of prior school design (up to 10 points)

1. Is the district proposing to use a previously department-approved school construction design for this project? ☐ yes ☐ no
2. If yes, in addition to the space eligibility analysis in Section 5, has the district attached design plans and a cost analysis that includes both design and construction costs demonstrating how the use will result in cost savings for the project? ☐ yes ☐ no

6c. Use of building system design standard (up to 10 points; 2 points per qualified system)

1. Is the district proposing to use one or more previously approved building system design standard for this project? ☐ yes ☐ no
2. If yes, provide supporting ~~information~~ documentation on each specific system showing that the building system(s) conform to a published district or municipal building standard.

6d. Planning/Concept design (0 or 10 points, all elements required for 10 points)

1. Has an architectural or engineering consultant been selected (as required)? ☐ yes ☐ no
2. Are concept design studies/planning cost estimates attached? ☐ yes ☐ no
3. New construction projects: are educational specifications, site selection analysis, and student population projections attached (as required)? ☐ yes ☐ no

6e. Schematic design - 35% (0 or 10 points, all elements required for 10 points as applicable to the project)

1. Are complete schematic design documents attached? Schematic design documents include approximate dimensioned site plans, floor plans, elevations, and engineering narratives for all necessary disciplines. If the answer is no and project is complete, provide a justification for why documents are not needed. ☐ yes ☐ no
2. Is a schematic design level cost estimate attached? ☐ yes ☐ no

6f. Design development - 65% (0 or 5 points, all elements required for 5 points as applicable to the project)

1. Are design development documents attached? Design development documents include dimensioned site plans, floor plans, complete exterior elevations, draft technical specifications and engineering plans. If the answer is no and project is complete, provide justification as to why documents are not needed. ☐ yes ☐ no
2. Is a design development cost estimate attached? ☐ yes ☐ no

6g. Planning/Design team List parties who have contributed to the evaluation and/or design services thus far for this project. When applicable, a district employee with special expertise should be listed, along with the basis for his or her expertise.

Provider	Expertise

SEC. 7: COST ESTIMATE

Cost estimate for total project cost (Up to 30 points)

7a. Project cost estimate Complete the following tables using the Department of Education & Early Development's current Cost Model edition or an equivalent cost estimate. Completion of the tables is mandatory.

Percentages are based on construction cost. See Appendix C for additional information. If the project exceeds the recommended percentages, provide a detailed justification for each item exceeding the percentage. The total of all additive percentages should not exceed 130%. If the additive percentages exceed 130%, a detailed explanation must be provided or the department will adjust the percentages to meet the individual and overall percentage guidelines.

Table 7.1. TOTAL PROJECT COST ESTIMATE

Project Budget Category	Maximum % without justification	I Prior AS 14.11 Funding	II Current Project Request	III % of Total Construction Cost	IV Project Total
CM - By Consultant [1]	2 - 4%				
Land [2]	n/a				
Site Investigation [2]	n/a				
Seismic Hazard [3]	n/a				
Design Services	6 - 10%				
Construction [4]	n/a				
Equipment & Technology [2,5]	up to 4%				
District Administrative Overhead [6]	up to 9%				
Art [7]	0.5% or 1%				
Project Contingency	5%				
Project Total	**up to 130%**				

1. Percentage is established by AS 14.11.020(c) for consultant contracts (Maximum allowed percentage by total project cost: $0-$500,000 – 4%; $500,001-$5,000,000 – 3%; over $5,000,000 – 2%).
2. Include only if necessary for completion of this project; address need in the project description (Question 3d). Amounts included for Land and Site Investigation costs need to be supported in the cost estimate discussion (Question 7c), and supporting documentation should be provided in the attachments.
3. Costs associated with assessment, design, design review, and special construction inspection services associated with seismic hazard mitigation of a school facility. This amount needs to be provided by a design consultant, and should not be estimated based on project percentage.
4. Attach detailed construction cost estimate and life cycle cost if project is new-in-lieu-of-renovation.
5. Equipment and technology costs should be calculated based on the number of students to be served by the project. See the department's publication, *Guidelines for School Equipment Purchases* for calculation methodology (2016). Technology is included with Equipment.
6. Includes district/municipal/borough administrative costs necessary for the administration of this project (for maximum indirect percentage based on project cost, see 4 AAC 31.023); this budget line will also include any in-house construction management cost, reduced for CM percentage.
7. Only required for renovation and construction projects over $250,000 that require an Educational Specification (AS 35.27.020(d)).

Table 7.2 CONSTRUCTION COST ESTIMATE						
	New Construction			Renovation		
Construction Category	Cost	GSF	Unit Cost	Cost	GSF	Unit Cost
Base Building Construction [1]						
Special Requirements [2]		n/a			n/a	
Sitework and Utilities		n/a			n/a	
General Requirements		n/a			n/a	
Geographic Cost Factor		n/a			n/a	
Size/Dollar Adj. Factor		n/a			n/a	
Contingency		n/a			n/a	
Escalation		n/a			n/a	
Construction Total						

1. If using the Cost Model, Base Construction is equal to Divisions (1.0+2.0) for new construction, and Division 11.00 for Renovation, otherwise, Base Construction is equal to the total construction cost less the costs that correspond with other cost categories in the table.
2. Explain in detail and justify special requirements in Question 7c.

7b. Cost estimate source. Identify and describe as needed the specific source of the costs provided in Table 7.1 (e.g. professional estimators, solicited vendor quotes, paid invoices).

7c. Cost estimate discussion & justifications. Identify and explain cost estimate assumptions, lump sums, and percentages in excess of the recommended percentages in Table 7.1. Provide a detailed justification for each item exceeding a recommended percentage.

SEC. 8: ADDITIONAL PROJECT FACTORS

Emergency conditions are those that pose a high level of threat for building use by occupants.

8a Is this project an emergency? (Up to 50 points) ☐ yes ☐ no

Has the district submitted an insurance claim? ☐ yes ☐ no
If no, explain below.

If the project is an emergency, describe below in detail the nature, impact, and immediacy of the emergency and actions the district has taken to mitigate the emergency conditions.

Categorize the issues described and explained above by checking the boxes that apply to the building condition(s).

Category of Conditions	Applicable
Building is destroyed or rendered functionally unsafe for occupancy and requires the building to be demolished and rebuilt. (50 points)	☐
Building is unsafe and the entire student population is temporarily unhoused. The building requires substantial repairs to be made safe for the student population to occupy the building. (25-45 points)	☐
Building is occupied by the student population. A local or state official has issued an order that the building will need to be repaired by a certain date or the district will have to vacate the building. (5-25 points)	☐
A portion of the building requires significant repair or replacement of damaged portion of building. The damaged portion of the building cannot be used for educational purposes. (5-45 points)	☐
A major building component or system has completely failed and is no longer repairable. The failed system or component has rendered the facility unusable to the student population until replaced. (25-45 points)	☐
A major building component or system has a high probability of completely failing in the near future. The component or system has failed, but has been repaired and may have limited functionality. If the component fails, the district may be required to restrict use of the building until the component or system is repaired or replaced. (5-25 points)	☐

8b. Inadequacies of existing space (Up to 40 points)

Describe how the inadequacies of the existing space impact mandated instructional programs or existing or proposed local programs and how the project will improve the existing facilities to support the instructional programs.

8c. Other options (Up to 25 points)

Describe, in addition to the proposed project, at least two or more viable and realistic options that have been considered in the planning and development of this project to address the best solution for the facility.

Major maintenance projects should include consideration of project design options, material or component options, phasing, cost comparisons, or other considerations.

New school construction or addition/replacement of space projects should include a discussion of existing building renovation versus new construction, acquisition or use of alternative facilities, a life cycle cost analysis and cost benefit analysis, service area boundary changes where there are adjacent attendance areas, or other considerations.

8d. Annual operating cost savings (Up to 30 points)

Quantify the project's annual operational cost savings, if any, in relation to the project total cost.

8e. Phased funding (Up to 30 points)

Provide AS 14.11 administered grants that have been appropriated by the legislature as partial funding in support of this project. This category is score-able only in instances where project funding was intentionally phased.

Applications seeking funds for cost overages, change in scope, or other actions not noted in the original application or legislative appropriation will not be considered eligible for these points.

DEED grant #: _____

8f. Is the district applying for a waiver of participating share? ☐ yes ☐ no

Only municipal districts with a full value per ADM less than $200,000 are eligible to apply for a waiver of participating share. REAA's are not eligible to request a waiver of participating share.

(If the district is applying for a waiver, attach justification. Refer to AS 14.11.008(d) and Appendix F of the application instructions.)

SEC. 9. DISTRICT PREVENTIVE MAINTENANCE & FACILITY MANAGEMENT

District preventive maintenance and facility management (60 points possible)

Ensure that documents related to the district's maintenance and facility management program have been provided with district CIP submittals. Include management reports, renewal and replacement schedules, work orders, energy reports, training schedules, custodial activities, and any other documentation that will enhance the requirements listed in the instructions; these are district eligibility attachments, only two copies are required regardless of the number of applications submitted by the district. Include the following documents:

9a. Maintenance Management Narrative (Up to 5 Evaluative Points)

9b. Maintenance Labor Reports (Up to 15 Formula-Driven Points)

9c. PM/Corrective Maintenance Reports (Up to 10 Formula-Driven Points)

9d. 5-Year Average Expenditure on Maintenance. Districtwide maintenance expenditures for the last 5 years will be gathered by the department from audited financial statements. (Up to 5 Formula-Driven Points)

9e. Energy Management Narrative (Up to 5 Evaluative Points)

9f. Energy Consumption Reports (Up to 5 Formula-Driven Points)

9g. Custodial Narrative (Up to 5 Evaluative Points)

9h. Maintenance Training Narrative (Up to 5 Evaluative Points)

9i. Capital Planning Narrative (Up to 5 Evaluative Points)

SEC. 10. DISTRICT CONTACT INFORMATION

The department has the authority to determine a project eligibility, change a project's primary purpose, and modify a project's scope and budget. If a change is made, the department will notify the Superintendent or Chief School Administrator of the district.

The district may request the department include the following additional persons (up to three) in the correspondence regarding changes to this project application:

Name	E-mail

ATTACHMENTS CHECKLIST

Note all attachments included with the application. Attachments can be provided in a single hardcopy if electronic files of the attachments are also provided in a portable document file (pdf) format.

Project eligibility attachments: Eligibility item is required on all projects. Submit two copies, regardless of the number of project applications.

- ☐ Six-year Capital Improvement Plan (CIP) (question 2a)

District eligibility attachments: Submit two copies, regardless of the number of project applications.

- ☐ Preventive maintenance and facility management narratives and supplemental documents: sample work orders, custodial plan(s), training schedules and logs, renewal and replacement schedules (questions 9a, 9e, 9g-9i)
- ☐ Preventive maintenance reports (questions 9b, 9c, 9f)

Project description attachments: List all attachments referred to or noted in the application. Some items may not be applicable to a specific project. Submit two copies of each attachment with application.

- ☐ Transition plan for state-owned or state-leased properties (question 3c)
- ☐ Alternative project delivery request or approval; solicitation documents (question 3e)
- ☐ For fully or partially completed projects: documentation establishing compliance with 4 AAC 31.080, including solicitation documents (question 3f)
- ☐ Site description, site requirements, and/or site selection analysis (question 3g)
- ☐ Condition support documents *(e.g., maintenance work orders, warranties, etc.)* (question 4a)
- ☐ Facility condition survey (question 6a)
- ☐ Published district building system design standard (question 6c)
- ☐ Facility appraisal (question 6d)
- ☐ Educational specification (question 5i, 6d)
- ☐ Concept design documentation (question 6d)
- ☐ Schematic design documentation (question 6e)
- ☐ Design development documentation (question 6f)
- ☐ Cost estimate worksheets (question 7a)
- ☐ Appropriate compliance reports *(i.e., Fire Marshal, AHERA, ADA, etc.)* (questions 4a, 8a)
- ☐ Cost/benefit analysis (questions 8c, 8d)
- ☐ Life cycle cost analysis (questions 8c, 8d)
- ☐ Value analysis (questions 8c, 8d)
- ☐ Justification for waiver of participating share (question 8f)
- ☐ Capacity calculations of affected schools in the attendance area/areas (question 5e)
- ☐ Enrollment projections and calculations (question 5e)
- ☐ Other:_____ _____

Instructions for completing the Application for Funding for a Capital Improvement Project

FY2024

These instructions support DEED Form #05-~~21-022~~22-043
Application for Funding Capital Improvement Project by Grant or State Aid for Debt Retirement.

PREPARING & SUBMITTING THIS APPLICATION

Answer all questions: Each question on the application form must be answered in order for the application to be considered complete. **Only complete applications will be accepted. Incomplete applications will be considered ineligible and returned unranked**. If a question is not applicable, please note as NA. The department has the authority to reject applications due to incomplete information or documentation provided by the district. The grant application deadline is September 1st (postmarked or shipped on or before September 1st is acceptable).

Project name to be accurate and consistent: The project name on the first page of the application should be consistent with project titles approved by the district school board and submitted with the six-year Capital Improvement Plan (CIP). The project name should begin with the name of the school and type of school (ex: K-12). Multi-school projects should list the schools that are part of the scope unless the work is districtwide at most or all school sites in the district.

Limited to ten applications: The department will only score up to ten individual project applications from each district during a single rating period. In addition, a district can submit a letter to request reuse of an application's score for one year after the application was filed; or, if the project was substantially complete at the time of the application, the district can request reuse of the application's score for up to five years after the application was filed.

The department may adjust parts of the application: Project scope and budget may be altered based on the department's review and evaluation of the application. The department will correct errors noted in the application and make necessary increases or decreases to the project budget. The department may decrease the project scope, but will not increase the project scope beyond that requested in the original application submitted by the September 1st deadline.

Authorizing signature: The application must be signed by the appropriate official. Unsigned applications cannot be accepted for ranking.

Application packages should be submitted to:
Alaska Department of Education & Early Development
Division of Finance & Support Services, Facilities

Mailing Address	Physical Deliveries
P.O. Box 110500	801 W. 10th Street, Suite 200
Juneau, AK 99811-0500	Juneau, AK 99811-0500

For further information contact:
School Facilities Manager

1. CATEGORY OF FUNDING AND PROJECT TYPE

1a. Type of funding requested.

Check **one** box to indicate which type of state aid is being requested.

Grant Funding: applications are submitted to the department by September 1st of each year, or on a date at the beginning of September designated by the department in the event that the 1st falls on a weekend or holiday (postmarked or shipped on or before September 1st is acceptable).

Aid for Debt Retirement: applications can be submitted at any time during the year if there is an authorized debt program in effect. **To verify if there is an authorized debt program in effect, contact the department.**

1b. Primary purpose.

~~Based on whether the application is for grant funding or aid for debt retirement, c~~Check **one** box in the appropriate column to indicate the primary purpose of the project. Each application should be for a single project for a particular facility, and should be independently justified. The district may include work in other categories in a proposed project. These projects will be reviewed and evaluated as mixed-scope projects. Refer to Appendix A of these instructions for descriptions of categories and the limitations associated with grant category C, category D, and category E projects. Application of scoring criteria will be on a weighted basis for mixed scope projects. The department will change a project category as necessary to reflect the primary purpose of the project.[1]

1c. Phases of project.

Check the applicable phase(s) covered by this funding request. Refer to Appendix B for descriptions of phases.

2. ELIGIBILITY REQUIREMENTS TO SUBMIT AN APPLICATION

2a. District six-year plan.

Attach a current six-year Capital Improvement Plan (CIP) for the district. Use DEED Form 05-19-051. The project requested in the application must appear on the district's six-year plan in order to be considered for either grant funding or debt reimbursement. For grant funding, the project must appear in the first year of the district's six-year plan.

2b. Fixed asset inventory system.

The district does not need to submit any fixed asset inventory system information to the department as part of the CIP application. The department will verify the existence of a Fixed Asset Inventory System during its on-site Preventive Maintenance program review every five years. The department will annually review the district's most recently submitted

[1] The department's authority to assign a project to its correct category is established in AS 14.11.013(c)(1) and in AS 14.11.013(a)(1) under its obligation to verify a project meets the criteria established by the Bond Reimbursement & Grant Review Committee under AS 14.11.014(b)

annual audit for information regarding its fixed asset inventory system. School districts that do not have an approved fixed asset inventory system, or a functioning fixed asset inventory system (i.e., cannot be audited) will be ineligible for grant funding under AS 14.11.011.

2c. Property insurance.

The department may not award a school construction grant to a district that does not have replacement cost property insurance. AS 14.03.150, AS 14.11.011(b)(2) and 4 AAC 31.200 set forth property insurance requirements. The district should annually review the level of insurance coverage as well as the equipment limitations of the policy, and the per-site and per-incident limitations of the policy to assure compliance with state statute and regulation.

2d. Capital improvement project.

AS 14.11.011(b)(3) requires a district to provide evidence that the funding request should be a capital project and not part of a preventive maintenance or regular custodial care program. Refer to Appendix E for an explanation of maintenance activities. Scope of work will be modified by the department during review of the application to remove items deemed to be preventive maintenance or custodial.

2e. Preventive maintenance program.

Under AS 14.11.011(b)(4), a district must have a certified preventive maintenance program to be eligible for funding. Initial notification of district certification is provided by June 1; final determination of a district maintenance program is issued August 15. For more information contact the department.

2f. Insurance.

District facility insurance data is required to be provided by each district to the department under AS 14.03.150 and 4 AAC 31.200. Insured replacement value will include all district facilities reported in the department's School Facility database:

https://education.alaska.gov/Facilities/SchoolFacilityReport/SearchforSchoolFac.cfm

Note: This information is used in calculating scores for question 9d. The five-year average expenditure for maintenance is divided by the five-year average insured replacement value, districtwide.

3. PROJECT INFORMATION

3a. Priority assigned by the district. (30 points possible)

The district ranking of each project application must be a unique number approved by the district school board and must place each discrete project in priority sequence. The project having the highest priority should receive a ranking of one, and each additional project application of lower priority should be assigned a unique number in priority order. The department will accept only one project with a district ranking of priority one. The ranking of each application should be consistent with the board-approved six-year Capital Improvement Plan. Refer to AS 14.11.013(b)(2). Both major maintenance projects and

school construction projects should be combined into a single six-year plan. There are up to 30 points available for a district's #1 priority. Points drop off in increments of 3 for each corresponding drop in district priority ranking.

The district should provide a listing of *projects anticipated for the full six years* of the district's six-year plan, not just the first year of the plan.

3b. School facilities within scope. (30 points possible)

This question requests information on the year the facility was constructed and size of each element of the facility to establish the "weighted average age of facilities" score. If a project's scope of work is limited to a portion of a building (i.e., the original or a specific addition), the age of *that building portion* will be used in the "weighted average age of facilities" point calculation. If the project's scope of work expands to multiple portions of a building, the ages of *all building portions receiving work* will be used in the "weighted average age of facilities" point calculation. *Year built* refers to the year the original facility and any additions were completed or were first occupied for educational purposes. If a date of construction is not available, use an estimate indicated by an (*). *Gross square footage (GSF)* of each addition should be the amount of space added to the original facility. *Total size* should equal the total square footage of the existing facility. There are up to 30 points possible depending on the age of the building. Facility number, name, year built, and size are available online at:

http://education.alaska.edu/Facilities/SchoolFacilityReport/SearchforSchoolFac.cfm

Department data will be used for calculations, if there is an error in the database, contact the department prior to September 1.

3c. Facility status.

The response to this question should be consistent with column III of the space utilization table in question 5i. Projects that will result in demolition or surplusing of existing owned or leased facilities must include a detailed plan for the transition from existing facilities to replacement facilities. If a facility is to be demolished or surplused, the project must provide for the abatement of all hazardous materials as part of the project scope. The transition plan should describe how surplused state-owned or state-leased facilities will be secured and maintained during transition. The detailed plan for demolishing or surplusing state-owned or -leased properties should incorporate a draft of the department's Form 05-96-007, Excess Building. For the CIP process, furnish building data and general information; signatures and board resolutions may be excluded.

3d. Project description/Scope of work.

Describe the scope of work of the entire project. The project description/scope of work should include: (1) a detailed description of the project, (2) documentation of the conditions justifying the project, and (3) a description of the scope of the project and what the project will accomplish. The scope should also contain sufficient quantifiable analysis to show how the project is in the best interest of both the district and the state.

The description of project scope should include information that will allow the department to evaluate the criteria specified in AS 14.11.013; ensure project aligns with selected category. Project scope should be sufficiently defined to assure bidding a single contract. If proposing a "districtwide" project, applicant should provide justification in question 3h of how it is more cost-effective to combine multi-site (multi-community) projects.

It is helpful to identify the question number if you are providing detail to support another application question in the project description.

Question 2d: AS 14.11.011(b)(3) requires the district to provide sufficient evidence that the funding request should be a capital improvement project and not preventive maintenance (including routine maintenance) or custodial care. Refer to Appendix E of these instructions for information regarding the definitions of maintenance terms related to this question.

Question 3b: If the project impacts multiple facilities, the project description shall identify the facilities impacted and describe how each will be impacted. For facilities with both Original and Addition space, identify the discrete section(s) of the portion being impacted. For "districtwide" projects, a detailed description and scope is required for each facility.

Question 3c: Projects that will result in demolition or surplusing of existing owned or leased facilities must include a detailed plan for the transition from existing facilities to replacement facilities.

Question 3g: Site description should include location, size, availability, cost, and other pertinent information as appropriate. If a site selection and evaluation report is attached, the information can be referenced with a brief summary, rather than being reproduced in this section.

Question 3f: If project is complete or partial complete, identify which scope elements have been completed.

Question 5c: If this project will (1) result in renovated or additional educational space, and (2) serve students of the same grade levels currently housed or projected to be housed in other schools, the project description should indicate the:

- attendance areas that will be impacted (i.e. will contribute students) by this project,
- current and projected student populations in each facility (school) affected by the project, and
- DEED gross square footage for each affected facility (school) in the attendance area.

Question 6a-6d: If a facility condition survey, facility appraisal, schematic design, and/or design development documents are attached, they can be summarized and referenced, rather than reproduced in the description of project need, justification, and scope. If project is complete, and schematic design or design development documents are not attached, provide a justification for why documents are not needed.

Question 8c: When a new, renovation, new-in-lieu-of-renewal, or Category E project is proposed, the project description should include a brief discussion of the cost/benefit and life cycle cost principles which guided this project solution. The detailed cost/benefit analysis and life cycle cost analysis documents shall provide data documenting conditions that justify the project [AS 14.11.011(b)(1)]. If these documents are attached, they can be referenced and summarized, rather than reproduced in the project description.

3e. Project Schedule.

Provide an estimated project timeline that includes, at a minimum, the estimated date for receipt of funding, estimated construction start date, and estimated construction completion date. Identify any additional project schedule milestones or special circumstances that are applicable to the project. Include any schedule changes anticipated if alternative delivery is considered for the project. An alternative project delivery method is required to be approved by the department. If an alternative project delivery method is proposed for the project (including in-house), provide completed request or department approval with application, including any bid documents, etc.

3f. Complete or partially completed project.

Indicate whether the work identified by the project request is partially or fully complete. In question 3d, clearly identify which scope elements have been completed. If the construction work is partially or fully complete, attach documentation that establishes that the construction was procured in accordance with 4 AAC 31.080.

- Competitive sealed bids must be used unless alternative procurement has been previously approved by the department.
- Projects under $100,000 can be constructed with district employees if prior approval is received from the department. For projects that utilized in-house labor, attach the DEED approval of the use of in-house labor [4 AAC 31.080(a)]. If a project utilized in-house labor, or was constructed with alternative procurement methods, and does not have prior approval from the department, the project's construction budget will be reduced [4 AAC 31.080(e)].
- For construction contracts under $100,000, districts may use any competitive procurement method practicable. Provide an explanation of circumstances requiring selected procurement method with attachment.

For projects with contracted construction services, attach construction and bid documents utilized to bid the work, advertising information, bid tabulation, construction contract, and performance and payment bonds for contracts exceeding $100,000. Projects shall be advertised three times beginning a minimum of 21 days before bid opening. The bid protest period shall be at least 10 days. Construction awards must NOT include provisions for local hire. Provide bid documents and bid tabulations as projects attachments.

If district has been working with the department for approval of project delivery method, design, and construction, provide the DEED recovery of funds project number in the space provided.

A district can submit for reimbursement of project costs for work completed up to 36 months prior to the initial submission of the application with a substantially identical scope. This can include costs in any phase: planning (e.g. condition survey), design, and construction. A district can submit for reimbursement of costs for site acquisition approved under 4 AAC 31.025 and incurred up to 120 months before the initial submission of the application with a substantially identical scope.

3g. Acquisition of additional land.

Acquisition of additional land refers to expansion of an existing school site using property immediately adjacent to, or in close proximity to, the existing school site. Land acquisition may result from long-term lease, purchase, or donation of land. *Utilization of a new school site* refers to use of a site previously acquired by the district, or a new site acquired as a result of this application and not previously utilized as a public school.

If the project site is not yet known, the site description should be the district's best estimate of specific site requirements for the project, and it should be included in the project description. The department's 2011 publication, *Site Selection Criteria and Evaluation Handbook*, may be useful in responding to this question. A site selection study is required for those projects involving new sites in order to qualify for schematic design points (reference Appendix B).

3h. Multiple-school or districtwide project.

Explain how a multiple site project is cost effective and in the state's best interest and how the district will provide for a single contract in either design or construction. Provide justification of need for multiple contracts.

4. CODE DEFICIENCY / PROTECTION OF STRUCTURE / LIFE SAFETY

4a. Code deficiency / Protection of structure / Life safety. (Up to 50 points)

Describe in detail the issue, impact, and severity of code deficiency, protection of structure, and life safety conditions being addressed by the project scope in question 3d; attach supporting documentation. If construction of a new school is proposed, describe any code issues at existing facilities in the attendance area that will be relieved by the project.

Code deficiency, protection of structure, and life safety-related categories:

Code Deficiency: Deficiencies related to building code conditions where there is no threat to life safety. This includes compliance with various current building and accessibility codes.

Protection of Structure: Deficiencies that, when left unrepaired, will lead to new or continued damage to the existing structure, building systems, and finishes resulting in a shortened life of the facility.

Life Safety: Deficiencies representing unsafe conditions threatening the health and life safety of students, staff, and the public. For example, required fire alarm and/or suppressant systems are non-existent or inoperative posing a life safety risk.

Note: Complete or imminent building failure caused by code deficiency, protection of structure, or life safety conditions resulting in unhoused students may be viewed as a more critical project.

The project could contain a single severe condition or multiple moderate conditions. Multiple conditions will be rated collectively, but may not necessarily rank as high as a single severe condition. For projects, such as districtwide projects, that combine critical and non-critical work, points for the critical portion of the project will be weighted proportionally.

The scoring matrix for this category (ref. Guidelines for Raters of the CIP Application) is reproduced in the application, and groups deficiencies into the following eight categories: Site, Structural, Roof/Envelope, Arch/Interior/ADA, Mechanical, Electrical, Fire Alarm/Sprinkler, and UST/AST/Hazmat. Identify the condition from the matrix and provide a relevant description of the conditions with references to supporting documentation. While extensive, the discrepancies listed in the matrix may not be exhaustive. If a deficiency is not listed, note that in the description and use the listed deficiencies as a context for determining appropriate documentation.

As indicated in the matrix, code deficiency, protection of structure, or life safety conditions scoring incorporates ranges based on the established severity ranges of the conditions and upon the documentation provided to support the reported severity. Supporting documentation of the conditions is critical. Documentation that supports the conditions can be documents such as: condition surveys, third party communications, maintenance work orders, or other records verifying the conditions. This is not an exclusive list and applicants are encouraged to provide other sources of quantitative information to support the building or component condition. The primary purpose of this documentation is to present objective, primary, specific, and verifiable data.

For matrix scores based on average number of work orders over time, include copies of the relevant work orders. Work order detail should match that required under 4 AAC 31.013(a)(1).

Supporting documentation elsewhere in the application can be summarized and referenced, rather than reproduced in the narrative. When citing information elsewhere in the application or application attachments, provide the specific location of the referenced information.

5. REQUIREMENTS FOR SPACE TO BE ADDED OR REPLACED

NOTE: Gross square footage entries in this section should reflect the measurements specified by 4 AAC 31.020. Space variance requests not already approved by the department must be submitted in accordance with 4 AAC 31.020 by the application

deadline in order to receive consideration with the current request. The department will not consider space variance requests during the application review process for work proposed in the application.

5a. Project grade levels.

The response to this question should reflect the grade levels that will be served by the facility at the completion of the project.

5b. District voter-approved projects.

Any additional square footage that is funded for construction or approved by local voters for construction should be listed with a descriptive project name, additional GSF, grade levels to be served, and anticipated student capacity. Include these projects in any capacity/unhoused calculations provided in the year of anticipated occupancy.

5c. Other school facilities.

List all schools in the attendance area that serve grade levels equivalent to those of the proposed project. If the project includes any elementary grades, all schools in the attendance area serving elementary students are to be listed. If the project includes any secondary grades, all schools in the attendance area serving secondary students are to be listed. For each school listed, include its size, the grades served, and the school's total student capacity. Use the department's "2017 Attendance Area ADM & GSF Calculations" MS Excel worksheet to calculate the total student capacity for each school. A link to this form and the "Attendance Areas" report can be found under at http://education.alaska.gov/facilities/FacilitiesCIP.html

5d. Date of anticipated occupancy.

The date provided here should be the anticipated date the facility will be occupied. This will be the starting point for looking at five-year post-occupancy population projections. If a project schedule is available, it should be provided to substantiate the projected date.

5e. Unhoused students. (80 points possible)

All projects that are adding new space or replacing existing space must complete Table 5.1 ATTENDANCE AREA ADM and worksheets in the department's MS Excel workbook, "217 Attendance Area ADM & GSF Calculations" found under "Space Guidelines" at http://education.alaska.gov/facilities/FacilitiesCIP.html. These worksheets are the tools for determining space eligibility.

Include copies of the worksheets "ADM", "Current Capacity", and "Projected Capacity" with the application. The department may adjust the submitted ADMs and allowable space as necessary for corrections.

The points for this question are based on the following formulas:

1. Current Unhoused Students: If current capacity is at or below 100%, 0 points will be awarded. If current capacity is over 100%, then one point for every 3% percent over 100% capacity will be awarded. For projects that have a current capacity over 250%, the full 50 points will be awarded.
2. Unhoused Students in Seven Years: If capacity five years post-occupancy is at or

below 100%, 0 points will be awarded. If capacity five years post-occupancy is over 100%, then one point for every 5% over 100% capacity will be awarded. For projects that have a capacity five years post-occupancy over 250%, the full 30 points will be awarded.
Scoring for projected unhoused due to facility loss by external environmental factors (reference question 5g) is scored at half points: If capacity five years post-occupancy is over 100%, then one point for every 10% over 100% capacity will be awarded.

5f. ADM projection method.

Identify the method(s) that were utilized to determine the student population projections listed in Table 5.1. The department will compare the projections to historic growth trends for the attendance area. The department will revise population projections that exceed historical growth rates, show disparate growth between elementary and secondary populations, or are unlikely to be sustained as an attendance area's overall population grows.

Inclusion of a charter school population housed in lease space due to terminate within two years may be included; include a copy of the lease as an attachment to the application. The application should include student population projection calculations and sufficient demographic information (e.g., housing construction, economic development, etc.) to justify the project's population projection.

5g. Confirm space eligibility.

Existing space is determined as all permanent facility gross square footage (GSF) within an attendance area as reported in the DEED School Facility Database; for attendance areas with multiple main schools serving a type of school (elementary, secondary, K-12, mixed grade) this will include more facilities than are reported in question 3b "school facilities within scope" or included in question 5j "project space utilization" (Table 5.2).

Utilize data from the ADM projections/GSF calculations workbook to complete this question. For "Total Existing SF", enter all GSF from permanent facilities serving the same school type within the attendance area. For "Remaining Existing SF", subtract any square footage that will be demolished or disposed of from the "Total Existing SF" and enter the remainder. For "Total Eligible SF", enter the total of the square footage calculation based on the school's average daily membership (ADM). For "Qualifies for additional SF", enter the amount of additional qualified square footage by subtracting the "Remaining Existing SF" from the "Total Eligible SF". For "Applying for additional SF", enter the amount of additional square footage that will be added in this. The amount of square footage that is applied for may be the same or less than the amount of the qualified square footage.

A district may submit a future unhoused projection based on an imminent loss of a facility due to certain external environmental factors like erosion. To support the projection, the district must provide credible evidence and documentation that the facility will be lost or unsafe for occupancy within two years. A district would also need to provide a specific plan for how it will accommodate students without the facility, should the facility become

incapable of housing students, and address how the facility will be disposed of in the transition plan (question 3c).

5h. Regional community facilities. (5 points possible)

Statutes require an evaluation of other facilities in the area that may serve as an alternative to accomplishing the project as submitted. Information regarding the availability of such facilities and the effort (e.g. cost, time, etc.) required to make the facility usable for the school needs represented by the project should be provided. The area is not restricted to the attendance area served by the project.

Projects in Category F, which may not relate to providing alternate facilities for unhoused students, should describe existing community facilities (parking, sporting, or outdoor recreation areas) related to the project scope.

There are up to 5 points available for an adequate description showing that the district has considered alternatives to the proposed project for housing unhoused students or providing the desired feature.

Statutory and Regulatory Reference: AS 14.11.013(b)(4), 4 AAC 31.022(c)(5)

5i. Educational Specifications.

A district planning a project to add or reconfigure space is required to develop an educational specifications document and provide it to the department for review. [See AS 14.07.020(11), 4 AAC 31.010] For projects adding or reconfiguring space, an educational specification is a required planning document in Appendix B for planning/concept design points.

5j. Project space utilization. (30 points possible)

Table 5.2 Project Space Equation summarizes space utilization in the proposed project expressed in gross square feet. Space figures represented should tabulate to match the gross building square footages reported in question 3b as well as those shown in Table 7.2 of the cost estimate section. The worksheet at Appendix D lists types of school space that fit in each category. There are up to 30 points possible on the school construction list for the type of space being constructed.

6. PROJECT PLANNING & DESIGN

There are four distinct items in this question. Each one has the potential to generate points.

6a. Condition/Component survey. (0 to 10 points possible – refer to Rater Guidelines for scoring criteria)

A *facility condition survey* is a technical survey of facilities and buildings, using the department's Guide for School Facility Condition Survey or a similar format, for the purpose of determining compliance with established building codes and standards for safety, maintenance, repair, and operation. Portions of the condition survey, such as that information pertaining to building codes and analysis of structural and engineered systems

including site assessment may be completed by an architect, engineer, or personnel with documented expertise in a building system. For project scopes that are component or system renovations, a condition survey of the component or system is acceptable.

A facility condition survey is required for major rehabilitation projects to receive further planning and design points. Projects with scopes that warrant identification of in-depth examination of deteriorated systems will require a scope-specific facility or component condition survey to receive points beyond Phase I Planning/Concept Design. Condition surveys should be clearly identified and establish a specific date or date range when the survey occurred or was produced.

The department does not consider submittal of a Spill Prevention, Control, and Countermeasures (SPCC) Plan as a condition survey for fuel tank or fuel facility projects. In addition, an energy audit, although useful and informative, will not receive condition survey points if the project's scope warrants additional facility condition survey data.

6b. Use of prior school design (10 points possible)

Statutes require that the department shall encourage school districts to use previously approved school construction design if the use will result in a cost savings for the project. Provide the following information regarding plan availability and the costs to revise the plan to meet the needs of the current project:

- Complete documents of the proposed reused school plans.
- Evidence of ownership of proposed reused school plans.
- An analysis of the anticipated deviations and revisions from the proposed reused school plans along with an estimated cost of those deviations (+ or -).
- An estimate of the design and construction costs for the proposed reused school plans along with an estimate of the cost of design and construction for a project alternative for a new school design. If a district does not own the school plan proposed for reuse, estimate must include cost of purchasing design or of another arrangement.

Five measures are identified to determine the range of effectiveness in using a prior school design:

1. The district's ownership and legal ability to effectively use the prior design.
2. The age of the prior design.
3. The amount of change to the prior design anticipated to be needed in the current project.
4. The estimated cost savings in construction costs achieved by the reuse.
5. The estimated cost savings in design services achieved by the reuse.

Up to 10 points are available (2 points for each of the identified measures) for a project that reuses a department-approved school design. This point category is only applicable to school construction projects (primary purpose Category A, B, or F).

Statutory and Regulatory Reference: AS 14.11.013(a)(4) and (b)(7)

6c. Use of prior building system design (10 points possible)

Statutes require that the department shall encourage school districts to use previously approved building systems if the use will result in a cost savings for the project. Five building system categories are available for evaluation of prior design use: 1) Building Envelope, 2) Plumbing, 3) HVAC, 4) Lighting, and 5) Power. A project application can receive points for capital renewal of: a complete system, a subsystem, or a component of system, once in each of these categories when evaluated against whether it is part of a published district or municipal facility standard that meets ASHRAE 90.1-2016 requirements; prior use of a system specification in a bid solicitation is not sufficient to meet the criteria.

The ASHRAE-compliant district or municipal standard must be provided with the application in order for the department to evaluate this criteria.

There are up to 10 points possible for a project that provides support for using a cost-effective building system standard; up to 2 points per qualified system category. This point category is not applicable to projects receiving scores for use of a prior school design.

Statutory and Regulatory Reference: AS 14.11.013(a)(4) and (b)(7)

6d. Planning / Concept design. (0 or 10 points possible)

Planning work includes the items listed under planning in Appendix B of this document. At the planning phase, existing conditions may be assumed based on standard life expectancies and other industry norms. Condition/component surveys are only required for projects proposing major rehabilitation. Some projects may not require the services of an architect or engineer; typically these projects are limited in scope where drawings and extensive technical specifications are not necessary in order to issue an Invitation to Bid. Provide a justification in question 6e if no consultant was selected. Some projects do not require concept design or educational specifications. Reference Appendix B for projects which require these planning documents. The department's Program Demand Cost Model is acceptable as a planning/concept level cost estimate. There are 10 points possible for completed planning/concept design work.

If design has progressed further than planning/concept design, then schematic design (35%) design development (65%), or construction level drawings and cost estimates may be submitted in lieu of concept design documents.

A *facility appraisal* is an educational adequacy appraisal following the format or similar formats of the Council of Educational Facility Planners, International "Guide for School Facility Appraisal". An appraisal is optional; however, an appraisal document is useful to the department in evaluating the overall merits of the project request.

6e. Schematic design – 35%. (0 or 10 points possible)

Schematic design work includes the items listed under schematic design in Appendix B of this document. There are 10 points possible for completed schematic design work.

Project development to schematic design on most projects requires a condition/component survey to assess existing conditions. Condition/component surveys are required for projects proposing major rehabilitation and may be required for other projects if necessary to adequately support the scope of the proposed work.

Some projects may not require a schematic design in order to issue an Invitation to Bid. Typically these projects are limited in scope where drawings and extensive technical specifications are not necessary. Provide a justification if schematic design documents were not needed. The department's Program Demand Cost Model is not an acceptable Schematic level estimate.

If design has progressed further than schematic design (35%), then design development (65%) or construction level drawings and cost estimates may be submitted in lieu of schematic design documents.

6f. Design development – 65%. (0 or 5 points possible)

Design development work includes items listed under design development in Appendix B of this document. There are 5 points possible for completed design development work.

Project development to schematic design on most projects requires a condition/component survey to assess existing conditions. Condition/component surveys are required for projects proposing major rehabilitation and may be required for other projects if necessary to adequately support the scope of the proposed work.

Construction level drawings and cost estimates may be submitted in lieu of design development documents.

6g. Planning / Design team.

The application needs to identify the district's architectural or engineering (A/E) consultant for the Condition Survey, Planning, Schematic Design and Design Development work. Certain projects of limited scope may not require consultant selection to qualify for planning/concept level design point, but may be required for schematic design or design development levels, depending on project complexity. If there is no consultant, the district must provide a detailed explanation of why a consultant is not required for the project. For others besides licensed design professionals currently registered in the State of Alaska, provide the qualifications for design team members that the district accepted. For example, if one is a school board member who is also an electrician, please note both. Likewise, note a district employee with X years as a licensed roofing contractor, or a maintenance person with X years as the lead mechanical custodian for the district.

7. COST ESTIMATE

Cost estimate for total project cost. (30 points possible)

7a. Project cost estimate.

For all applications, including those for planning and design, cost estimates should be based on the district's most recent information and should address the project being requested. Refer to Appendix C for descriptions of elements of the total project cost. The cost estimate should be of sufficient detail that its reasonableness can be evaluated. If a project is projected to cost significantly more than would be predicted by the Department's current Program Demand Cost Model, provide attachments justifying the higher cost. If there are special requirements, a detailed explanation and justification should be provided in question 7c.

Table 7.1 Total Project Cost Estimate.

In Table 7.1, all prior AS 14.11 funding for this project should be listed by category and totaled in Column I. If a grant has not been issued, but an appropriation has been made, use the appropriated amount plus participating share in lieu of the issued grant or bond amount. Column II should list the amount of funding being requested in this application, by category and in total. Column III should show a percentage breakdown for the total project allocated costs as a percentage of the total construction cost. Column IV should list the total project cost estimate from inception to completion, all phases. Calculate the percent of construction for all cost categories except Land, Site Investigation, and Seismic Hazard. To calculate the percent of construction, divide the category costs by the Construction cost and multiply by 100%. Use Column IV costs to calculate the percent of construction. Other categories should be within the ranges listed. Construction Management (CM) by consultant must be less than 4% if the total project cost is less than or equal to $500,000; 3% for project costs between $500,000 - $5,000,000; and 2% for projects of $5,000,000 or greater [AS 14.11.020(c)]. The percent for art, required for all renovation and construction projects with a cost greater than $250,000, and which requires an Educational Specification, is given a separate line. Project Contingency is fixed at 5%. The total project cost should not exceed 130% of construction cost, excluding land and site investigation. If the project exceeds the recommended percentages, add a detailed justification in question 7c.

Seismic Hazard costs include the costs required to assess, design, and perform special construction inspections for a school facility. These costs include the costs for an assessment of seismic hazard at the site by a geologist or geotechnical engineer with experience in seismic hazard evaluation, an initial rapid visual screening of seismic risk, investigation of the facility by a structural engineer, design of mitigation measures by a structural engineer, third party review of seismic mitigation measures, and special inspections required during construction of the seismic mitigation components of the project. The costs associated with this budget item must be prepared by a licensed professional engineer with experience in seismic design. The district should refer to the Peak Ground Acceleration information for various areas of the state available on the department's CIP website (education.alaska.gov/Facilities/FacilitiesCIP.html)

Table 7.2 Construction Cost Estimate.

This summarization of construction costs is structured to be consistent with the DEED cost model. Other estimating formats may not provide an exact correlation; however, the following categories **MUST** be reported to allow adequate comparisons between projects: basic building, site work and utilities, general requirements, contingency, and escalation. Do not blank out or write over this table. If the application includes a cost estimate from a designer or professional cost estimating firm, Table 7.2 must still be filled out as described above.

Note: Cost estimates are preferred in the DEED *CostFormat*. Alternative formats will not impact points assigned but could impact the project's eligible amount for cost estimate work. Although not required for a project application, cost estimates provided as a submittal for a project awarded a grant allocation will need to conform to the DEED *CostFormat*.

Up to 30 points are possible for reasonableness and completeness of the cost estimate provided in support of the project.

7b. Cost estimate source.

Identify the source of the cost estimate. A cost estimate could be from a professional design or estimating firm, vendor quotes, actual invoices, or based on the documented costs of a similar project in the district.

7c. Cost estimate discussion and justifications.

Provide sufficient information to support meaningful evaluation of the project cost and the reasonableness of the cost estimate. Though basic cost information is incorporated into Tables 7.1 and 7.2, many cost elements reported in standard estimates will require further explanation or support. Please refer to Appendix C for guidelines covering project cost estimate percentages for factored cost items. Provide justification for any lump-sum elements used in the cost estimate, including site work and utilities. If the project exceeds a recommended percentage for a specific category or if the project is requesting more than 30% in additional percentage costs, provide a detailed justification. The project scope and cost estimate should be increasingly detailed as project phases advance.

Identify attachments with additional information regarding project cost that may aid in evaluating the reasonableness of the cost estimate. Documents may include a life cycle cost analysis, cost benefit analysis, bid documents, actual cost estimates, final billing statement for completed projects, and any additional supporting documentation justifying project costs.

8. ADDITIONAL PROJECT FACTORS

8a. Emergency conditions. (50 points possible)

Emergencies are conditions that pose a high level of threat for building use by occupants. An emergency exists when students are currently unhoused due to the loss of the facility, or

damage to the facility due to circumstances associated with the emergency. An emergency also exists when the district's ability to utilize the facility is impacted or there is an immediate or high probability of a threat to property, life, health, or safety.

Not all systems or components that have reached the end of their useful life or are starting to fail are considered to be emergencies. A system or component that has reached the end of its useful life or has started to fail, but routine or preventive maintenance prolongs the life of the system or component, is not considered to be an emergency. Example: A roof that has started to leak and the leaking is stopped with routine maintenance would not constitute an emergency. A roof that is leaking, where rot has been found in the structure of the roof and routine maintenance no longer prevents water from entering the building, could be considered an emergency.

Describe in detail the nature, impact, and immediacy of the emergency and actions the district has taken to mitigate the emergency conditions. At a minimum, include the following:

- the nature of the emergency,
- the facility condition related to the emergency,
- the threat to students and staff,
- the consequence of continued utilization of the facility,
- the individuals or groups affected by the condition,
- what action the district has taken to mitigate the emergency conditions, and
- the extent to which any portion of the project is eligible for insurance reimbursement or emergency funding from any state or federal agency.

Supporting documentation of the conditions is critical. Documentation that supports the conditions can be documents such as: condition surveys, photos, third party communications, insurance claims, or other records verifying the conditions. This is not an exclusive list and applicants are encouraged to provide other sources of quantitative information to support the emergency condition. The primary purpose of this documentation is to present objective, primary, specific, and verifiable data.

The emergency descriptions with check boxes contained in question 8a are to help the applicant identify the type of emergency the project is resolving. The applicant must provide a description of the particular emergency in the application and include all relevant documentation that supports the immediacy or high probability of the threat or emergency. An application that checks an emergency building condition box without a description of the emergency will receive no points.

The matrix below incorporates the emergency conditions categories listed in the application with supporting examples.

Building

Building is destroyed or rendered functionally unsafe for occupancy and requires the building to be demolished and rebuilt. Example: A flood or fire event has destroyed or left the building so structurally compromised that the building must be demolished.

Building is unsafe and the entire student population is temporarily unhoused. The building requires substantial repairs to be made safe for the student population to occupy the building. Example: The roof of a school came off in a severe wind storm with water damage to interior finishes.

Building is occupied by the student population. A local or state official has issued an order that the building will need to be repaired by a certain date or the district will have to vacate the building. Example: It is discovered that the building does not meet current specified safety standards and the building will need to be made current with the standards within the next 90 days. Documentation substantiating the order needs to be supplied.

A portion of the building requires significant repair or replacement of damaged portion of building. The damaged portion of the building cannot be used for educational purposes. Example: The roof leaked over a classroom causing structural damage to the walls, which restricts the use of the room until the repairs are made.

Components or Systems

A major building component or system has completely failed and is no longer repairable. The failed system or component has rendered the facility unusable to the student population until replaced. Example: The heating plant has completely failed leaving the building unusable to the student population and susceptible to freezing and further damage.

A major building component or system has a high probability of completely failing in the near future. The component or system has failed, but has been repaired and has limited functionality. If the component fails, the district may be required to restrict use of the building until the component or system is repaired or replaced. Example: A fire alarm system has a history of components failing and given the age of the system, parts are no longer available. The system has a high probability of failing completely and district may have to vacate the building.

Statutory and Regulatory Reference: AS 14.11.013(b)(1)

8b. Inadequacies of space. (40 points possible)

Describe how the project will improve existing facilities to support the instructional program. The response should address how the inadequacies of the facility impact the instructional program and whether that instructional program is a mandatory, existing local, or a proposed new local program. Types of inadequacies addressed may include the quality of space, amount of space, or configuration of the space.

Statutory and Regulatory Reference: AS 14.11.013(b), 4 AAC 31.022(c)(4)

8c. Other options. (25 points possible)

In an effort to support the project submitted as the best possible, districts should consider a full range of options during planning and project development.

- A cost/benefit analysis, life cycle cost analysis, or other evaluative processes used by the district in reaching its design solution should be included. See also Item I, Project Eligibility Checklist, which requires a life cycle cost analysis, a cost benefit analysis, or any other quantifiable analysis, when needed, to demonstrate that the project is in the best interest of the district and the state.
- A project that proposes component replacement should discuss the merits of alternative products, material options, construction methods, alternative design, or other solutions to the problem as applicable.
- A project that proposes roof replacement should discuss the merits of different roofing materials, the addition of insulation, or altering the roof slope and provide an explanation as to why these options were not selected.
- If the proposed project will add new or additional space, districts may consider options such as double shifting, service area boundary changes, and any space available in adjacent attendance areas that are connected by road. In districts that contain adjacent attendance areas, at least one of the options considered must be an evaluation of potential boundary changes.
- Projects that propose construction of a new school should discuss other options, such as renovation of the existing building or acquisition of alternative facilities, and provide an explanation as to why these options were not selected.
- Scoring in this area will be related to factors such as: the range of options, the rigor of comparison, the viability of options considered, and the quality of data supporting the analysis of the option. Options also need to consider the results of cost benefit analysis, life cycle cost analysis, and value analysis as necessary.

There are up to 25 points available for a documented comprehensive discussion on the options considered by the district that would accomplish the same goals as the proposed project.

Statutory and Regulatory Reference: AS 14.11.013(b)(6), 4 AAC 31.022(c)(6)

8d. Annual operating cost savings. (30 points possible)

Information (and evaluation points) related to operational costs is not limited to Category E projects. Explain and document ways in which the completion of the project would reduce current operational costs. This analysis should be consistent with a life cycle cost analysis or cost benefit analysis. Consider energy costs, costs related to wear-and-tear, maintenance of existing facilities costs, and costs incurred by current functional inadequacies at the facility and attendance area level. Provide benchmark values such as fuel costs, specific labor costs affected by the project, and historical record of problems to be addressed by this project.

For new facilities, discuss design choices that will provide periodic and long-term savings in the operation and maintenance of the facility. Although the addition of square footage may increase overall operational costs, project descriptions for this category of project should include information on methods and strategies used to minimize operational costs over the life of the building. Include cost benefit analyses that were accomplished on building systems and materials.

Up to 30 points are possible based on the projected cost savings payback with a full and complete description.

Statutory and Regulatory Reference: AS 14.11.013(b), 4 AAC 31.022(c)(3)

8e. Phased funding. (30 points possible)

Prior state funding refers to **grant funds appropriated by the legislature to the department and administered under AS 14.11 as partial funding for this project only.** Any amounts noted here should also be included in Table 7.1 of the Cost Estimate, question 7a. No other fund sources apply, including debt retirement. There are up to 30 points available if a project includes previous grant funding under AS 14.11, and the project was intentionally short funded.

8f. Participating share waiver.

Waivers of participating share should be in accordance with AS 14.11.008(d). Justification should be documented. See Appendix F in the attachments to these instructions for detailed information. Only municipal districts with a full value per ADM less than $200,000 that are not REAAs are eligible to request a waiver of participating share. Contact the department for a district's most recent full-value per ADM calculation.

9. DISTRICT PREVENTIVE MAINTENANCE & FACILITY MANAGEMENT

District preventive maintenance and facility management. (60 points possible)

AS 14.11.011(b)(1) and 4 AAC 31.011(b)(2) require each school district to include with its application submittals a description of its preventive maintenance program, as defined by AS 14.11.011(b)(4), AS 14.14.090(10), and 4 AAC 31.013. Refer to Appendix E for details.

The scoring criteria for this area reflect efforts beyond just preventive maintenance. For each element of a qualifying plan outlined in 4 AAC 31.013, documents, including reports, narratives, and schedules, have been identified for nine separate evaluations. These documents will establish the extent to which districts have moved beyond the minimum eligibility criteria and have tools in place for the active management of all aspects of their facility management. The documents necessary for each evaluation are listed below. They are grouped according to the five areas of effort established in statute and are annotated as to the type of evaluation (i.e., evaluative or formula-driven). Refer to the Guidelines for Raters of the CIP Application for additional information on scoring.

Up to 60 points possible for a clear and complete reporting of the district's maintenance program.

Only two sets, one of which may be an electronic copy, should be provided by the district, regardless of the number of submitted applications.

Maintenance Management

9a. Maintenance management narrative (Evaluative) (up to 5 points available)

Provide a narrative description of the effectiveness of your work order-based maintenance management system along with supporting documents. Full points will be assigned where the following is provided:

- A narrative fully describes the maintenance management (MM) program and all of the following: maintenance structure and staffing, the work order program and process including work order classification, scheduling, tracking, and completion or deferral; how work orders are initiated and by whom; how component work order history and trends are used~~, how work orders are scheduled, or deferred~~.
- Provides sample work order types showing PM, routine maintenance, and corrective work; includes cost of labor and materials. Work orders provided as part of application support for question 4a may be used by raters to assess this narrative.
- Provides sample component-based work orders (with component ID) that include component-specific checklist of preventive and/or routine maintenance.
- Provides sample routine or corrective work orders showing progression of scheduling from initial response to completion ~~to~~or deferral.
- ~~Provides sample PM work orders showing progression from PM to routine or corrective work.~~
- Provides a component report for a minimum of 10% of main school facilities showing the date of installation and date of scheduled renewal or replacement; includes components from each building system listed in DEED's R&R schedule.

Scores will be reduced incrementally where information or supporting documents are not provided.

9b. Maintenance labor reports (Formula-Driven) (up to 15 points available)

Item A: Produce a districtwide report showing total maintenance labor hours collected on work orders by type of work (e.g., preventive, corrective, operations support, etc.) vs. labor hours available by month for the previous 12 months.

Item B: Produce a districtwide report that shows a comparison of completed work orders to all work orders initiated, by month, for the previous 12 months.

Item C: Produce a districtwide report showing the number of incomplete work orders sorted by age (30 days, 60 days, 90 days, etc.) and status for the previous 12 months (deferred, awaiting materials, assigned, etc.).

These reports will demonstrate a district's ability to manage maintenance activities related to the level and scope of labor requirements. Recommended to review management reports to ensure that the reports make sense – internally consistent and reflective of work performed. Discuss discrepancies in narrative, Question 9a.

9c. PM/corrective maintenance reports (Formula-Driven) (up to 10 points available)

Item A: Provide a districtwide report that compares scheduled (preventive) maintenance work order hours to unscheduled maintenance work order hours by month for the previous 12 months.

Item B: Provide a districtwide report with monthly trend data for unscheduled work orders showing both hours and numbers of work orders by month for the previous 12 months.

These reports support the district's ability to manage maintenance activities related to scheduled (preventive) maintenance and unscheduled work (repairs). One factor in determining the effectiveness of a preventive maintenance program is a comparison of the time and costs of scheduled maintenance in relation to the time and costs of unscheduled maintenance.

9d. 5-year average expenditure for maintenance (Formula-Driven) (5 points available)

Districtwide maintenance expenditures for the last five years will be gathered by the department from audited financial statements. (Costs for teacher housing, utilities, or expenditures for which reimbursement is being sought will be excluded.) The department will calculate these items based on the Alaska Department of Education & Early Development Uniform Chart of Accounts and Account Code Descriptions for Public School Districts, 2018 Edition annual audited district-wide operations expenditure as the sum of Function 600 Operations & Maintenance of Plant expenditures in Fund 100 General Fund, excluding Object Code 430 Utilities, Object Code 435 Energy, Object Code 445 Insurance, all expenditures for teacher housing, and capital projects funded through AS 14.11. In addition, expenditures included in this calculation will not be eligible for reimbursement under AS 14.11.

The five-year average expenditure for maintenance is divided by the five-year average insured replacement value, districtwide. Insured value will include all district facilities reported in the department's facility database:

https://education.alaska.gov/Facilities/SchoolFacilityReport/SearchforSchoolFac.cfm

No information need be submitted with the application for this question.

Energy Management

9e. Energy management narrative (Evaluative) (up to 5 points available)

Provide a narrative description of the district's energy management program along with supporting documentation. Full points will be assigned where the following is provided:

- Narrative fully describes the Energy Management program including all of the following energy policy, program structure including roles, and responsibilities, occupant comfort and safety standards, energy consumption monitoring, benchmarking, energy audits and assessments, and implementation/execution of energy efficiency measures (EEMs).

- Provide data showing the program tracks energy by facility and calculates an energy use intensity (EUI) for each main school facility over the prior five years-by energy type. ~~Further shows how this is used to prioritize energy efficiency projects.~~
- Provides an energy management guideline or manual, which is clearly identified as being issued/updated within the past five years, covering the items above ~~which~~and ~~that is made available to district staff in electronic or print medium~~.
- Provides a report showing a five-year history of implemented EEM~~S~~s. ~~The report shows how much energy was saved or usage was avoided and provides records demonstrating the savings.~~

Scores will be reduced incrementally where information or supporting documents are not provided.

9f. Energy consumption reports (Formula-Driven) (5 points available)

Item A: Provide site-specific reports that compares monthly consumption for energy and utilities for all main schools over the previous 5 years.

These reports support the district's ability to manage energy use and establish the ability to evaluate usage trends over time in support of building performance.

Custodial Program

9g. Custodial narrative (Evaluative) (up to 5 points available)

Provide a narrative description of the district's custodial program along with supporting documentation. Full points will be assigned where the following is provided:

- Narrative fully describes the Custodial program including all of the following: custodial policy and purpose, program structure including staffing, roles and responsibilities, integration with district maintenance processes, worker and occupant safety, adopted custodial standards, and performance verification/quality control~~, and implementation/execution of program enhancement and efficiency measures~~.
- Provides custodial program guideline or manual, which is clearly identified as being issued/updated within the past five years, covering the items above ~~which, and that is made available to responsible district staff in electronic or print medium~~.
- Includes information or supplements that are specific to each main school facility and list types and quantities of surfaces and fixtures to be cleaned, and frequency of care for each based on the industry practice. Lists staffing requirements for the facility based on these metrics and industry standards for productivity.

~~•~~ Provides a report which tabulates the preceding information (types and quantities of information, etc.) for all main schools in the district, including staffing requirements.

~~•~~ OR

- Provides no less than two facility examples each year of submission with no repeats within a five-year period. If the district operates fewer than 10 schools, provided one-third of all facilities each year.
- Provides at least ~~10~~5 work orders generated by the custodial program in the previous 12 months.

- ~~•~~ Provides complete[d] sets of quality control and inspection checklists ~~and reports, with photographs,~~ for no less than two facilities for the previous fiscal year period.
- ~~• Provides a report showing a sample of implemented program enhancements and efficiency~~
- ~~Measures in the previous five years.~~

Scores will be reduced incrementally where information or supporting documents are not provided.

Maintenance Training

9h. Maintenance training narrative (Evaluative) (up to 5 points available)

Provide a narrative description of the district's training program along with supporting documentation. Full points will be assigned where the following is provided:

- Narrative fully describes the Training program including all of the following: training policy, program structure including roles and responsibilities, identification of training needs for custodians and maintenance personnel, training methods and types, training scheduling and tracking, and measurement of program effectiveness.
- Identifies [individual]training needs based on ~~staff positions,~~ job functions, and building systems supported, identifies training methods and types, and assigns training on an individual basis.
- ~~• Provides two sample position descriptions each from custodial and maintenance fields that identify knowledge, skills and abilities.~~
- Provides a ~~list~~ [sample analysis]of job functions (e.g., driving[,] work order management, etc[.]) and required building system knowledge (e.g., boiler tuning, lock-out/tag-out, etc.) for ~~each~~ [at least one]job classification.
- Provides a training plan, by individual, for training scheduled in the current school year, by training title and method or type.
- Provides a log of completed training (~~up to 5~~[last 3 yea]rs), by individual.
- Provides an assessment of the effectiveness of the training program which, at a minimum includes data on scheduled versus completed training.

Scores will be reduced incrementally where information or supporting documents are not provided.

Capital Planning (Renewal & Replacement)

9i. Capital planning narrative (Evaluative) (up to 5 points available)

Provide a narrative description of the district's capital planning program along with supporting documentation. Full points will be assigned where the following is provided:

- Narrative fully describes the Capital Planning program including all of the following: [district]capital planning policy ~~and procedure including structure~~, [capital planning]responsibilities[, structure,] and staffing, capital needs forecasting based on system renewal and program/population changes, forecast verification ~~-~~[(]based on condition assessments, user input and maintenance work order history/trends[, etc.)],

development of CIP projects and 6-yr plans, identification of capital project resources and funding~~, and measurement of program effectiveness~~.

- Provides capital planning report issued/updated within the past 12 months and 6-yr CIP plan with at least one project in every year of the plan and includes capital projects programmed from all fund sources, local, state, and federal.
- Provides a Facility Condition Index (FCI) for every main school based on a facility condition assessment not older than five years.
- Provides a student population projection for a minimum of five years beyond the current fiscal year for every attendance area in the district.
- Provides a condition assessment for every project requesting state-aid in the first year of the 6-yr CIP plan.
- Provides ~~an assessment of the effectiveness of the capital planning program which, at a minimum includes~~ a districtwide trend for combined FCI for a minimum of five prior years and tracks districtwide capital expenditures for main schools for a minimum of five prior years.

Scores will be reduced incrementally where information or supporting documents are not provided.

10. DISTRICT CONTACT INFORMATION

The district may provide names and e-mails for up to three additional persons besides the Superintendent or Chief School Administrator to whom the department will include in correspondence regarding changes made to the project application within the department's authority to determine a project eligibility, change a project's primary purpose, and modify a project's scope and budget. This includes any notification at the time the initial rankings are published and any determination based on district requests for reconsideration.

11. ATTACHMENTS CHECKLIST

Eligibility and project description attachments.

An application must include adequate documentation to verify the claims made in the application. The department may reject an application that does not have complete information or adequate documentation. See AS 14.11.013(c)(3)(A) and 4 AAC 31.022(d)(1). The eligibility and project description attachments checklist is provided to identify required materials and additional materials that are referenced in support of the project. The eligibility attachments are required for all projects. Projects with missing eligibility attachments will not be ranked. Check to see that your application is complete and indicate additional attachments the department should be referencing while evaluating the project.

APPENDIX A: CATEGORIES OF GRANTS

Adopted by the Bond Reimbursement & Grant Review Committee
April 17, 2019

AS 14.11.013(a)(1) - annually review the six-year plans submitted by each district under AS 14.11.011(b) and recommend to the board a revised and updated six-year capital improvement project grant schedule that serves the best interests of the state and each district; in recommending projects for this schedule, the department shall verify that each proposed project meets the criteria established under AS 14.11.014(b) and qualifies as a project required to:[1, 2]

A. "Avert imminent danger or correct life threatening situations." This category is generally referred to as "Health and Life Safety." A project classified under "A" must be documented as having unsafe conditions that threaten the physical welfare of the occupants. Examples might be that the seismic design of structure is inadequate; that the required fire alarm and/or suppressant systems are non-existent or inoperative; or that the structure and materials are deteriorated or damaged seriously to the extent that they pose a health/life-safety risk. The district must document what actions it has taken to temporarily mitigate a life-threatening situation.

B. "House students who would otherwise be unhoused." This category is referred to as "Unhoused Students." A project to be classified under "B" must have inadequate space to carry out the educational program required for the present and projected student population. Documentation should be based on the current Department of Education & Early Development Space Guidelines. (Refer to 4 AAC 31.020)

C. "Protection of the structure of existing school facilities." This category is intended to include projects that will protect the structure, enclosure, foundations and systems of a facility from deterioration and ensure continued use as an educational facility. Work on individual facility systems may be combined into one project. However, the work on each system must be able to be independently justified and exceed $50,000. The category is for major projects, which are not a result of inadequate preventive, routine, and/or custodial maintenance. An example could be a twenty-year-old roof that has been routinely patched and flood coated, but is presently cracking and leaking in numerous locations. A seven-year-old roof that has numerous leaks would normally only require preventive maintenance and would not qualify. In addition, no new space for unhoused students is permitted in this category, limiting its ability to be combined with other project types.

D. "Correct building code deficiencies that require major repair or rehabilitation in order for the facility to continue to be used for the educational program." This category, Building Code Deficiencies, was previously referred to as "Code Upgrade." The key words are "major repair." A "D" project corrects major building, fire, mechanical, electrical, environmental, disability (ADA), and other conditions required by codes. Work on individual facility

[1] Projects can combine work in the different categories with the majority of work establishing the project's type. For the purpose of review and evaluation, projects which include significant work elements from categories other than the project's primary category will be evaluated as **mixed scope** projects [4 AAC 31.022(c)(8)].

[2] Projects will be considered for replacement-in-lieu-of-renewal when project costs exceed 75% of the current replacement cost of the existing facility, based on a twenty-year life cycle cost analysis that includes disposition costs of the existing facility.

systems may be combined into one project. However, the work on each system must be able to be independently justified and exceed $50,000. An example could be making all corridors one-hour rated. Making one or two toilet stalls accessible would not fit this category. In addition, no new space for unhoused students is permitted in this category, limiting its ability to be combined with other project types.

E. "Achieve an operating cost saving." This category is intended to improve the efficiency of a facility and therefore, save money. Examples that might qualify are increasing insulation, improving doors and windows, modifying boilers and heat exchange units for more energy efficiency. The project application must include an economic analysis comparing the project cost to the operating cost savings generated by the project. In addition, no new space for unhoused students is permitted in this category, limiting its ability to be combined with other project types.

F. "Modify or rehabilitate facilities for purpose of improving the instructional unit." Category "F", Improve Instructional Program, was previously referred to as "Functional Upgrade." This category is limited to changes or improvements within an existing facility such as, modifications for science programs, computer installation, conversion of space for special education classes, or increase of resource areas. It also covers improvements to outdoor education and site improvements to support the educational program.

G. "Meet an educational need not specified in (A)-(F) of this paragraph, identified by the department." Any situation not covered by (A)-(F), and mandated by the Department of Education. (Currently, there are no such mandates.)

Alaska Department of Education & Early Development

APPENDIX B: CAPITAL IMPROVEMENT PROJECT PHASES

Adopted by the Bond Reimbursement & Grant Review Committee
April 4, 2018

The application form requires designation of the phase(s) for which the district requests funding. Below is a basic scope of effort for each phase. Items marked **Required** are mandatory (where project scope dictates) in order for projects to receive planning, schematic design and/or design development points. Required documents must be submitted by September 1st.

CONDITION/COMPONENT SURVEY (0 to 10 points possible)

PHASE I - PLANNING/CONCEPT DESIGN (0 or 10 points possible)

1. Select architectural or engineering consultants (4 AAC 31.065) - (**Required if necessary to accomplish scope of project**)
2. Prepare a school facility appraisal (optional)
3. Include a condition/component survey as referenced above - (**Required if project is a major rehabilitation**[1])
4. Identify need category of project - (**Required**)
5. Verify student populations and trends - (**Required for new facilities and additions to existing facilities**)
6. Complete education specifications (4 AAC 31.010) - (**Required for new facilities, additions, and for projects that reconfigure or repurpose existing space**)
7. Complete concept design studies - (**Required for new facilities, additions, and for projects that reconfigure or repurpose existing space**)
8. Complete planning cost estimate – (**Required**)
9. Identify site requirements and potential sites - (**Required for new facilities**)

PHASE IIA - SCHEMATIC DESIGN – 35% (0 or 10 points possible)

1. Perform site evaluation and site selection analysis (4 AAC 31.025) - **(Required for new facilities)**
2. Prepare plan for transition from old site to new site, if applicable - (**Required for new facilities**)
3. Accomplish site survey and perform preliminary site investigation (topography, geotechnical) - (**Required for new facilities**)
4. Obtain letter of commitment from the landowner allowing for purchase or lease of site - (**Required for new facilities**)
5. Complete schematic design documents including development of approximate dimensioned site plans, floor plans, elevations and engineering narratives for all necessary disciplines - (**Required if necessary to adequately scope and complete the project**)
6. Complete preliminary cost estimate appropriate to the phase - (**Required**)
7. Accomplish a condition/component survey relevant to scope - (**Required if project is a major rehabilitation**[1] **or is necessary to adequately scope and complete the project.**)

PHASE IIB - DESIGN DEVELOPMENT – 65% (0 or 5 points possible)

1. Complete required elements of planning/design not finished in the previous phases - (**Required**)
2. Review and confirm planning (4 AAC 31.030)
3. Accomplish a condition/component survey relevant to scope - (**Required if project is a major rehabilitation**[1] **or is necessary to adequately scope and complete the project.**)

[1] Under 4 AAC 31.900(7): "rehabilitation" means adapting an existing facility to improve the opportunity to provide a contemporary educational program; and includes major remodeling, repair, renovation, and modernization with related capital equipment.

Alaska Department of Education & Early Development
APPENDIX B: CAPITAL IMPROVEMENT PROJECT PHASES
Adopted by the Bond Reimbursement & Grant Review Committee
April 4, 2018

4. Obtain option to purchase or lease site at an agreed upon price and terms - (**Required for new facilities**)
5. Complete design development documents, including dimensioned site plans, floor plans, complete exterior elevations, draft technical specifications, and engineering plans - (**Required if necessary to adequately scope and complete the project**)
6. Prepare proposed schedule and method of construction
7. Prepare revised cost estimate appropriate to the phase - (**Required**)
8. Energy consumption and cost report

PHASE III - CONSTRUCTION

1. Complete required elements of planning and design not previously completed - (**Required**)
2. Prepare final cost estimate - (**Required**)
3. Complete final contract documents and legal review of construction documents (4 AAC 31.040)
4. Advertising, bidding and contract award (4 AAC 31.080) - (**Required for contracts over $100,000**)
5. Submit signed construction contract
6. Construct project
7. Procure furniture, fixtures, and equipment, if applicable
8. Substantial completion
9. Final completion and move-in
10. Post occupancy survey
11. Obtain project audit/close out

Construction Management (CM) by a private contractor. Costs may include oversight of any phase of the project by a private contractor. 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 is 4% of the total project cost as defined in statute [AS 14.11.020(c)].

Land is a variable unrelated to construction cost and should include actual purchase price plus title insurance, fees, and closing costs. Land cost is limited to the lesser of the appraised value of the land or the actual purchase price of the land. Land costs are excluded from project percent calculations.

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

Design Services 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.

Recommended: 6-10% (Renovation, complexity of scope, and scale might run 2% higher)

Construction includes all contract work as well as force account for facility construction, site preparation, and utilities. This is the base cost upon which others are estimated and equals 100%.

Equipment/Technology includes all moveable furnishing, 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, nor 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. The Equipment/Technology budget has two benchmarks for standard funding: percentage of construction costs and per-student costs as discussed in DEED's *Guidelines 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.

Recommended: 0-4% of construction cost **or** between $2,300 - $3,800 per student depending on school size and type.

District Administrative Overhead 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. The maximum for non-project specific indirect administrative costs is 3%, as defined in regulation [4 AAC 31.023(c)(7)]. In-house construction management should be included as part of this line item. The total of in-house construction

management costs and construction management by consultant should not exceed 5% of the construction budget.

Recommended: 2-9%

Percent for Art includes the statutory allowance for art in public places. This may fund selection, design/fabrication and installation of works of art. One percent of the construction budget is required except for rural projects which require only one-half of one percent. For this category, projects are rural if they are in communities under 3,000 or are not on a year-round, publicly-maintained road system and have a construction cost differential greater than 120% of Anchorage as determined in the Cost Model for Alaskan Schools. The department recommends budgeting for art.

Project Contingency is a safety factor to allow for unforeseen changes. Standard cost estimating by A/E or professional estimators use a built in contingency in the construction cost of ± 10%. Because that figure is included in the construction cost, this item is a project contingency for project changes and unanticipated costs in other budget areas.

Recommended: 5% Fixed

Total Project Request is the total project cost, as a percent of the construction cost; except in extreme cases, should average out close to the same for all projects, when the variables of land cost and site investigation are omitted. This item is the best overall gauge of the efficiency of the project.

Recommended: Not to exceed 130%

APPENDIX D: TYPE OF SPACE ADDED OR IMPROVED

Adopted by the Bond Reimbursement & Grant Review Committee
April 17, 2019

Category A - Instructional or Resource

General Use Classrooms
Pre-K and Kindergarten
Elementary
~~General Use Classrooms~~
Secondary
~~Library/Media Center~~
~~Special Education~~
~~Bi-Cultural/Bilingual~~
Special Education
Art
Science
Bi-Cultural/Bilingual
Consumer Education
~~Music/Drama~~
~~Journalism~~
Computer ~~Lab~~/Technology ~~Resource~~ Lab
~~Business Education~~
~~Consumer Education~~
Music/Drama
Career and Technical Education
Library/Media Center
~~Gifted/Talented~~
~~Wood Shop~~
~~General Shop~~
~~Small Machine Repair Shop~~
~~Darkroom~~
Gymnasium

Category B - Support Teaching

~~Counseling/Testing~~
Teacher Workroom/Office
Teacher ~~Offices~~Breakroom
Counseling/Testing
Educational Resource Storage
~~Time Out~~Quiet Room
~~Parent Resource Room~~

Category C - General Support

Administration
Conference Rooms~~s~~
Parent/Community Schools~~/PTA Administration~~
Nurse/Clinic
Cafeteria~~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
~~Weight Room~~Fitness Room
Locker Room/Showers
Student Commons/~~Lunch Room~~
Multipurpose Room
Auditorium (& Stage)
Pool

Category D - Supplementary

Corridors/Vestibules/Entryways
Stairs/Elevators
~~Mechanical/Electrical~~
~~Passageways/Chaseways~~
~~Supply Storage & Receiving Areas~~
Restrooms/Toilets
Custodial
Supply/Food Storage ~~&~~
Refer/Freezer
Maintenance and Receiving ~~Areas~~
Mechanical/Electrical
~~Other Special Remote Location Factors~~
~~Other Building Support (~~Telecom/Server Room~~)~~

APPENDIX E: DEFINITIONS OF MAINTENANCE

Adopted by the Bond Reimbursement & Grant Review Committee
April 17, 2019

Building System(s)
An assembly of components created to perform specific functions in a ~~school~~ facility (ref. DEED *CostFormat* for descriptions of 11 standard building systems)~~, such as a roof system, mechanical system, or electrical system~~.

Capital Renewal or Replacement
A scheduled and anticipated systematic upgrading or replacement of a ~~facility~~building system or component, anticipated based on life-expectancy, to establish its ability to function for a new life cycle—typically at least five years.

Commissioning
A systematic process of testing buildings systems to ensure that a building performs in accordance with the design intent, contract documents, and the owner's operational needs. Retro-commissioning is commissioning of building systems that occurs on a facility that has never been commissioned, or occurs after an initial commissioning, to recalibrate building performance to ensure optimal systems performance.

Component
An ~~part of~~ item within a building system that provides a function distinct from other elements in ~~the school facility~~that system.

~~Component Repair or Replacement~~
~~The unscheduled repair or replacement of faulty components, materials, or products caused by factors beyond the control of maintenance personnel.~~

Corrective Maintenance
Unscheduled maintenance or repair in response to system or component failures that are accomplished at an operational level.

Custodial Care
The day to day and periodic cleaning~~, painting,~~ of building surfaces and fixtures needed to maintain a facility in safe, clean, and orderly condition; includes the ~~and~~ replacement of disposable supplies and building items~~to maintain the facility in safe, clean, and orderly condition~~.

Deferred Maintenance
~~Custodial care, routine maintenance, or preventive maintenance~~ Component repair or replacement that is postponed for lack of funds, resources, or other reasons.

Energy Audit and Assessment
An assessment of a building that review current energy consumption and identifies energy efficiency measures that you can conduct to make the building more energy efficient.

Energy Benchmarking
Measuring building energy performance against its own past performance or against other buildings with a similar function/use.

Energy Consumption Monitoring

Measuring, recording, and tracking use of energy utilities by a building. Required to be done on a monthly basis.

Energy Efficiency Measures

Upgrades, retrofits, or repairs of systems or software or a practice that, when implemented, results in reduced energy use while maintaining the same or higher level of service.

Major Maintenance

Facility renewal that requires major repair or rehabilitation to protect the structure, ~~and~~ correct building code deficiencies, or achieve an operating cost savings, and shall exceed $50,000 per project, per site. It must be demonstrated, using evidence acceptable to the department that (1) the district has adhered to its regular preventive, routine, and/or custodial maintenance schedule for the identified project request, and (2) preventive maintenance is no longer cost effective.

Preventive Maintenance

The regularly scheduled activities that carry out the diagnostic and corrective actions necessary to prevent premature failure or maximize or extend the useful life of a facility and/or its components. It involves a planned and implemented program of inspection, servicing, testing, and replacement of systems and components that is cost effective on a life-cycle basis. Programs shall contain the elements defined in AS 14.11.011(b)(4) and 4 AAC 31.013 to be eligible for funding.

Routine Maintenance

Light maintenance and inspection tasks performed at regular intervals (daily, weekly, monthly, etc.). Differentiated from preventive maintenance by level of complexity, specialized skill, and duration of effort.

~~Renewal or Replacement~~

~~A scheduled and anticipated systematic upgrading or replacement of a facility system or component to establish its ability to function for a new life cycle.~~

~~System(s)~~

~~An assembly of components created to perform specific functions in a school facility, such as a roof system, mechanical system, or electrical system.~~

APPENDIX F: INFORMATION REGARDING PARTICIPATING SHARE & IN-KIND CONTRIBUTIONS OR REQUEST FOR FULL WAIVER

Adopted by the Bond Reimbursement & Grant Review Committee
April 23, 1999

Current law – AS 14.11.008(d) - requires that a district provide a participating share for all school construction and major maintenance projects funded under AS 14.11. The department administers all funds for capital projects appropriated to it under the guidelines of AS 14.11 and 4 AAC 31. The following points should be considered by those districts requesting a waiver of the local participating share.

1. A district has three years before and after the appropriation to fulfill the participating share requirement.

A review of the annual financial audits and school district budgets indicate that no district is in a financial condition which warrants a full waiver. Local dollars are available to fund all or a portion of the match during the six years. Districts continue to generate and budget for, local interest earnings, facility rental fees, and other forms of discretionary revenue adequate to fund some or all of the required local match. If properly documented and not already funded by AS 14.11, prior expenditures for planning, design, and other eligible costs may be sufficient to meet the match requirement.

2. Both the administration and the Legislature have strong feelings that local communities should at least be partially engaged in the funding of projects.

In recognition of the inability of some communities to levy a tax or raise large amounts of cash from other sources, the legislation provides an opportunity for in-kind contributions, in lieu of cash. All districts need to make a directed effort to provide the local match, utilize fund balances and other discretionary revenue, consider sources of in-kind contributions, document that effort, and then request a full or partial waiver, as necessary.

3. All waiver requests require sufficient documentation.

Requests should be accompanied by strong, compelling evidence as to overall financial condition of the school district and in the case of a city/borough school district, the financial condition of the city/borough as well. The attachments should include, at a minimum, cash account reconciliations, balance sheets, cash investment maturity schedules, revenue projection, cash flow analysis and projected use of all fund balances and documentation in support of attempts to meet the local match. Historical expenditures do not provide sufficient evidence of future resource allocations. Consideration should be given to new and replacement equipment purchases, travel, and other expenditures that support classroom activity, but may be delayed until the local match is funded. Each district has an opportunity to help itself and provide a safe, efficient school facility through shared responsibility.

4. Districts may request consideration of in-kind contributions of labor, materials, or equipment.

Under regulation 4 AAC 31.023(d), in-kind contributions are allowed. This also affords an opportunity for community participation through contributions to the art requirements for new buildings or other means. This option should be fully explored, as well as the documentation mentioned above, prior to requesting a waiver of all or part of the participating share.

Guidelines for Raters of the CIP Application

Introduction

The Department of Education & Early Development is charged with the task of compiling a prioritized list of projects to be used in preparing a six-year capital plan for submittal to the governor and the legislature (AS 14.11.013(a)(3)). The criteria for accomplishing the priorities are established in statute (AS 14.11.013(B)) and are awarded points based on a scoring system developed by the Bond Reimbursement and Grant Review Committee under its statutorily imposed mandate (AS 14.11.014(b)(6)).

The guidelines provided here are to assure that raters are using a common set of terms and standards when awarding points for the evaluative scoring criteria.

Basis for Rating Applications

The following positions will define the base philosophy for rating applications.

Since districts are required to submit a request for a capital project no later than September 1 of the year preceding the fiscal year for which they are applying, no rater shall review, rank, or give feedback regarding scoring a project prior to this deadline.

Applications will be ranked based on the information submitted with the application, or applicants may use information submitted to the department in support of a project, provided the submission occurs on or before September 1 and is identified as an attachment to an application. Each rater shall arrive at the initial ranking of each project independently. Raters will be expected to go through each application question by question. They will also review all attachments for content, completeness, and bearing on each scoring element. Consistency in scores from year-to-year shall be considered. It is expected that projects will demonstrate different levels of completeness in descriptions and detail depending on the stage of project development.

Projects are prioritized in two lists, the School Construction List and the Major Maintenance List, and reflect the two statutory funds established for education capital projects. Under the definitions provided in statute and regulation, projects which add space to a facility are classed as School Construction projects and must fall in categories A, B, F, or G. Major maintenance projects (categories C, D, and E) may not include additional space for unhoused students. Only projects in which the primary purpose is Protection of Structure, Code Compliance, or Achieve an Operating Cost Savings, where the work includes renewal, replacement, or consolidation of existing building systems or components, should be considered as maintenance projects.

Each rater should have an eligibility checklist available during rating. Eligibility items A, F, G, I, J, L, and N will be evaluated by each rater. Other eligibility items will be the responsibility of support team members doing data input and capacity/allowable calculations. Discussion regarding project eligibility should be brought to the attention of the rating team as soon as it becomes an issue in one person's mind.

Evaluative Rating Guidelines

For each of the evaluative rating categories, raters will consider the factors listed when evaluating and scoring applications. The list is not exclusive, nor exhaustive. As raters read and evaluate projects, review of the listed elements is to be done for referential purposes. Raters should also refer to the Application Instructions for each question.

Code deficiencies / Protection of structure / Life safety

(Application Question 4a; Points possible: 50)

- Points will be assigned for code deficiency, protection of structure, or life safety conditions when the application documents the deficiency, the need for correction, and how the project corrects the deficiency. A condition may only receive points in one scoring area.
- Simply identifying a condition in the application will not necessarily generate points. A well-described and documented condition that provides for full evaluation and point awards will include specificity, with attached documentation to support the narrative.
- Age of building system is considered based on the calendar year in which the project would receive funding.
- A project can address a single condition or multiple conditions. Evaluate the severity of each condition. Incremental point adjustments from those provided in the below matrix may be provided for the age of the system, severity, the nature of the item, and effect on the school facility.
- Does the project scope combine severe and non-severe or critical and non-critical conditions? Inclusion of unrelated non-severe or non-critical conditions in a project will reduce the overall score of the project based on a percentage of project cost.
- Points for mixed-conditions can total more than the possible points. Combined points are weighted using a ratio of construction cost for correcting scored conditions to the total requested construction cost of the project except for any code condition where the percentage of its cost to the average of cost of all conditions~~total project cost~~ is less than half of the percentage of its points to the ~~total~~ average of all condition points. In that case, the weighting is shifted to the percentage of the condition cost to the total project cost increased by a percentage of condition points to total condition points~~;~~. ~~i~~In no case will less than ~~1~~ 0.5 point be assigned to a condition.
- Per 4 AAC 31.022(c)(8), scoring of mixed-scope projects will be weighted.

Points will be assigned using the following suggested guidelines.

Structural Condition Issue	Pts
Seismic - no restrictions	3
Foundation/Floor - no PE	4
Seismic - minimal restrictions	6
Upper Floor Structure - no PE	9
Vertical Structure - no PE	9
Roof Structure - no PE	10
Foundation/Floor - PE	15
Seismic - moderate restriction	15
Upper Floor Structure - PE	20
Vertical Structure - PE	20
Roof Structure - PE	24
Seismic/Gravity Partial Closure[1]	28
Seismic/Gravity Full Closure[1]	50

Roof/Envelope Condition Issue	Pts
Siding Failure, age <25yr	2
Siding Finish	2
Doors, age >20yr	3
Roof, age >Warranty +5yr [3]	3
Roof, age Warranty +10yr [3]	6
Roof Leaks - avg WO<3/yr [2]	8
ASHRAE 90.1 Windows [4]	8*
ASHRAE 90.1 Insulation [4]	10*
Siding Material, age >25yr	12
Windows, age >30yrs	12
Siding Failure, age ~~<30~~>25yr	15*
Roof Leaks, avg WO >3/yr [2]	15
Doors w/ Egress issues	15*
Roof Leaks affect space, w/ WO documentation	25

Arch/Interior/ADA Condition Issue	Pts
ADA - 1 ~~issue~~category	1
ADA - 2 ~~issues~~categories	2
DEC Sanitation	2
ADA - 3 ~~issues~~ categories	3
Ceiling Finishes age >25yr	3
Wall Finishes age >25yr	3
ADA ~~–~~ 4+ ~~issues~~categories	4
Elevator ~~Code Deficiency~~Issues	43
Floor Finishes >15yr	4
Building Egress	10*
Rated Assemblies	12*
~~Codes + Arch (each system)~~	~~+3~~

Mechanical Condition Issue	Pts
DDC Deficiency	3
Narrative, System age >30yr	4
Ventilation, WO <3/yr^2	5
Plumbing, WO <3/yr^2	6
Heating, WO <3/yr^2	7
Pneumatic Controls	8
Ventilation, WO >3/yr^2	9
Plumbing, WO >3/yr^2	10
Heating, WO >3/yr^2	11
Codes: Ventilation	12*
Codes: Plumbing	12*
Codes: Heating	13*
~~Codes + PE (each system)~~	~~+3~~
Boilers, 1 of 2 Non-op	13
HVAC age >40yr	15
Boilers, 2 of 3 Non-op	18
Mechanical Systems, WO >5/yr^2	21
Heating Failure	25

Electrical Condition Issue	Pts
Narrative, Lighting age >25yr	2
Narrative, Electrical age >30yr	4
Power, WO <3/yr^2	4
Lighting, WO <3/yr^2	4
Back-up Generator In-operable	5
Egress/EM lights, WO <3/yr^2	5
Power, WO >3/yr^2	7
Lighting, WO >3/yr^2	7
Egress/EM lights, WO >3/yr^2	8
Intercom Issues, WO >3/yr^2	~~8~~7
Codes, Lighting	10*
Codes, Power	10*
~~Codes + PE (each system)~~	~~+3~~
Intercom Failure	10
Electrical, age >40yr	15
Light Levels, <50% of code	16
Electrical Systems, WO >5/yr^2	21
Power Failure	25

Fire Alarm/Sprinkler Condition Issue	Pts
Narrative, Fire Alarm age >15yr	2
Narrative, Sprinkler >30yr	2
Heads Failing, age >30yr	5
Sprinkler Coverage Gaps	5*
Non-addressable FA	6
FA/Sprinkler, WO >1/yr^2	8
Heads Failing, age >40yr	10
FA/Sprinkler, WO >3/yr^2	15
Fire Alarm Non-op, <3 floors	17
FA/Sprinkler, WO >5/yr^2	20
Fire Alarm Non-op, >3 floors	25
Sprinkler Non-op	30

Site Condition Issue	Pts
Vehicle Surfaces	3
Walkways and Surfaces	4
Drainage Issues	6
Playground Code	12
Power Issues	15*
Wastewater Issues	15*
Water Issues	16*
Wastewater Failure	24
Water Failure	25

UST/AST/HazMat Condition Issue	Pts
HazMat (all) Low Exposures	3*
Narrative, UST age >30yr	2
Narrative, AST age >40yr	5
Sewage Lagoon Failure/ Exposure	5
UST/AST Leak	7
USCG/40 CFR Cite	10
HazMat (all) Mod Exposures	10*
HazMat (all) High Exposures	22*

Definitions:
Arch = documented by a licensed Architect
PE = documented by a Professional Engineer
No PE = not documented by a Professional Engineer
WO = Work Orders provided w/ application

Notes:
* +3 points if documented by appropriate entity.
[1] If district does not qualify for space, points limited to 15.
[2] Average of prior 3 years, provide work orders. See application instructions.
[3] Provide copy of roof warranty.
[4] Provide existing R-value or code violation of system.

Regional community facilities
(Application Question 5h; Points possible: 5)

- Is a community "inventory" provided?
- Where reasonable alternative facilities have been identified, is there documentation with the facility owner regarding availability?
- Consider the effort/results in identifying alternative facilities and the rationale behind the viability of the alternative facility.
- Were judgments about the viability of alternate facilities made with "institutional knowledge", professional assessment, third party objectivity, and/or economic analysis?
- Are facilities listed in a narrative discussion or are they documented with supplemental data such as photos, maps, facility profile, etc.?
- This point category is only applicable to construction projects.

Points will be assigned in increments using the following suggested guidelines:

Scoring Criteria	Point Range
A community inventory is provided and reasonable alternative facilities have been identified. The rationale behind the viability of the alternative facilities has been provided and judgments are made using institutional knowledge, third party objectivity, economic analysis, etc. The narrative discussion is documented with photos, maps, facility profiles, etc.	5 points
A community inventory is provided and reasonable alternative facilities have been identified. The rationale behind the viability of the alternative facilities has been provided and judgments are made using institutional knowledge, third party objectivity, economic analysis, etc.	4 points
A community inventory is provided and reasonable alternative facilities have been identified. The rationale behind the viability of the alternative facilities has been provided.	3 points
A community inventory is provided and reasonable alternative facilities have been identified.	2 points

Scoring Criteria	Point Range
A community inventory is provided.	1 point
Question has not been answered	0 points

Cost estimate for total project cost
(Application Questions 7a - 7c; Points possible: 0-30)

- Check to assure that the estimate matches the proposed project scope.
- Primary evaluation should test both the "reasonableness" and the "completeness" of the cost estimate (i.e., How well can this estimate be used to advocate for this project?).
- Check for double entries, including factored items, cost after adjustment for geographic factor, and percentages and justification (with backup) when percentages exceed DEED guidelines.
- Review and evaluate backup for cost estimate including lump sum or actual construction costs.
- Rating considers the full range of estimates: from conceptual to detail design to actual construction costs. It should be noted that because this scoring element covers the full range of estimate possibilities, it is anticipated that conceptual estimates score less than more detailed construction estimates and actual construction cost documentation.
- Completed project costs are supported by competitive selection documentation, and DEED-approval of in-house labor or an alternative procurement method, as needed.

Points reflect the reasonableness and completeness evaluation and will be assigned in increments using the following suggested guidelines:

Scoring Criteria	Point Range
The estimate matches the scope of work, is reasonable and complete with no double entries, adjustments are accurate, justification and backup is provided when estimate exceeds DEED guidelines, and all lump sums amounts are described and supported. The estimate is based on construction document level cost estimate, bid tabulations, or actual invoices.	27-30 points
The estimate matches the scope of work, is reasonable and complete with no double entries, adjustments are accurate, justification and backup is provided when estimate exceeds DEED guidelines, and all lump sums amounts are described and supported. The estimate is based on 65% design development level specifications and drawings.	23-26 points
The estimate matches the scope of work, is reasonable and complete with no double entries, adjustments are accurate, justification and backup is provided when estimate exceeds DEED guidelines, and all lump sums amounts are described and supported. The estimate is based on 35% schematic design level documents.	18-22 points
The estimate matches the scope of work, is reasonable and complete with no double entries, adjustments are accurate, justification and backup is provided when estimate exceeds DEED guidelines, and all lump sums amounts are described and supported. The estimate is based on concept design level documents. The DEED demand cost model is acceptable as a planning/ concept level cost estimate.	12-17 points

Scoring Criteria	Point Range
The cost estimate is not adequately developed to support concept level costs. Components may not be present to confirm scope of work, reasonableness and completeness or other elements. Project may be at an early preliminary stage.	6-11 points
Construction costs are not supported or many cost elements are missing.	1-5 points

Emergency conditions
(Application Question 8a; Points possible: 50)

- If the district doesn't declare the project an emergency, points will not be awarded.
- Consider the ranking of the project on the district six-year plan.
- Consider the "level of threat" to both people and property in assessing the emergency.
- Consider the "nature" of the emergency.
- Consider the "impact" on the use of the facility due to the emergency condition.
- Consider the "immediacy" of the emergency (how time critical is it?).
- Consider the level of description and documentation provided.
- Consider whether the description provided is congruent with other application elements.
- Does the project scope include non-emergency conditions? Scoring of mixed-scope projects, which address both emergency and non-emergency conditions, should be weighted based on the amount of emergency work that is included in the project.
- Nothing in this scoring element should restrict a system with premature failures from being assigned points when the conditions for assigning points in that category are met.

Points will be assigned in increments according to the level of threat using the following suggested guidelines. High threat emergency projects with high emergency points are infrequent.

Scoring Criteria	Point Range
Building is destroyed or rendered functionally unsafe for occupancy and requires the building to be demolished and rebuilt. The emergency narrative is supported by documentation that addresses the immediacy of the emergency, the circumstances of the loss of the building, and that the students are currently unhoused.	50 points
Building is unsafe and the entire student population is temporarily unhoused. The building requires substantial repairs to be made safe for the student population to occupy the building. The emergency narrative is supported by documentation that addresses the immediacy of the emergency and the narrative explains any mitigation the district has taken to address the emergency.	25-45 points
Building is occupied by the student population. A local or state official has issued an order that the building will need to be repaired by a certain date or the district will have to vacate the building. The emergency narrative is supported by documentation from the local or state official providing the date when the repairs need to be completed. The documentation addresses the immediacy of the emergency and the narrative explains any mitigation the district has taken to address the emergency.	5-25 points

Scoring Criteria	Point Range
A portion of the building requires significant repair or replacement of damaged portion of building. The damaged portion of the building cannot be used for educational purposes. The emergency narrative is supported by documentation that addresses the immediacy for the emergency, the circumstances surrounding the damaged portion of the building, and the portion of the building that is not available for educational purposes.	5-45 points
A major building component or system has completely failed and is no longer repairable. The failed system or component has rendered the facility unusable to the student population until replaced. The emergency narrative is supported by documentation that addresses the immediacy of the emergency, the circumstances of the failure, and that the students are currently unhoused.	25-45 points
A major building component or system has a high probability of completely failing in the near future. The component or system has failed, but has been repaired and may have limited functionality. If the component fails the district may be required to restrict use of the building until the component or system is repaired or replaced. The emergency narrative is supported by documentation that addresses the high probability of the failure and documents the requirement to restrict use of the building until corrected.	5-25 points

Inadequacies of Existing Space
(Application Question 8b; Points possible: 40)

- Scoring is based on the described and documented inability of existing space to adequately serve the instructional program. Points are not awarded for code violations.
- Consider the adequacy of the space in terms of both form and function, crowding, and upgrades to space that support the instructional program.
- Balance consideration of educational adequacy of physical arrangement versus functional factors.
- Scoring should take into consideration whether the inadequate space is for a mandatory instructional program or a new or existing local program.
- Does the project include improvements to functionally adequate space? Scoring of projects with functionally adequate space and inadequate space should weight the amount of work improving inadequate space that is included in the project.

Points will be assigned in increments using the following suggested guidelines:

Scoring Criteria	Point Range
The existing space as described and documented is significantly inadequate to meet state mandated instructional programs, facility is severely overcrowded, and the project is to add or upgrade state mandated instructional space. Documentation such as a condition survey, design narrative, or space calculations can be used to support the inadequacies of the existing space.	25-40 points

Scoring Criteria	Point Range
The existing space as described and documented is not adequate to meet state mandated or proposed new or existing local instructional programs, facility is moderately overcrowded, and the project is to add or upgrade state mandated instructional or proposed new or existing local instructional space. Documentation such as a condition survey, design narrative, or space calculations can be used to support the inadequacies of the existing space.	11-24 points
The existing space as described and documented is not adequate to meet state mandated or proposed new or existing local instructional programs, facility has minor or no overcrowding, and the project is to add or upgrade state mandated instructional or proposed new or existing local instructional space.	1-10 points
A major maintenance project that describes and documents the inadequacy of the existing space that is an additional condition being addressed in the project.	0-5 points

Other options
(Application Question 8c; Points possible: 25)

- Consider how completely this topic is addressed. Does the discussion provide alternatives and details that support a strong vetting of the project options?
- Consider the range of options considered and the rigor of the comparison to each other. Does the comparison of options support the project chosen?
- Scoring should increase in accordance with the amount of detailed information; graduated into three levels of: 1) unsupported narrative, 2) well supported narrative, and 3) detailed cost analysis.
- Consider boundary changes where applicable.
- For installed mechanical equipment, was a re-conditioned or re-built option considered in lieu of new?
- For over-crowding, was double shifting or other alternatives considered?

Points will be assigned in increments using the following suggested guidelines:

Scoring Criteria	Point Range
Were the options considered viable alternatives? The options are fully described viable options that are supported by a life-cycle cost analysis and cost benefits analysis that compare the cost of the options; an explanation is provided for the rationale behind the selection of the preferred option. Documentation is submitted that supports the options, analysis, and conclusion. The options contain the proposed project and at least two other viable options.	21-25 points
The options are fully described viable options that include cost comparisons between options. An explanation is provided for the rationale behind the selection of the preferred option; however, no life cycle cost analysis is included. Documentation is submitted that supports the options, analysis, and conclusion. The options contain the proposed project and at least two other viable options.	11-20 points

Scoring Criteria	Point Range
A description is included for each option; however, the options are not supported with additional documentation or cost analysis. The options contain the proposed project and at least one other viable option.	1-10 points

Annual operating cost savings
(Application question 8d; Points possible: 30)

- This should be rated based on information provided which specifically address this issue.
- Evaluation should be based on district provided data and analysis rather than opinion.
- Top scores should be reserved for those projects that can demonstrate a payback within a relatively brief period of time.
- Should be consistent with life cycle cost analysis and cost benefit analysis (if provided). This may have either a positive or a negative relationship to justification of a project.
- Evaluation may reward efforts to contain or reduce operating costs even if the project doesn't save money or have a payback (i.e. – utilizing LEED or CHPS standards for construction).

Points will be assigned in increments using the following suggested guidelines:

Scoring Criteria	Point Range
A detailed breakdown of projected annual operational cost savings compared to the project cost. The analysis should be consistent with a life cycle cost analysis or cost benefit analysis which is submitted with the project. The projected operational cost savings have a documented, detailed payback of 10 years or less.	21-30 points
A detailed breakdown of projected annual operational cost savings compared to the project cost. The analysis should be consistent with a life cycle cost analysis or cost benefit analysis which is submitted with the project. The projected operational cost savings have a documented, detailed payback of between 10 and 20 years.	11-20 points
A summary analysis that includes a projected annual operational cost savings compared to the project cost. The projected operational cost savings documents efforts to contain or reduce operating costs and has a payback that exceeds 20 years.	6-10 points
Stated opinion regarding estimated cost savings that could be achieved with the project.	1-5 points

District preventive maintenance and facilities management
(Application Questions 9a, 9e-9h; Points possible: 25 evaluative)

Maintenance Management Narrative
(Application Question 9a; Points possible: 5)

- Does the described program address preventive maintenance as well as routine?
- How well does the program work for each individual school?
- Does the program address all building components? Mechanical, electrical, structural, architectural, exterior/civil? (Note: components as used here and below may also be referred to as 'equipment'.)
- Is there evidence supplied which demonstrates that the program is effective?
- Who participates in the program and how does it function?

Scoring Criteria	Point Range
Narrative fully describes the maintenance management (MM) program and all of the following: maintenance structure and staffing, the work order program and process including work order classification, scheduling, tracking, and completion or deferral; how work orders are initiated and by whom; how component work order history and trends are used~~, how work orders are scheduled, or deferred~~. Provides sample work order types showing PM, routine maintenance, and corrective work; includes cost of labor and materials. Provides sample component-based work orders (with component ID) that include component-specific checklist of preventive and/or routine maintenance. Provides sample ~~routine or~~ corrective work orders showing progression of scheduling from initial response to completion ~~to~~or deferral. ~~Provides sample PM work orders showing progression from PM to routine or corrective work.~~ Provides a component report for a minimum of 10% of main school facilities showing the date of installation and date of scheduled renewal or replacement; includes components from each building system listed in DEED's R&R schedule.	5 points
Narrative describes the MM program and all of the following: maintenance structure and staffing, the work order program and process including work order classification, scheduling, tracking, and completion or deferral; how work orders are initiated and by whom~~; how work orders are scheduled or deferred~~. Sample work order types showing PM, routine maintenance, and corrective work; includes cost of labor and materials (where applicable). Sample component-based work orders (with component ID) that include component-specific checklist of preventive and/or routine maintenance.	4 points
Narrative describes the MM program and all of the following: the work order program and process including work order classification, tracking and completion; how work orders are initiated and by whom. Sample work order types showing PM, routine maintenance, and corrective work; includes cost of labor on those work orders, and cost of materials on at least one corrective work order.	3 points

Scoring Criteria	Point Range
Minimal narrative that partially describes the MM program but not all of the following: the work order program and process including work order classification; how work orders are initiated and by whom. Sample work order types showing some, but not all of the types: ~~of~~ PM, routine maintenance and corrective work~~; includes cost of labor and materials on corrective work samples~~.	2 points
Minimal narrative that partially describes the MM program but not all of the following: the work order program and process including work order classification; how work orders are initiated and by whom. No sample work orders.	1 point
No narrative or an abbreviated narrative that provides no information of how the maintenance management program works. No sample work orders.	0 points

Energy Management Narrative

(Application Question 9e; Points possible: 5)

- Is the district engaged in reducing energy consumption in its facilities?
- Is a comprehensive set of methods being used?
- Is the program districtwide in scope?
- Is the program achieving results?
- Is there a method for reviewing and monitoring energy usage?
- Is there a method for evaluating existing facilities' need for commissioning?

Scoring Criteria	Point Range
Narrative fully describes the Energy Management program including all of the following: district energy policy, program structure including roles, and responsibilities, occupant comfort and safety standards, energy consumption monitoring, benchmarking, energy audits and assessments, and implementation/execution of energy efficiency measures (EEMs). Provides data showing that the program tracks energy usage by facility and calculates an energy use intensity (EUI) for each main school facility over the prior five years—by energy type. ~~Further shows how this is used to prioritize energy efficiency projects.~~ Provides an energy management guideline or manual issued/updated within the past five years covering the items above ~~which is made available to district staff in electronic or print medium~~. Provides a report showing a five-year history of implemented EEMs. ~~The report shows how much energy was saved or usage was avoided and provides records demonstrating the savings.~~ Provides a complete set of energy consumption records (Application Q.9f).	5 points

Scoring Criteria	Point Range
Narrative describes the Energy Management program including all of the following: district energy policy, program structure including roles, and responsibilities, occupant comfort and safety standards, energy consumption monitoring, ~~energy audits and assessments,~~ and ~~implementation/execution~~examples of energy efficiency ~~measures (EEMs)~~projects or initiatives. Provides data showing that the program tracks energy usage by facility and calculates an energy use intensity (EUI) for each main school facility requiring an RCx analysis over the prior five years—by energy type. Provides an energy management guideline or manual, issued/updated within the past five years, covering the items ~~above which is made available to district staff in electronic or print medium~~. ~~Provides a report showing a sample of implemented EEMs.~~ Application includes the complete set of energy records was provided for Q.9f.	4 points
Narrative describes the Energy Management program including all of the following: district energy policy, program structure ~~including roles, and responsibilities~~, occupant comfort and safety standards, energy consumption monitoring. Shows that the program tracks energy usage by facility and calculates an energy use intensity (EUI) for each main school facility requiring an RCx analysis over the prior five years—by energy type. Provides an energy management guideline or manual~~, issued/updated within the past five years,~~ covering the items above. Provides a complete set of energy consumption records (Application Q.9f).	3 points
Narrative has useful description of the Energy Management program including some of the following: ~~energy policy,~~ program structure ~~including roles, and responsibilities~~, occupant comfort and safety standards, energy consumption monitoring. Shows that the program tracks energy usage by facility (not by campus) and calculates an energy use intensity (EUI) for each facility requiring an RCx analysis over the prior five years—by energy type. A complete set of energy records is not provided (Application Q.9f).	2 points
Narrative has some useful description of the Energy Management program but is not complete; a complete set of energy records is not provided (Q.9f). OR No narrative, but complete set of energy records was provided (Q9.f).	1 point
No narrative or an abbreviated narrative with no useful description of the Energy Management program. No energy records are provided (Q.9f).	0 points

Custodial Narrative

(Application Question 9f; Points possible: 5)

- Is the district's custodial program complete?
- Is custodial program based on quantities from building inventories and frequency of care based on industry practice?
- Has the district customized its program to be specific to each facility?
- Is the program districtwide in scope?
- Is the program achieving results?
- Is the written custodial plan(s) attached?

Scoring Criteria	Point Range
Narrative fully describes the Custodial program including all of the following: custodial policy and purpose, program structure including staffing, roles, and responsibilities, integration with district maintenance processes, worker and occupant safety, adopted custodial standards, and performance verification/quality control~~, and implementation/execution of program enhancement and efficiency measures~~. Provides custodial program guideline or manual issued/updated within the past five years covering the items above~~, which is made available to responsible district staff in electronic or print medium~~. Includes information or supplements that are specific to each main school facility and list types and quantities of surfaces and fixtures to be cleaned, and frequency of care for each based on industry practice. Lists staffing requirements for the facility based on these metrics and industry standards for productivity. Provides a report which tabulates the preceding information (types and quantities of information, etc.) for all main schools in the district, including staffing requirements. OR Provides no less than two facility examples each year of submission with no repeats within a five-year period. If the district operates fewer than 10 schools, provided one-third of all facilities each year. Provide at least ~~10~~ 5 work orders generated by the custodial program in the previous 12 months. Provides completed sets of quality control and inspection checklists ~~and reports, with photographs,~~ for no less than two facilities for the previous fiscal year period. ~~Provides a report showing a sample of implemented program enhancements and efficiency measures in the previous five years.~~	5 points

Scoring Criteria	Point Range
Narrative describes the Custodial program including all of the following: custodial policy and purpose, program structure including staffing, roles, and responsibilities, integration with district maintenance processes, worker and occupant safety, adopted custodial standards, performance verification/quality control. Provides custodial program guideline or manual issued/updated within the past five years covering the items above. Includes information or supplements that are specific to each main school facility and that list types and quantities of surfaces and fixtures to be cleaned, and frequency of care for each based on industry practice; provides no less than two facility examples of the facility-specific information. ~~Provide at least 5 work orders generated by the custodial program in the previous 12 months.~~ Provides samples of quality control and inspection checklists.	4 points
Narrative describes the Custodial program including all of the following: district custodial policy ~~and purpose~~, program structure including staffing, roles, and responsibilities, ~~worker and occupant safety,~~ and adopted custodial standards~~, and performance verification/quality control~~. Provides custodial program guideline or manual that is general in nature and not site specific ~~which includes information or supplements on how the guide is adapted to specific schools~~.	3 points
Narrative has some useful description of the Custodial program including some of the following:~~but is not complete.~~ district custodial policy, program structure including staffing, roles, and responsibilities, and adopted custodial standards, ~~Provides a written custodial program guideline or manual that is general in nature and not site specific.~~	2 points
Narrative has some useful description of the Custodial program but is not complete. ~~OR~~ ~~Provided a written custodial program guideline or manual that is general in nature and not site specific.~~	1 point
No narrative or an abbreviated narrative with no useful description of the Custodial program. No written custodial program guideline or manual.	0 points

Maintenance Training Narrative

(Application Question 9g; Points possible: 5)

- Does the program address training and on-going education of the maintenance staff?
- Are maintenance personnel being trained in specific building systems?
- Are training schedules attached?
- How is Training Recorded?
- How is effectiveness measured?

Scoring Criteria	Point Range
Narrative fully describes the Training program including all of the following: training policy, program structure including roles and responsibilities, identification of training needs for custodians and maintenance personnel, training methods and types, training scheduling and tracking, and measurement of program effectiveness. Identifies individual training needs based on ~~staff positions,~~ job functions, and building systems supported;~~,~~ identifies training methods and types, and assigns training on an individual basis. ~~Provides two sample position descriptions each from custodial and maintenance fields that identify knowledge, skills and abilities.~~ Provides a ~~list~~ sample analysis of job functions (e.g., driving, work order management, etc.) and required building system knowledge (e.g., boiler tuning, lock-out/tag-out, etc.) for ~~each~~ at least one job classification. Provides a training plan, by individual, for training scheduled in the current school year, by training title and method or type. Provides a log of completed training (~~up to~~last 3 ~~5~~yrs), by individual. Provides an assessment of the effectiveness of the training program which, at a minimum includes data on scheduled versus completed training.	5 points
Narrative fully describes the Training program including all of the following: training policy, program structure including roles and responsibilities, identification of training needs for custodians and maintenance personnel, training methods and types, and training scheduling and tracking~~, and measurement of program effectiveness~~. Identifies training needs based on staff positions, job functions, and building systems supported, identifies training methods and types, and assigns training on an individual basis. Provides a training plan, by individual, for training scheduled in the current school year, by training title and method or type. Provides a log of completed training (~~up to 5~~last 3 yrs), by individual.	4 points
Narrative describes the Training program including ~~all~~ some of the following: training policy, identification of training needs for custodians and maintenance personnel, training methods and types, and training scheduling and tracking. Provides a training plan~~, by individual,~~ for training scheduled in the current school year, by training title and~~ method~~/ or type. Provides a log of completed training but not by individual.	3 points

Scoring Criteria	Point Range
Narrative has some useful description of the Training program but is not complete. Provides training logs that show minimal maintenance or custodial training, primarily HR/OSHA training.	2 points
Narrative has some useful description of the Training program but is not complete. OR Training logs with no actual maintenance or custodial training. Only HR/OSHA training. *Training Logs with only HR/OSHA training can never exceed 1 point.	1 point
No narrative or an abbreviated narrative with no useful description of the Training program. No training logs	0 points

Capital Planning Narrative

(Application Question 9h; Points possible: 5)

- Does the district have a process for identifying capital renewal needs?
- Are component/subsystem replacement cycles identified and used?
- Does the system involve building occupants and users?
- Are renewal schedules comprehensive and vetted for credibility?
- Are systems up for renewal grouped into logical capital projects?
- Does review of projects on six-year plan show evidence of use of capital planning process, including renewal and replacement scheduled.

Scoring Criteria	Point Range
Narrative fully describes the Capital Planning program including all of the following: district capital planning policy ~~and procedure including structure~~, capital planning responsibilities, structure, and staffing, capital needs forecasting based on system renewal and program/population changes, forecast verification (~~based on~~ condition assessments, user input, ~~and~~ maintenance work order history/trends, etc.), development of CIP projects and 6-yr plans, and identification of capital project resources and funding~~, and measurement of program effectiveness~~. Provides capital planning report issued/updated within the past 12 months and 6-yr CIP plan with at least one project in every year of the plan and includes capital projects programmed from all fund sources, local, state, and federal. Provides a Facility Condition Index (FCI) for every main school based on a facility condition assessment not older than five years where FCI has the following formula. $$FCI = \frac{\text{Cost of Current and Deferred Renewal}}{\text{Current Replacement Value}}$$ Provides a student population projection for a minimum of five years beyond the current fiscal year for every attendance area in the district. Provides a condition assessment for every project requesting state-aid in the first year of the 6-yr CIP plan. Provides ~~an assessment of the effectiveness of the capital planning program which, at a minimum includes~~ a districtwide trend for combined FCI for a minimum of five prior years and tracks districtwide capital expenditures for main schools for a minimum of five prior years.	5 points

Scoring Criteria	Point Range
Narrative describes the Capital Planning program including all of the following: district capital planning policy ~~and procedure~~ , capital planning responsibilities~~including~~, structure, ~~responsibilities~~ and staffing, capital needs forecasting based on system renewal and program/population changes, forecast verification based on condition assessments, and development of CIP projects and 6-yr plans~~, identification of capital project resources and funding~~. Provides capital planning report ~~issued/updated within the past 12 months~~ and 6-yr CIP plan with at least one project in every year of the plan ~~and includes capital projects programmed from all fund sources, local, state, and federal~~. Provides a Facility Condition Index (FCI) for every main school based on a current DEED Renewal & Replacement Schedule, where FCI has the following formula. $FCI = \frac{\text{Cost of Current and Deferred Renewal}}{\text{Current Replacement Value}}$ Provides a student population projection for a minimum of five years beyond the current fiscal year for every attendance area in the district. ~~Provides a condition assessment for every project requesting state aid in the first year of the 6-yr CIP plan.~~	4 points
Narrative describes the Capital Planning program including all of the following: district capital planning policy ~~and procedure~~, ~~including structure,~~ capital planning responsibilities, structure, and staffing, capital needs forecasting based on system renewal, ~~forecast verification based on condition assessments~~, development of CIP projects and 6-yr plans, ~~identification of capital project resources and funding~~. Provides ~~capital planning report issued/updated within the past 12 months and~~a 6-yr CIP plan with at least one project in every year of the plan.	3 points
Narrative has some useful description of the Capital Planning program but is not complete. Provides R&R documents for all facilities in which state-aid for CIP is listed in the 6-yr plan.	2 points
Narrative has some useful description of the Capital Planning program but is not complete; R&R documents not provided for all required facilities. OR No narrative, but provides R&R documents for all required facilities.	1 point
No narrative or abbreviated narrative with no useful description of the Capital Planning program. Lacks R&R documents for all required facilities.	0 points

Formula-Driven Guidelines

Condition/Component survey

(Application question 6a; Points possible: 0-10 – non-evaluative)

- Condition/component survey age is relative to the earlier of either the application submittal deadline or the project's substantial completion.

Points will be assigned in increments using the following suggested guidelines:

Scoring Criteria	Points
Condition/component survey is a comprehensive product that informs the project. It includes a full description of existing systems, including code deficiencies, and provides recommendations for upgrades related to all deficiencies described. Costs associated with each deficiency and upgrades are provided as applicable. Supplements may be included such as special inspections, engineering calculations, photographs, drawings, etc. Floor plans, with building area designations and room identifications, are encouraged. Portions of the condition survey, such as that information pertaining to building codes and analysis of structural engineered systems, may have been completed by an architect, engineer, or persons with documented expertise in a building system. It is less than 6 years old.	10 points
Condition/component survey contains many of the required elements as listed above, but not all. It is less than 10 years old.	8 points
Condition/component survey informs the project. Supplements such as special inspections, engineering calculations and drawings that would further document conditions justifying the project are not provided or documentation is not substantial. It is less than 10 years old.	5 points
Condition/component survey is more than 10 years old, but may still contain some relevant building information pertaining to the project.	3 points
Condition/component survey has not been submitted or does not inform the project.	0 points

Use of prior school design
(Application Question 6b; Points possible: 10)

- Are complete documents of the proposed reused school plans provided?
- Is evidence of ownership of proposed reused school plans provided?
- Has an analysis been done of the anticipated deviations and revisions from the proposed reused school plan been accomplished? Is an estimated cost of those deviations (+ or -) been computed?
- Have design and construction costs for the proposed reused school plans been estimated along with an estimated cost of design and construction for a project alternative for a new school design?
- This point category is only applicable to construction projects.

Points will be assigned in increments using the following general guidelines:

Scoring Criteria	Points
1. The district or municipality owns the reused school plans. 2. The reused school plans are less than 5years old or have been updated within the prior 5 years. 3. A supported estimate of planned deviations from the reused school plans is less than 1% of the estimated cost of construction. 4. A supported estimate of construction cost savings to the project is greater than 10% of construction costs of a new school plan alternative. 5. A supported estimate of design cost savings to the project is greater than 10% of design services costs of a new school plan alternative.	10 points
Any four of the above factors are achieved.	8 points
Any three of the above factors are achieved.	6 points
Any two of the above factors are achieved.	4 points
Any one of the above factors is achieved.	2 points
None of the above factors are achieved.	0 points

Use of prior building system design
(Application Question 6c; Points possible: 10)

- Up to two points are available for capital renewal of a complete system, a subsystem, or a component renewal in each of the following systems: 1) Building Envelope, 2) Plumbing, 3) HVAC, 4) Lighting, and 5) Power.
- Has evidence been provided that the identified building system is part of a written standard that meets ASHRAE 90.1-2016 prescriptive requirements?
- This point category is not applicable to projects receiving scores for use of a prior school design.

Points will be assigned in increments using the following general guidelines:

Scoring Criteria	Points
The reused building system design is part of a provided written municipal or school district building system standard.	2 points

Alaska Department of Education & Early Development
Capital Improvement Project Application
Project Eligibility Checklist

Date:

District: Project:

Is the project eligible based on below checklist? Yes ☐ No ☐

The following items are requirements for projects to be eligible for grants or bond reimbursement as required by statute or regulations. Please check YES or NO if project application is in compliance or not.

Item	Primary Application Question(s)	Eligibility Item Description	Yes	No
A	All	The application is complete and all questions are fully answered – AS 14.11.013(c)(3)(A)		
B	2a	The district's CIP-6 year plan has been submitted – AS 14.11.011(b)(1) Project is identified in the current CIP year of the plan.		
C	2b	The district has an auditable fixed asset inventory system – AS 14.11.011(b)(1)		
D	2c	Evidence of replacement cost property insurance – AS 14.11.011(b)(2)		
E	8f	If the district has requested a waiver of participating share, is the request attached? (If not applicable, leave blank) – AS 14.11.008(d)		
F	2d & 3d	Evidence that project should be a capital improvement project and not preventive maintenance or custodial care – AS 14.11.011(b)(3)		
G	3d	Evidence that project meets the criteria of one of the A-F categories – AS 14.11.013 (a)(1)		
H	3d, 4a, & Sec. 7	A detailed scope of work, project budget, and documentation of need – AS 14.11.011 (b)(1)		
I	3d, Sec. 7, & 8c	The scope of work should include all information requested in the application instructions and should include life cycle cost analysis, cost benefit analysis or any other quantifiable analysis, as needed, which demonstrates that the project is in the best interest of the district **AND** the state – AS 14.11.013(c)(3)(C)		
J	5a, 5b, 5c, 5d, 5e, 5f, & 5g	For projects requesting additional space, evidence of space eligibility based on supported 2-year and 5-year-post-occupancy student population projection data – 4 AAC 31.021(c)(1)&(c)(3)		
K	3d, 4a, 5h, 8b, & 8c	Evidence that the existing facility can not adequately serve or that alternative projects are in the best interest of the state – AS 14.11.013(c)(3)(B)		
L	5h & 8c	Evidence that the situation can not be relieved by adjusting service area boundaries and transportation – 4 AAC 31.021(c)(2) & AS 14.11.013(b)(6)		
M	2e & Sec. 9	DEED certification that the school district has a facility management program that complies with 4 AAC 31.013 and a description of the district's preventive maintenance program – AS 14.11.011(b)(1)		
N	All	Adequate documentation supporting the project request – AS 14.11.013(c)(3)(A) and 4 AAC 31.022(d)(1)		

Alaska Department of Education & Early Development
Capital Improvement Project Application
Formula-Driven Rating Form

Adopted by the Bond Reimbursement and Grant Review Committee

District: _____ Project Title: _____
Fund: _____
Rater: _____ CIP ID Number: _____ Category: _____
Date: _____ Ineligible: _____

Formula Driven Scoring Criteria	School Construction A, B, F	Major Maintenance C, D, E
1. Preventive maintenance program (Questions 9b - 9d, 9f)		
A. Detailed summary reports of maintenance labor parameters (9b) 15 points	/15	/15
B. Detailed summary reports of PM/corrective maintenance parameters (9c) 10 points	/10	/10
C. The 5-year average expenditure for maintenance divided by the 5-year average insured replacement value, district wide. (9d) 5 points If % < 4, then (% x 1.25); If % > 4, then 5	/5	/5
D. Energy consumption reports (9f) 5 points	/5	/5
2. District ranking (Question 3a) Only eligible project requests are used to calculate ranking points Project #1 request = 30 points, #2 = 27 points, #3 = 24 points, Each additional project 3 points less	/30	/30
3. Weighted average age of facility (Question 3b) A. 0-10 years = 0 points B. > 10 ≤20 years = .5 / year in excess of 10 years C. > 20 ≤30 years = 5 + .75 per year in excess of 20 years D >30≤40 years = 12.5 + 1.75 per year in excess of 30 years E. > 40 years = 30 points	/30	/30
4. Condition/Component Survey (Question 6a) Condition survey = 0, 3, 5, 8, or 10 points	/10	/10
5. Use of Prior Design Plans or Buildings System Design (Questions 6b-6c) A. Prior Design Plan (school construction only) (6b) = 0, 2, 4, 6, 8, or 10 points OR B. District standard = Two points each system: Building Envelope, Plumbing, HVAC, Lighting, Power	/10	~~N/A~~ /10
~~**6. Use of Prior Building System Design** (Question 6c) 10 points~~ ~~A. District standard = Two points each system: Building Envelope, Plumbing, HVAC, Lighting, Power~~	~~/10~~	~~/10~~
~~7~~**6. Planning & design phase has been completed** (Question 6d-6g and Appendix B) A. All required elements of planning = 10 points B. All elements planning + required elements of schematic design = 20 points C. All elements of planning and schematics + required elements of design development = 25 points	/25	/25
~~8~~**7. Previous AS 14.11 funding for this project** (Questions 8e & 7a) Previous funding = 30 points, No previous funding = 0 points	/30	/30
~~9~~**8. Unhoused students today** (Questions 5a-5g) A 100 % of capacity = 0 points B. > 100% of capacity = One point for each 3% of excess capacity C. 250 % of capacity = 50 points	/50	N/A
~~10~~**9. Unhoused students in seven years (5 year Post-occupancy)** (Questions 5a-5g) Unhoused due to loss of eligible square footage based on external environmental factors is scored at half of the points identified. A 100 % of capacity = 0 points B. > 100% of capacity = One point for each 5% of excess capacity C. 250 % of capacity = 30 points	/30	N/A
~~11~~**10. Type of space added or improved** (Question 5j) A. Instructional or resource 30 points B. Support teaching 25 points C. Food service, recreational, and general support 15 points D. Supplemental 10 points	/30	N/A
Formula-Driven Total Points	/~~290~~280	/170

Alaska Department of Education & Early Development
Capital Improvement Project Application
Evaluative Rating Form
Formula-Driven Rating Form

Adopted by the Bond Reimbursement and Grant Review Committee

District: _____ Project Title: _____
Fund: _____
Rater: _____ CIP ID Number: _____ Category: _____
Date: _____ Ineligible: _____

Note: Points for elements two through eight will be weighted to apply to each specific category of a mixed-scope project.

Evaluative Scoring Criteria	School Construction A, B, F	Major Maintenance C, D, E
1. Effectiveness of preventive maintenance program (Question 9)		
A. Maintenance Management Narrative (9a)	/5	/5
B. Energy Management Narrative (9e)	/5	/5
C. Custodial Narrative (9g)	/5	/5
D. Maintenance Training Narrative (9h)	/5	/5
E. Capital Planning Narrative (9i)	/5	/5
2. Seriousness of life/safety and code conditions (Question 4a)	/50	/50
3. Reasonableness & completeness of cost or cost estimate (Questions 7a-7c)	/30	/30
4. Emergency conditions (Question 8a) Did application check "yes"? ☐ Did discussion support emergency status? ☐	/50	/50
5. Existing space fails to meet or inadequately serves existing or proposed elementary or secondary programs (Question 8b)	/40	/5+
6. Thoroughness in considering a full range of options for the project (Question 8c)	/25	/25
7. Relationship of the project cost to the annual operational cost savings (Question 8d)	/30	/30
8. Thoroughness in considering use of alternative facilities to meet the needs of the project (Question 5g)	/5	N/A
Evaluative Total Points	**/255**	**/215**

State of Alaska **Department of Education & Early Development**
Bond Reimbursement & Grant Review Committee

Project Delivery Method Handbook

P U B L I C A T I O N C O V E R

April 20, 2022

Issue

The department seeks committee approval to send out the draft *Project Delivery Method Handbook* for public comment.

Background

Last Updated/Current Edition
Publication last updated in 2017. Current edition available on the department's website: education.alaska.gov/facilities/publications/project_delivery_handbook.pdf.

Summary of Proposed Changes
This proposed publication is a fairly straightforward update of the prior publication. Key revisions/additions to the publication address the following:

- Updated to reflect 2019 regulation changes;
- Updated formatting and organization to better meet WCAG 2.0 accessibility standards;
- Replaced Appendix containing a copy of request template with a list of items to be addressed in a request. Template has been updated to a more usable format.

Version Summary & BRGR Review

Drafts of the publication were presented to the committee at the following meetings:

April 20, 2022 – initial draft presented with a request for a period of public comment.

BRGR Input and Discussion Items

Below are questions and comments developed by DEED during the revisions of this draft. Outlined below for consideration by the BRGR Committee:

- Should the publication continue to include a copy of the sample request template?
- Is the new Request Letter section too specific, should it instead include direct references back to the publication sections to remove potential missing direction?

Options

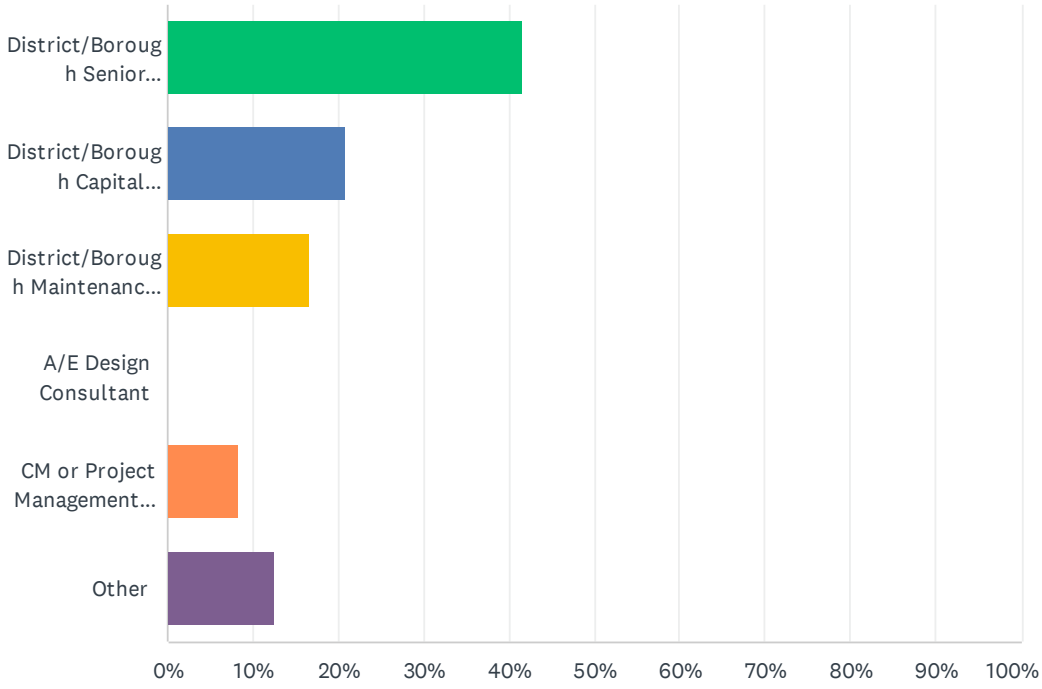
Approve draft publication for public comment.
Amend draft publication and approve public comment.
Seek additional information.

Suggested Motion

"I move that the Bond Reimbursement and Grant Review Committee approve the department's proposed update of the *Project Delivery Method Handbook* ['as presented' *or* 'as edited'] and recommend the department open a period of public comment."

Q1 Which of the following best describes your role in relation to school facilities.

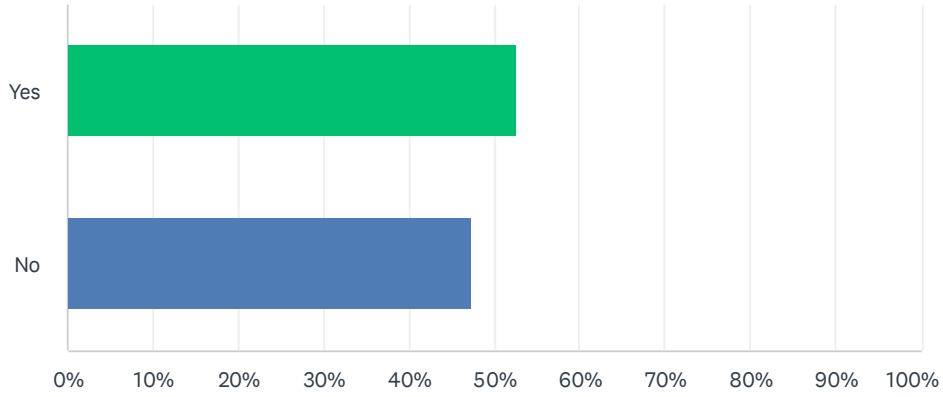
Answered: 24 Skipped: 0



ANSWER CHOICES	RESPONSES	
District/Borough Senior Management	41.67%	10
District/Borough Capital Projects Staff	20.83%	5
District/Borough Maintenance & Operations Staff	16.67%	4
A/E Design Consultant	0.00%	0
CM or Project Management Consultant	8.33%	2
Other	12.50%	3
TOTAL		24

Q2 In the past five years, have you had an opportunity to use the publication in any aspect of school capital project planning, design, construction, or operations?

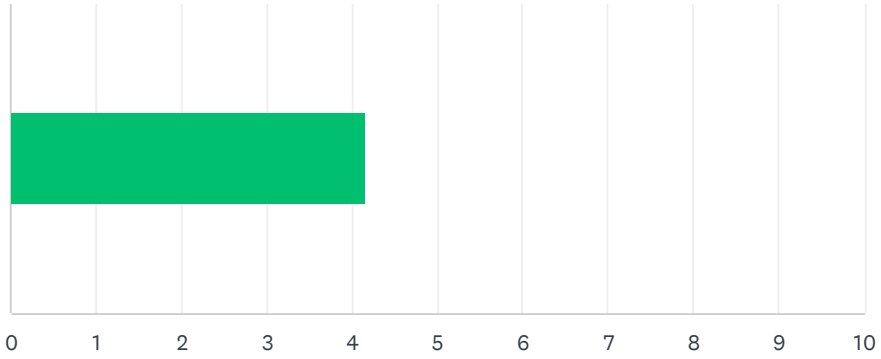
Answered: 19 Skipped: 5



ANSWER CHOICES	RESPONSES	
Yes	52.63%	10
No	47.37%	9
TOTAL		19

Q3 If Yes above, approximately how many projects?

Answered: 13 Skipped: 11

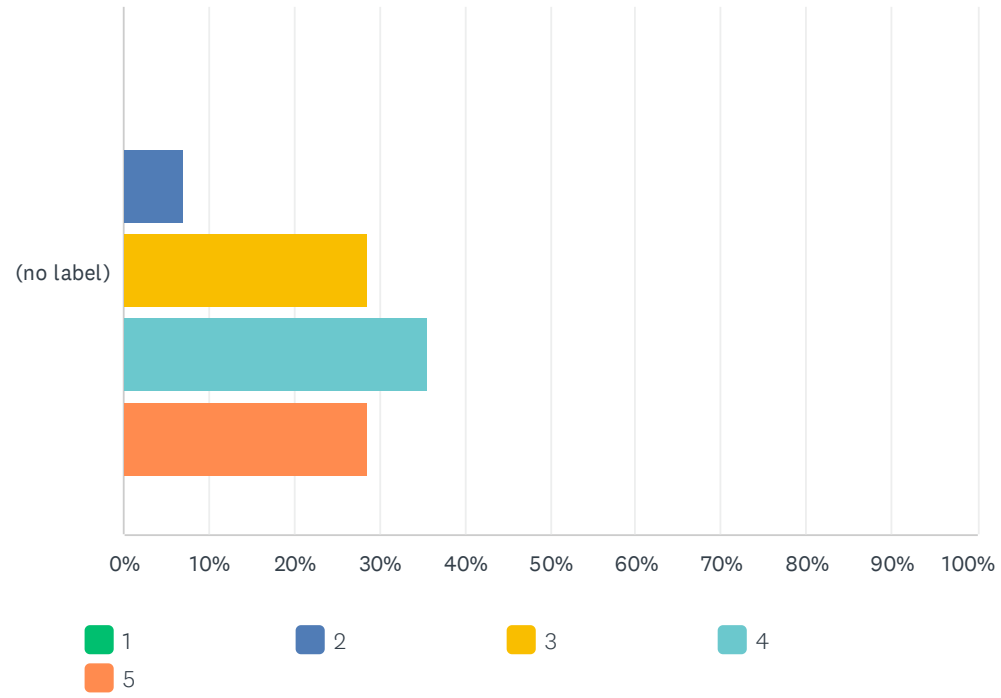


ANSWER CHOICES			
	4	54	13
Total Respondents: 13			

#		DATE
1	8	2/18/2022 9:44 AM
2	7	2/17/2022 3:08 PM
3	4	2/17/2022 10:27 AM
4	10	2/17/2022 9:34 AM
5	0	2/17/2022 9:28 AM
6	5	2/8/2022 12:56 PM
7	3	2/7/2022 10:16 AM
8	6	2/7/2022 9:02 AM
9	0	2/4/2022 8:32 AM
10	3	2/3/2022 4:38 PM
11	5	2/3/2022 2:29 PM
12	1	2/3/2022 1:09 PM
13	2	2/3/2022 12:02 PM

Q4 In your opinion, how useful is this publication? 1-low, 5-high

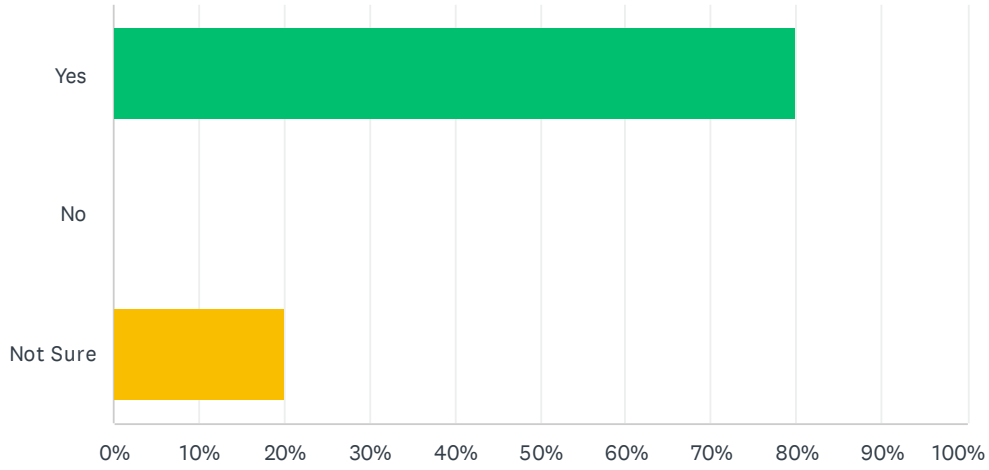
Answered: 14 Skipped: 10



	1	2	3	4	5	TOTAL	WEIGHTED AVERAGE
(no label)	0.00% 0	7.14% 1	28.57% 4	35.71% 5	28.57% 4	14	3.86

Q5 Do you believe this publication will continue to fill a need over the next five years?

Answered: 15 Skipped: 9



ANSWER CHOICES	RESPONSES	
Yes	80.00%	12
No	0.00%	0
Not Sure	20.00%	3
TOTAL		15

#	NOT SURE	DATE
1	don't know how many seek alternative procurement	2/8/2022 11:02 AM
2	I need to make myself more informative on what it contains	2/3/2022 1:29 PM
3	it needs to have a way to double check you are picking the right method	2/3/2022 12:02 PM

Q6 What, if any, are areas of the publication that could be developed, made more clear, or made more accurate? (Possible topic suggested from internal review includes additional guidance on 4 AAC 31.080(h) “any competitive procurement methodology for its solicitation … to procure construction services that are estimated not to exceed $100,000”. You may comment on this or suggest others.)

Answered: 12 Skipped: 12

#	RESPONSES	DATE
1	Broaden acceptable delivery methods for District that have proven to have the capability to run these types of projects.	2/18/2022 9:44 AM
2	CM/GC QBS could use some revision	2/17/2022 3:08 PM
3	There is a strong push for DBB even while the publication explains other delivery approaches. It is a bit biased toward DBB and makes other options seem like an uphill battle.	2/17/2022 10:27 AM
4	Greater flexibility in alternate project delivery methods.	2/17/2022 9:34 AM
5	Not familiar enough to comment.	2/17/2022 9:28 AM
6	Move Design Build from an alternative delivery method to an accepted delivery method.	2/8/2022 12:56 PM
7	xx	2/8/2022 11:02 AM
8	D-B-Bid should not be an alternative procurement. It meets 31.080	2/7/2022 10:16 AM
9	The department could analyze hypothetical projects that would benefit from an alternative delivery method. Use the hand book matrix and see where it leads you. This analysis could identify errors and improvements to the handbook.	2/3/2022 4:38 PM
10	I think there is a great degree of merit to allowing the assignment of the initial project design team to all proposing contractors. This levels the scoring advantage and provides consistency and continuity. This appears to be a policy not a regulatory decision. Eliminates the need and cost of a bridging consultant	2/3/2022 2:29 PM
11	Allowable squareage	2/3/2022 1:09 PM
12	A step by step delivery check list for each type of procurement method	2/3/2022 12:02 PM

Q7 Are there other related topics you would like to see addressed in the publication?

Answered: 12 Skipped: 12

#	RESPONSES	DATE
1	No	2/18/2022 9:44 AM
2	maybe	2/17/2022 3:08 PM
3	None I can think of at this time.	2/17/2022 10:27 AM
4	no	2/17/2022 9:34 AM
5	Not familiar enough to comment.	2/17/2022 9:28 AM
6	None	2/8/2022 12:56 PM
7	no	2/8/2022 11:02 AM
8	Limit QB to emergencies only	2/7/2022 10:16 AM
9	No.	2/3/2022 4:38 PM
10	Appendix B Notes might need review. Second item seems to conflict with the 3rd. Flow is awkward	2/3/2022 2:29 PM
11	n/a	2/3/2022 1:09 PM
12	A templet to fill out to apply for approval	2/3/2022 12:02 PM

Q8 If supplementary tools are provided, do they work well; are they presented in a useful format?(Current supplementary tools include template request for alternative delivery approval)

Answered: 11 Skipped: 13

#	RESPONSES	DATE
1	I like the flow chart and use it often	2/18/2022 9:44 AM
2	could use some revision	2/17/2022 3:08 PM
3	Not sure.	2/17/2022 10:27 AM
4	Not familiar enough to comment.	2/17/2022 9:28 AM
5	Yes, the GSF is highly used.	2/8/2022 12:56 PM
6	xx	2/8/2022 11:02 AM
7	Update template to a better format than MS Publisher	2/8/2022 8:22 AM
8	Need to be updated and simplified	2/7/2022 10:16 AM
9	Yes.	2/3/2022 4:38 PM
10	n/a	2/3/2022 1:09 PM
11	yes	2/3/2022 12:02 PM

Q9 Are there other additional tools the department could develop that would improve the aspects of capital project work addressed in this publication?

Answered: 8 Skipped: 16

#	RESPONSES	DATE
1	No	2/18/2022 9:44 AM
2	maybe	2/17/2022 3:08 PM
3	Making it more clear when and which DEED regs apply to pieces of work that were designed as part of a DEED funded project, but then removed and done with non-DEED funding.	2/17/2022 10:27 AM
4	Not familiar enough to comment.	2/17/2022 9:28 AM
5	xx	2/8/2022 11:02 AM
6	TBD	2/7/2022 10:16 AM
7	Possibly.	2/3/2022 4:38 PM
8	n/a	2/3/2022 1:09 PM

Project Delivery Method Handbook

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State of Alaska
Bond Reimbursement & Grant Review Committee

ACKNOWLEDGEMENTS

A majority of this publication was modeled on the documents prepared and published by the Georgia State Financing and Investment Commission in Volumes 1 and 2 of their Project Delivery Options – Recommended Guidelines. In addition, the department is indebted to efforts by Mike Kenig, Holder Construction, in facilitating a workshop for stakeholders involved in school capital projects in Alaska having state aid. His expertise and consensus direction for the Department of Education & Early Development's administration of project delivery options is reflected throughout the document.

Table of Contents

Introduction

In 1978, the Department of Education & Early Development (DEED) began regulating school capital projects following passage of legislation amending then existing statutes to include a requirement to:

> *. . . review plans for construction of new public elementary and secondary schools and for additions to and major rehabilitation of existing public elementary and secondary schools and . . . determine and approve the extent of eligibility for state aid of a school construction project . . . . [AS 14.07.020(11)]*

By 1981, DEED had taken over full responsibility for administering state aid for school capital projects from the Department of Transportation & Public Facilities. One of the key components in administering capital funding was to establish procedures for the procurement of construction services. By statute, political subdivisions of the state, including school districts in unorganized areas of the state, are exempt from the state's procurement code (ref. AS 14.08.101). Accordingly, and under its powers, DEED established some minimum provisions for the procurement of construction by regulation in 1983 (ref. 4 AAC 31.080).

These provisions reflect key elements of the state's procurement code, including:

- competitive sealed bids;
- minimum advertising and notice periods;
- processes for aggrieved bidders; and
- award to the lowest responsible and responsive bidder.

Although adequately advertised competitive sealed bids awarded to the low offeror form the basis of DEED's process, identified in this handbook as "Design-Bid-Build", regulations include~~d~~ a provision to allow a school district to use a design/build contracting method with DEED approval and district compliance with any DEED directives.

DEED began to see an increasing interest in alternative construction delivery methods beginning with a project funded in July 1998 for an addition/renovation project in Buckland. Following that date and through mid-2003, the department acted on several requests for alternative construction delivery. In each case, under the provisions of regulations, DEED approved a request for a non-traditional delivery method with varying stipulations and under various titles such as CM/Multiple Prime, and Design Assist.

Prior to that time period, there was a series of design-build efforts in the Bering Strait School District. Primarily, these were accomplished on schools damaged or destroyed by fire and did not have direct state aid but were funded with insurance proceeds.

In addition to the Bering Strait experience, the Anchorage School District also ~~has~~ had experience using the design-build delivery method on school projects. These projects include an elementary school constructed with state aid (Williwaw Elementary - 1993) and several projects without any state aid (ABC Elementary, Russian Jack Elementary, and Government Hill Elementary).

The procurement results from solicitations of projects approved for alternative delivery methods raised significant questions regarding procedures, competition, and prices. This led the Facilities staff at

DEED to seek a "moratorium" on alternative construction delivery. The moratorium, ultimately not implemented, was intended to provide time for DEED and its constituents to sort out issues, apply lessons learned and develop a more coordinated, defensible, and effective approach to alternative delivery methods and their approval.

Following is a list of concerns brought to light over the course of the prior years of activity:

- DEED had approval authority for design-build but had granted approval ad-hoc for other construction delivery variants, some not recognizable within industry norms.
- Design-build approvals had been granted for projects where design ~~completion~~ ranged from 50% to 99% complete.
- Design-build criteria packages establishing an *Owner's* performance requirements were noticeably absent; partially complete detailed designs were the substitute document.
- Design-build approvals had been granted for projects in which the *Owner* directed the use of a specific team of design professionals.
- Bid solicitations on comparable projects had resulted in no fewer than four and as many as eight offerors, however, three projects approved for design-build had only two offerors; the same two for each project.
- Bid solicitations on comparable projects in the same time periods had resulted in construction awards up to 35% below (approx. 12% average) the estimated construction cost; however, projects approved for design-build had typically used all available design and construction funds.
- A project was approved for CM/GC where the proposed total construction cost was not a factor in the selection process.
- Factors not germane to the lowest cost to the state, or at best difficult to measure, were heavily influencing alternative project delivery procurement; primarily this related to the incorporation of local hire initiatives.
- Alternative delivery methods approved, which incorporated multiple prime contracts and *Owner*-procured materials, were fraught with expensive "corrections".

A 2003 workshop jointly conducted by DEED and the Alaska chapter of the Association For Learning Environments (A4LE—previously CEFPI) laid the groundwork for this publication. In the public sector, the central issue in moving from a low-bid process to any of the alternative project delivery methods is the shift in influence that the public entity wields in the selection process. In the low-bid process, where the only significant factor differentiating between offerors is price, the *Owner* is essentially "blind" to factors of experience, capacity, personnel, political ties, etc. While this can occasionally result in selection of a less desirable contractor, it always provides an arms-length separation between the *Owner* and contractor selection. It essentially removes the possibility of undue influence. A secondary effect of the exclusive focus on price is that offerors are forced to become price-competitive. This generally serves to drive the initial cost to the *Owner* to the lowest level.

A move to alternative project delivery methods is a move toward *Owner* influence and subjectivity in the procurement of construction. It also provides conditions in which the cost of the work is secondary and therefore potentially higher. However, the benefits to the *Owner* are numerous and are best summarized with the term "best value". All factors considered—cost, quality, experience, schedule,

etc.—*Owners* are more likely to receive a product that meets all of their objectives using a project delivery method that incorporates both qualifications and cost.

For DEED, and other public entities, the need is to establish the proper balance between complete control of *Owners* to choose a "most favored" contractor and the complete lack of control by *Owners* with the choice made for them based on lowest initial cost. This handbook provides the guidance and provisions to meet those standards of care.

Ability to Use Alternative Project Delivery

Introduction

The Alaska Department of Education & Early Development strongly supports full and open competition among general and specialty contractors and their suppliers and service providers. The construction industry's health and integrity depends on every qualified firm having an equal opportunity to compete for work. Public owners must be diligent in honoring the public trust while searching for the most efficient and cost-effective approaches to delivering construction projects. These efficiencies and cost-effective methods ~~are~~ increasingly ~~requiring~~ require innovation and flexibility. The public owners who choose alternative project delivery options must ensure the method chosen is properly and fairly used to serve the public interest and provides quality, cost-effective and timely construction. Whatever option is utilized, the selection process for both design services and construction should be consistent, open and competitive.

Of the delivery options discussed in this Handbook, none is prohibited by the laws of Alaska. However, given current state policy and statutory requirements, the "traditional" method of Design-Bid-Build will continue to be the method by which most construction will be performed in Alaska's school districts. This section of the handbook suggests that alternative project delivery options are appropriate for the public sector if the selection process is as open, fair, objective, cost-effective, and free of political influence as the traditional competitive bid method. Specific approval may be required for the use of an alternative delivery method on school projects incorporating state-aid, see statute and regulation below. For instructions on how to get the necessary approvals, contact your agency procurement professionals or the State of Alaska, Department of Education & Early Development.

Alaska Statutes and Administrative Code

Alaska Statutes

Alaska statutes provide for innovative procurements under the state procurement code and include the provisions that such procurements be competitive and that they test best value.

> AS 36.30.308. Innovative procurements.
>
> (a) A contract may be awarded for supplies, services, professional services, or construction using an innovative procurement process, with or without competitive sealed bidding or competitive sealed proposals, in accordance with regulations adopted by the commissioner. A contract may be awarded under this section only when the chief procurement officer, or, for construction contracts or procurements of the state equipment fleet, the commissioner of transportation and public facilities, determines in writing that it is advantageous to the state to use an innovative **competitive procurement** process in the procurement of new or unique requirements of the state, new technologies, or to achieve **best value**.

Statutes acknowledge that all school districts, whether in political subdivisions of the state or in regional education attendance areas, are exempt from the state's procurement code (excepting a few areas such as prevailing wage requirements) and may develop their own procurement policies.

AS 14.08.101. Powers. A regional school board may . . .

(3) determine its own fiscal procedures, including but not limited to policies and procedures for the purchase of supplies and equipment; the regional school boards are exempt from AS 37.05 (Fiscal Procedures Act) and AS 36.30 (State Procurement Code)

Alaska Administrative Code

Notwithstanding that recipient entities of funding administered under AS 14.11 are exempt from the state procurement code, DEED has provided, through regulation, requirements for construction procurement. These requirements are based on those factors of procurement that are critical to a competitive process (e.g., advertising periods, bid protest periods, etc.). The regulations also establish that competitive sealed bids will be the normal procurement method but provide for other alternatives.

4 AAC 31.080. Construction and acquisition of public school facilities.

(a) A school district shall construct a public educational facility with money provided through a grant under AS 14.11.011 - AS 14.11.020 or shall construct a public educational facility that is eligible for reimbursement under AS 14.11.100 under a written contract awarded on the basis of competitive sealed bids. If the estimated construction cost is less than $100,000 or if it is in the best interests of the state, the school district may, with the approval of the commissioner, construct the educational facility itself using its own employees.

(b) The school district shall ~~provide~~ publish the first notice of its solicitation at least 21 days~~by advertisement in a newspaper of general circulation in this state at least three times~~ before the opening of the offers. ~~The first printing of the advertisement must occur at least 21 days before opening the offers.~~ The department may approve a solicitation period shorter than 21 days when written justification submitted by the school district demonstrates that a shorter solicitation period is advantageous for a particular ~~offer~~ project and will result in an adequate number of responses. A school district may provide additional notice by mailing its solicitation to contractors on any list it maintains, and any other means reasonably calculated to provide notice to prospective offerors. The district shall provide notice of its solicitation by publication at least three times in a newspaper of general circulation in the state. The department may approve an alternate means of notice through publication on the Internet if the website has the express purpose of advertising similar solicitations, has unrestricted public access, and is equally likely to reach prospective offerors.

(c) The school district shall provide for the administrative review of a complaint filed by an aggrieved offeror that allows the offeror to file a bid protest, within 10 days after notice is provided of intent to award the contract, requesting a hearing for a determination and award of the contract in accordance with the law. The school district shall provide notice to all interested parties of the filing of the bid protest.

(d) The award of a contract for the construction of an educational facility under this section must be made without regard to municipal ordinances or school board resolutions granting a preference to local offerors.

(e) The department may deny or limit its participation in the costs of construction for a project eligible for grant funding under AS 14.11.011 or for reimbursement under AS 14.11.100 if the school district does not comply with the requirements of this section. ~~A school district that enters into a construction contract for a project authorized for construction under AS 14.11.020 that was awarded without competitive selection under this section may not receive money under its project agreement for the construction phase of the project.~~

(f) Nothing in this section precludes a school district from using an alternative construction delivery method as defined and described in the Project Delivery Method Handbook, 2nd Edition, September 2017, ~~current edition~~, adopted by reference, if the department approves the method in advance of any solicitation, the proposed method is in the state's best interest, and the school district concurs in any directives the department makes concerning the type of selection and award of the contract. The department may deny or suspend use of an alternative construction delivery method by a school district if the department concludes, based on substantial evidence, that use or repeated use of a delivery method by the school district has resulted or will result in limited competition or higher costs.

(g) A school district may, with prior approval by the department, enter into a lease or purchase agreement for, or accept a donation of, an existing facility for use as an education-related facility if

(1) for the purchase, lease, or accepted donation of an existing facility, a cost saving over new construction is achieved;

(2) the purchase or lease price is arrived at through impartial negotiation and is supported by a real estate appraisal that meets accepted standards; and

(3) the purchase, lease, or donation is in the best interests of the state and the school district.

(h) Notwithstanding (a) of this section, a school district may use any competitive procurement methodology for its solicitation for a public educational facility that is practicable under the circumstances to procure construction services that are estimated not to exceed $100,000, inclusive of labor and materials. A school district may not artificially divide or fragment a procurement so as to constitute a purchase under this subsection or to circumvent the selection procedures otherwise required by this section.

(i) The department may deny or limit its participation in the costs of a school capital project if the real property for the project is acquired by a school district through purchase, lease, or donation without the approval of the department under (g) of this section.

Overview of Project Delivery Options

Introduction

The purpose of this section is to establish a framework for understanding and selecting the appropriate project delivery option. It is critical to have consensus on a list of project delivery options and on the definition of each of the delivery options. Definitions of the options are discussed in this section and reiterated for quick reference in Appendix A. Understanding the differences in project delivery options requires an awareness of two independent factors, the structure of the *Owner's* prime contract(s) for the project and the provisions under which the selection of the project delivery entities (i.e., *Designer* and *Constructor*) are made. Each project delivery option is defined by a unique combination of *contract type* and *selection method*. Embedded in the definitions of each project delivery option, there are two basic terms that are used as selection-method differentiators for the alternative project delivery methods. These terms are *total construction cost* and *construction cost of work* ~~(see sidebar)~~.

Selection Differentiators

Construction Cost of Work is one of the three factors that comprise the Total Construction Cost:

Construction Cost of Work
\+ General Conditions
\+ Contractor's Fee
Total Construction Cost

It represents the "fixed" costs of labor and materials as provided for in the project scope. In addition to the Construction Cost of Work, the Total Construction Cost includes the contractor's General Conditions (i.e., its overhead—the cost of doing business) and the Contractor's Fee (i.e., its profit).

This handbook uses the definition of a "project delivery option" as a method of procurement by which the *Owner's* assignment of "delivery" risk and performance for design and construction has been transferred to another party or parties. These parties typically are a *Design* entity that takes responsibility for the design, and a *Construction* entity that takes responsibility for performance of construction. However, a key principle of alternative project delivery is that benefits are available to *Owners* when these traditionally distinct entities are strategically aligned or even merged. It is when these benefits outweigh the risks that an alternative project delivery method becomes advisable. The relationship between these parties and the *Owner* is the second determinant in establishing a project delivery option. While no further attempt to define the terms *designer* and *contractor* are necessary—the terms being well understood within the industry—the terms used to describe the alignment or merging of these entities is unique to the project delivery discourse. These terms (*Design-Build*, *CM/GC*, etc.) often become points of significant distraction when attempting to "debate" the merits of alternative project delivery. Fortunately, for the purposes of this handbook, the sole understanding of these terms need only occur within the context of how an *Owner* chooses to contract with the *Designer* and *Constructor* ~~(see sidebar)~~.

Contract Differentiators

Owner holds one contract for both Design & Construction = *Design-Build*
Owner holds separate contracts for Design & Construction = *CM/GC* or *Traditional*

Selection Method Factors

Another key aspect related to the use of any project delivery option is the procurement and selection process to be followed, particularly as it relates to the construction services. There are two basic public procurement processes: competitive sealed bid and competitive sealed proposal. Under *competitive sealed bids*, the selection is made solely based on price (which must be clearly defined), with the award going to the responsible and responsive bidder submitting the lowest price. *Competitive sealed proposals* on the other hand require the use of evaluation factors that may or may not include price elements (i.e., cost, fee, etc.) as part of the evaluation criteria.

Under the two basic procurement processes, there are three selection methods that may be followed with proposals and one for bids.

For proposals:

- Qualifications (excluding any cost factors)
- Qualifications and Costs Factors (excluding the *Construction Cost of Work*)
- Qualifications and *Construction Cost of Work*

For bids:

- *Total Construction Cost* (excluding any qualifications)

A Word About "Price"

To appreciate the explanation of the difference between Competitive Sealed Bids and the two types of Competitive Sealed Proposals (cost and qualifications), it is helpful to have an understanding of the Total Project Cost.

Total Construction Cost
\+ Design Fees
Total Design & Construction Cost
\+ Balance of Project Costs
Total Project Cost

It is recommended that caution be used any time the word "price" is used and further clarification be offered to better determine which of the element(s) of the Total Project Cost is being referred to when the word price is mentioned.

Contract Type Factors

The contract type component of the project delivery options is related to the number of primary contracts for design and construction, and the basic services provided. The three primary contract types are defined with their distinguishing characteristics as follows:

- *Designer & General Contractor* (two prime contracts, one with each entity, *Designer* and *Constructor* with the GC contract after design is complete).
- *Designer & Construction Manager/General Contractor* (two prime contracts, *CM/GC* contract may provide for design related management services (e.g., cost estimating, constructability review, etc.) prior to construction).
- *Designer/Constructor* (single contract for design and construction with one entity).

The Matrix: Selection Method and Contract Type

Conceivably, any contract type can be implemented with any selection method. However, some combinations may not be practical, desirable, or prudent in most circumstances. The dual decisions to (a) use a particular contractual arrangement, and (b) use any of the four selection methods should be

made concurrently. As discussed in the following section, **Project Delivery Method Selection Criteria & Processes**, the decision must also consider several *Owner* and project related critical factors such as:

- The desired contractual and working relationship between the parties
- The timing and scope of services to be provided
- The timing and extent of detailed project information available to support the procurement/selection process.

Given the above, the balance of this section of the handbook discusses those combinations of contract type and selection method that yield project delivery methods suitable for the public procurement arena and that are accepted by the Alaska Department of Education & Early Development. Also, for the sake of simplicity, titles for each project delivery option are introduced that most closely align industry terminology with the department's goals for each of the delivery options. For example, the traditional public sector delivery method of having separate design and construction contracts, and where the contractor is selected by evaluating the lowest *total construction cost* offered, is most commonly referred to as **Design-Bid-Build**.

The complete list of project delivery options treated in this handbook, along with the corresponding selection method is:

1. **Design-Bid-Build** – competitive sealed bids (D-B-B)
2. **Construction Management/General Contractor** – competitive best value of cost and qualifications (CM/GC BV)
3. **Construction Management/General Contractor** – competitive qualifications (CM/GC QBS)
4. **Design-Build** – competitive best value of cost and qualifications (D-B BV)
5. **Design-Build** – competitive qualifications (D-B QBS)
6. **Design-Build** – competitive sealed bids or proposals (D-B Bid)

Many who are primarily familiar with Design-Bid-Build think of Design-Build as the only "alternative" delivery option. Several states' attempts at legislating alternative project delivery have been very successful in adding one or two options to the traditional list of one (Design-Bid-Build). Few it seems, however, have included all the options very clearly.

Again, since there are no industry standard definitions, everyone has chosen a slightly different set of characteristics to define various delivery options. The **Project Delivery Option Matrix** (see ~~following~~ page 12) takes this to its simplest form and identifies the characteristics that this handbook uses to uniquely define each option. Each individual can take any delivery option, test it against these criteria, insert their own names and they will be able to align the name of their method with the names chosen for use by DEED for review and approval of project delivery options listed in the matrix. If a contract type and selection method cannot be categorized as a version of these six basic options, the reader is encouraged to contact DEED/Facilities for clarification and assistance.

The following discussion provides the definitions chosen for each of the project delivery options. In order to have a definition that works in as many situations as possible, DEED limited the number of characteristics used to define each option to three unique variables. By having a unique combination of these three defining variables, each delivery option is "uniquely" defined.

There are many "other" characteristics that apply to each of these options. Some of these "other" characteristics are typical characteristics of a particular delivery option but are not used in this handbook as a "unique" defining characteristic. The following example explains why:

> *Pre-construction Services*—work provided by a *Constructor* prior to construction start—are typically provided with the CM/GC project delivery option. Are preconstruction services essential to the definition of this delivery option? Could one use CM/GC, hiring a contractor based on criteria other than low price, after the design is already complete and the need for preconstruction services no longer required? Would this still be CM/GC? Based on the definition used in this handbook, the answer is yes.
>
> If pre-construction services were a "unique" characteristic, then you would have to have two types of CM/GC, one with and one without preconstruction services. This would not be right or wrong. The challenge would be where to stop. The more characteristics used to define a delivery option, the more "unique" combinations and thus, the more delivery options you would end up with on your list.

The goal was to keep the definitions used in this handbook as broad~~, as~~ and essential~~,~~ as possible so they will work with most industry accepted definitions. Therefore, for purposes of this handbook, characteristics such as preconstruction services are considered to be one of the "other" characteristics (though typical) of CM/GC, but not a "unique" defining characteristic of CM/GC.

Finally, before describing in detail the consensus delivery methods being made available for school capital projects through this handbook, it is appropriate to acknowledge three other project variants. The first, Force Account, is an alternate delivery method~~s~~ sometimes seen in Alaskan projects. The second, Multiple Prime Contracts, is a project strategy which, ultimately, will use one or more of the project delivery options described in this handbook. The third, Construction Management, has two common variations and is a project or program management strategy.

Force Account, sometimes referred to as 'In-House' on projects with small scopes, is a project delivery method in which there is neither a solicitation nor a contract between parties performing design and construction. Under this delivery method, the *Owner* serves as the *Constructor* and uses labor from its own forces—or direct-hired to supplement its forces—to complete the work. Since, under this delivery method, all risk is borne by the *Owner*, it is best used only on low-risk projects. DEED regulations provide for approval of Force Account or In-House project execution if the estimated cost is less than $100,000, or if it is determined to be in the best interest of the state (ref. 4 AAC 31.080(a).

> Multiple Prime Contracts is a project strategy that, in response to issues in the project environment, divides a project into discrete project elements or project phases and uses separate solicitations and contracts for each. Care must be taken to coordinate these contracts well. This project strategy can result in increased risk to the *Owner* when the work of one *Designer* or *Constructor* must be relied on by another to perform their work. DEED has no regulations prohibiting this project strategy, but each work element must be procured in compliance with regulations. (See page **Primary Factor:** *Ability to Participate in Multiple Trade Contractor/Supplier Evaluations* 28 for additional discussion of this strategy.)

Construction Management is a project or program management strategy. Construction Management professionals—often also Architects and Engineers—serve Owners in managing individual projects or entire capital project programs. The two most common contract structures for construction management services are CM-Advisor and CM-At Risk. A CM-Advisor serves as the Owner's principal agent to advise or manage all process over the life of the project regardless of the delivery method used. Alaska statutes (AS 14.11.020) provide for construction management activity on school capital projects with state-aid and implement some restrictions on the cost of this service as a portion of the project's appropriation. Under a CM-At Risk contract, the Owner not only uses a construction manager in the project development phases but also assigns that CM a construction performance role—essentially making that CM the legal equivalent of a general contractor or *Constructor*. There is inadequate statutory and regulatory authorization for awarding a CM-At Risk contract that ensures fair, open, and competitive selection for construction elements of a school project or projects. **As such, CM-At Risk contracts are not permitted for use on projects with funding under AS 14.11.**

There are three Yes/No toggles in the delivery option determination matrix, three questions that when answered in the affirmative or negative, provide the project delivery options from which an Owner may select. The combination of factors combines to create six, and only six, options under which a school capital project may be delivered. The three questions are these—

1. Are the *Designer* and *Constructor* contracts combined (or separate)?
2. Is the *Construction Cost of Work* a selection criteria?
3. Is the *Total Construction Cost* the sole selection criteria?

The resulting delivery options are as shown in the following table.

Project Delivery Options Matrix

SELECTION	DESIGNER & CONSTRUCTOR (SEPARATE CONTRACTS)	DESIGNER & CONSTRUCTOR (SAME CONTRACT)
Competitive Sealed Bid (Low Bid) **Total Construction Cost is sole criteria for selection**	**Design-Bid-Build**	**Design-Build-Bid**
Competitive Cost Proposal (Best Value) **Total Construction Cost weighted with other factors for selection**	**CM/GC Best Value (BV)**	**Design-Build Best Value (BV)**
Competitive Qualifications Proposal (Qualifications Based Selection) **Total Construction Cost not a factor for selection**	**CM/GC (QBS)**	**Design-Build (QBS)**

In the following discussion, the unique combination of characteristics is listed for each project delivery option along with some "other" characteristics that are typical of each option but not defining. An overview of the typical phases of each delivery option is also covered.

~~Defining~~ Design-Bid-Build (D-B-B) ~~–~~

~~Unique Characteristics of (D-B-B)~~

Design-Bid-Build (D-B-B) is the most common project delivery option. It is often referred to as the "traditional" method. For school projects in Alaska with a state contribution, Design-Bid-Build is the default delivery method. All other project delivery options require a specified approval.

Unique Characteristics

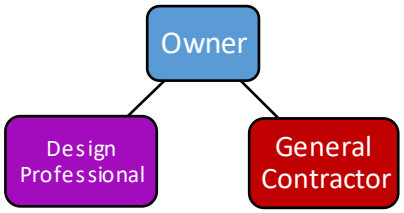
There are three prime players: *Owner*, *Designer*, and *Constructor* (general contractor).

The three-question test has the following result:

Test Question	Result
Are the *Designer* and *Constructor* contracts combined?	NO
Is the *Construction Cost of Work* a selection criteria?	YES
Is the *Total Construction Cost* the sole selection criteria?	YES

Contractor selection: Based on *Total Construction Cost* with the award going to the lowest responsible and responsive bidder.

Design-Bid-Build (Two Separate Contracts for Design & Construction)



~~Design-Bid-Build –~~ Other Characteristics

- Relationship of Phases: L~~l~~inear sequencing of each of the project phases
- Ability to Bring *Constructor* on Board During Design: **No**
- Risk Allocation: Design risk (quality) allocated to *Designer*; Construction risk (cost and schedule) allocated to general contractor after design is complete and completion of bid and award phase; *Owner* is responsible for adequacy and completeness of design.

Phases ~~– Design-Bid-Build~~

- Planning – The scope of the project and expectations of quality are established by the *Owner* and any consultants it may need. A delivery option is selected and corresponding budget and schedule are also established.
- Design – When the Planning has been completed, the *Owner* selects and engages the design team for the design and preparation of construction documents.
- Award – When design documents are complete, they are used for construction bidding. A *Constructor* is selected based on the lowest responsible and responsive price offer and construction cost commitments are made.

- Construction – The *Owner* contracts for construction with the general contractor and the project is built.
- Occupancy – After the construction of the entire project has been completed, the *Constructor* leaves the site to allow for move-in (installation of *Owner*-furnished equipment and furnishings) and occupancy. If arrangements are made in advance, certain areas of the project (partial occupancy) can be occupied prior to the completion of the entire project.

~~Defining~~Construction Manager/General Contractor Best Value (CM/GC BV)~~–~~

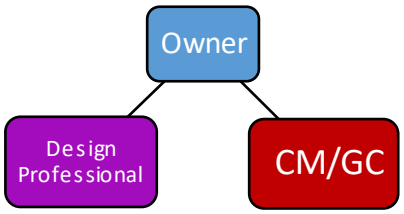
Unique Characteristics ~~of CM/GC BV~~

There are three prime players: *Owner*, *Designer* and *Constructor* (manager-general contractor).

The three-question test has the following result:

Test Question	Result
Are the *Designer* and *Constructor* contracts combined?	NO
Is the *Construction Cost of Work* a selection criteria?	YES
Is the *Total Construction Cost* the sole selection criteria?	NO

CM/GC (BV)
(Two Separate Contracts for Design & Construction)



CM/GC selection: Based on a best value weighting of *Total Construction Cost* with other factors; the award goes to the CM/GC that best meets the predefined qualifications and cost selection criteria.

~~CM/GC Best Value –~~ Other Characteristics

- Relationship of Phases: C~~e~~an accommodate overlapping of each of the project phases
- Ability to Bring Constructor on Board During Design: **Yes**
- Risk Allocation: Design risk (quality) allocated to *Designer*; Construction risk (cost and schedule) allocated to CM/GC at the time of selection based on the design documents at the point in time of the selection. *Owner* is responsible for adequacy and completeness of design.

Phases ~~– CM/GC Best Value~~

- Planning – The scope of the project and expectations of quality are established by the *Owner* and any consultants it may need. A delivery option is selected and corresponding budget and schedule are also established.
- Design – When the Planning has been completed, the *Owner* selects and engages the design team for the design and preparation of construction documents.
- Award – Generally prior to the completion of design documents, a CM/GC is selected based on a combination of price and qualifications and a guaranteed maximum price for construction is established at selection.
- Construction – The *Owner* contracts for construction with the CM/GC who then contracts with the various trade contractors using cost as the primary selection criteria. The CM/GC can be available during the final design phase to assist in constructability and budget reviews. Work can begin as soon as phased construction documents are completed.
- Occupancy – After the construction of the entire project has been completed, the *Constructor* leaves the site to allow for move-in (installation of *Owner*-furnished equipment and furnishings) and occupancy. If arrangements are made in advance, certain areas of the project (partial occupancy) can be occupied prior to the completion of the entire project.

~~Defining~~Construction Manager/General Contractor Qualifications Based Selection (CM/GC QBS)~~ –~~

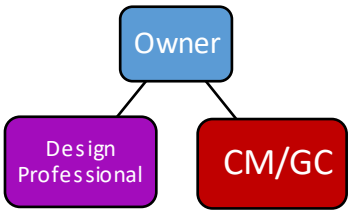
Unique Characteristics ~~of CM/GC QBS~~

There are three prime players: *Owner*, *Designer* and *Constructor* (manager-general contractor)

The three-question test has the following result:

Test Question	Result
Are the *Designer* and *Constructor* contracts combined?	NO
Is the *Construction Cost of Work* a selection criteria?	NO
Is the *Total Construction Cost* the sole selection criteria?	NO

CM/GC (QBS)
(Two Separate Contracts for Design & Construction)



CM/GC selection: Qualifications based; does not incorporate any weighting for the *Construction Cost of Work*. Rather, selection is based on weighting of predefined criteria with the award going to the offeror that best meets the predefined criteria; selection criteria must include weighting of some cost factors at 50% unless otherwise approved by DEED. Typically these include *General Conditions* or *Fee* costs.

~~CM/GC QBS –~~ Other Characteristics

- Relationship of Phases: C~~e~~an accommodate overlapping of each of the project phases
- Ability to Bring *Constructor* on Board During Design: **Yes**
- Risk Allocation: Design risk (quality) allocated to *Designer*; Construction risk (cost and schedule) allocated to CM/GC after design is complete enough to allow all parties to mutually agree. *Owner* is responsible for adequacy and completeness of design.

Phases ~~– CM/GC QBS~~

- Planning – The scope of the project and expectations of quality are established by the *Owner* and any consultants it may need. A delivery option is selected and a corresponding budget and schedule are also established.
- Design - When the Planning has been completed, the *Owner* engages the design team for the design and preparation of construction documents for the project.
- Award – Generally prior to the completion of the design documents, a CM/GC is selected based on the qualifications of the CM/GC. The cost of the CM/GC's *Fee* and *General Conditions* may also be a consideration.
- Construction – The *Owner* contracts for construction with the CM/GC who then contracts with the various trade contractors based on selection criteria agreed upon by the *Owner*. The CM/GC can be available during the final design phase to assist in constructability and budget reviews. Work can begin as soon as phased construction documents are completed. The establishment of the Guaranteed Maximum Price or Lump Sum can be postponed until more complete design and cost information is available.
- Occupancy – After the construction of the entire project has been completed, the *Constructor* leaves the site to allow for move-in (installation of *Owner*-furnished equipment and furnishings)

and occupancy. If arrangements are made in advance, certain areas of the project (partial occupancy) can be occupied prior to the completion of the entire project.

~~Defining~~Design-Build Bid –

Unique Characteristics

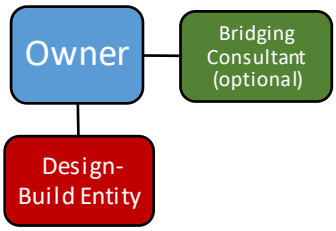
There are two prime players: The *Owner* and the *Design-Builder*. [The *Designer* (architect/engineer) and the *Constructor* (general contractor) are combined into one entity.]

The three-question test has the following result:

Test Question	Result
Are the *Designer* and *Constructor* contracts combined?	YES
Is the *Construction Cost of Work* a selection criteria?	YES
Is the *Total Construction Cost* the sole selection criteria?	YES

Design-Builder selection: Based on *Total Design and Construction Cost* with the award going to the lowest responsible and responsive bidder.

Design-Build Bid (Single Contract for Design & Construction)



~~D-B Bid~~ Other Characteristics

- Relationship of Phases: Can accommodate overlapping of each of the project phases
- Ability to Bring *Constructor* on Board During Design: **Yes**
- Risk Allocation: Design risk (quality) and Construction risk (cost and schedule) allocated to *Design-Builder* at the time of selection based on design criteria at the point in time of the selection. *Design-Builder* is responsible for adequacy and completeness of design and subsequently the entire project; *Owner* is responsible for adequacy of design criteria.

Phases ~~D-B Bid~~

- Planning – The scope of the project and expectations of quality are established by the *Owner* and any consultants it may need. A delivery option is selected and a corresponding budget and schedule are also established.
- Bridging - Hiring a consultant (optional) to assist in developing the design to some point without completing the final design, and then allowing another firm, usually a design-build entity, to complete the design is referred to as bridging. The initial design firm is often referred to as the "bridging architect" and the firm completing the design is the architect of record and assumes the liability for the design.
- Design – Based on a set of design criteria provided by the *Owner* (which should be extensive if using this option), *Design-Builder* prepares phased construction documents. *Constructor* component of the *Design-Builder* is available during this period for constructability and budget reviews.
- Award – Concurrent award of both the design and construction phases. Lump Sum is established at selection.
- Construction – *Design-Builder* selects trade contractors, usually with cost as the primary selection criteria. Construction can begin as soon as phased construction documents are available.
- Occupancy – After the construction of the entire project has been completed, the *Constructor* leaves the site to allow for move-in (installation of *Owner*-furnished equipment and furnishings) and occupancy. If arrangements are made in advance, certain areas of the project (partial occupancy) can be occupied prior to the completion of the entire project.

~~Defining~~Design-Build Best Value (D-B BV)~~ –~~

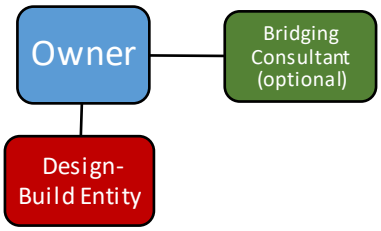
Unique Characteristics~~ of D-B BV~~

There are two prime players: The *Owner* and the *Design-Builder*. [The *Designer* (architect) and the *Constructor* (general contractor) are combined into one entity.]

The three-question test has the following result:

Test Question	Result
Are the *Designer* and *Constructor* contracts combined?	NO
Is the *Construction Cost of Work* a selection criteria?	YES
Is the *Total Construction Cost* the sole selection criteria?	YES

Design-Build (Best Value)
(Single Contract for Design & Construction)



Design-Builder selection is based on some weighting of *Total Construction Cost* including the *Construction Cost of Work* with the award going to the Design/Builder that best meets the predefined qualifications and cost selection criteria.

~~Design-Build BV –~~ Other Characteristics

- Relationship of Phases: Can accommodate overlapping of the project phases
- Ability to Bring *Constructor* on Board During Design: **Yes**
- Risk Allocation: Design risk (quality) and Construction risk (cost and schedule) allocated to *Design-Builder* at the time of selection based on design criteria and building requirements at the point in time of the selection. *Design-Builder* is responsible for adequacy and completeness of design and subsequently the entire project; *Owner* is responsible for adequacy of design criteria.

Phases ~~– Design-Build BV~~

- Planning – The scope of the project and expectations of quality are established by the *Owner* and any consultants it may need. A delivery option is selected and a corresponding budget and schedule are also established.
- Bridging – Hiring a consultant (optional) to assist in developing the design to some point without completing the final design is referred to as bridging. The initial design firm is often referred to as the "bridging architect" and the firm completing the design is the architect of record and assumes the liability for the design.
- Design – Based on a set of design criteria provided by the *Owner*, *Design-Builder* prepares phased construction documents. *Constructor* component of the *Design-Builder* is available during this period for constructability and budget reviews.
- Award – Concurrent award of both the design and construction phases. Guaranteed Maximum Price is usually established at selection.
- Construction – *Design-Builder* selects trade contractors, usually with cost as the primary selection criteria. Construction can begin as soon as phased construction documents are available.
- Occupancy – After the construction of the entire project has been completed, the *Constructor* leaves the site to allow for move-in (installation of *Owner*-furnished equipment and furnishings) and occupancy. If arrangements are made in advance, certain areas of the project (partial occupancy) can be occupied prior to the completion of the entire project.

~~Defining~~Design-Build Qualifications Based Selection (D-B QBS)~~–~~

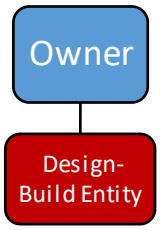
Unique Characteristics ~~of D-B QBS~~

There are two prime players: The *Owner* and the *Design-Builder*. [The *Designer* (architect) and the *Constructor* (general contractor) are combined into one entity.]

The three-question test has the following result:

Test Question	Result
Are the *Designer* and *Constructor* contracts combined?	YES
Is the *Construction Cost of Work* a selection criteria?	NO
Is the *Total Construction Cost* the sole selection criteria?	NO

Design-Build (QBS)
(Single Contract for Design & Construction)



Design-Builder selection is not based on any weighting of the *Construction Cost of Work*. Rather selection is based on weighting of predefined criteria, with the award going to the *Design-Builder* that best meets the predefined selection criteria. Selection criteria may include some weighing of *General Conditions Costs* and/or *Fee*.

~~Design/Build QBS –~~ Other Characteristics

- Relationship of Phases: Can accommodate overlapping of the project phases.
- Ability to Bring *Constructor* on Board During Design: **Yes**
- Design risk (quality) and Construction risk (cost and schedule) allocated to *Design-Builder* at the time of selection based on design criteria and building requirements at the point in time of the selection. *Design-Builder* is responsible for adequacy and completeness of design and subsequently the entire project; *Owner* is responsible for adequacy of design criteria.

Phases ~~– Design-Build QBS~~

- Planning – The scope of the project and expectations of quality are established by the *Owner* and any consultants it may need. A corresponding budget and schedule are also established.
- Design – Based on a set of design criteria provided by the *Owner*, *Design-Builder* prepares phased construction documents. *Constructor* component of the *Design-Builder* is available during this period for constructability and budget reviews. *Owner* and review agencies can participate in the process.
- Award – Concurrent award of both the design and construction phases. Establishment of Guaranteed Maximum Price or Lump Sum can be postponed until more accurate scope and cost information are available.
- Construction – *Design-Builder* selects trade contractors, usually with *Owner* input. Construction can begin as soon as phased construction documents are available.
- Occupancy – After the construction of the entire project has been completed, the *Constructor* leaves the site to allow for move-in (installation of *Owner*-furnished equipment and furnishings) and occupancy. If arrangements are made in advance, certain areas of the project (partial occupancy) can be occupied prior to the completion of the entire project.

Delivery Method Selection Criteria & Processes

Introduction

Having established a project delivery method vocabulary, the next step is to determine which of the options is most appropriate for a particular project. While no project delivery option is perfect, one option may be better suited than another based on the unique requirements for a particular project. This handbook does not assume there is only one acceptable option for project delivery. The requirements for each project should be evaluated to determine which of the various options would most likely produce the best outcome for the state and the school district or municipality/borough.

Prior to starting the process to select the most appropriate project delivery method it would be advisable to review again, your ~~entities'~~ entity's ability to choose among those listed in the previous section. Administrative code or policy within a given entity may also determine which project delivery options may be used. A review of pertinent laws, rules, regulations and policies early in the life of a project is also strongly recommended in order to allow time to obtain approval for use of an alternative project delivery method.

For example, regulations promulgated by the Department of Education & Early Development require that all contracts over $100,000 be awarded based on competitive sealed bids unless an alternative construction delivery method is approved, and the department concurs in advance of any solicitation that the proposed delivery method is in the state's best interest.

To be able to recommend the most appropriate option, experience in going through the thought-process of applying the factors outlined in this section is essential. It is even better, and widely considered to be good practice, to use the counsel of a group of trusted advisors who can help to ensure that all the factors and their interrelationships can be as fully evaluated as possible.

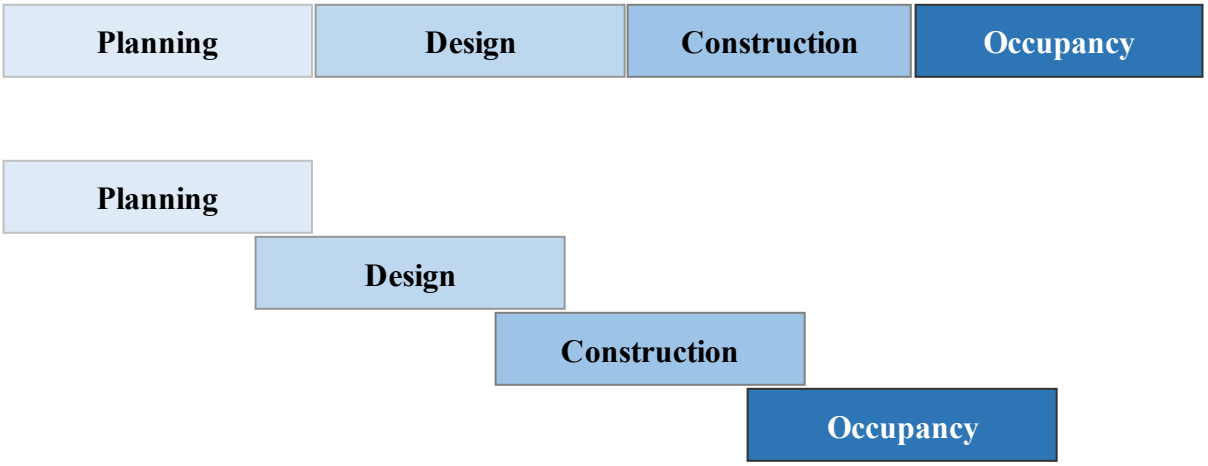
Trusted advisors should be experienced not only in going through the thought-process of applying the major factors, but ideally would be experienced with implementing all of the different delivery options. Everyone is biased based on his or her individual experiences. An advisor should be able to admit his or her prejudices based on their experiences and then set them aside to help evaluate which delivery option is in the best interest of a particular project.

The Project Environment

The recipient entity of state aid for school construction through DEED should consider the environment in which the project is taking place. It should assess the major factors influencing the project in question and then consider the requirements of the project in light of the unique characteristics of each of the identified project delivery options. By properly assessing these influences, the entity requesting approval from the department will not only be able request a specific delivery option, but will also be able to answer the question, "Why am I recommending this particular delivery option?"

Every project occurs in the context of a unique environment, an environment consisting of a variety of both physical and philosophical factors. This environment bears greatly on the successful maturation

of a project. That maturation occurs in four typical phases: planning, design, construction and occupancy. These can occur sequentially or may be overlapped (see illustration).



The main characteristics of a project's environment consist of: its schedule, the need and ability to establish and define its scope, the resources available to the project, the risks associated with the project, and the external constraints placed on the project.

Part of the project environment is the associated risks. The risks associated with the design and construction process are generally not affected by the chosen project delivery method. However, the timing and the allocation of the risk does vary depending on the project delivery method. Therefore, each delivery option provides a different approach to allocating the risks and typically will result in timing differences in transferring the various risks. Any first time user of any project delivery option is cautioned to be sure they understand these differences.

The degree of risk assumed by the *Designer* and/or *Constructor* should be directly proportional to the cost associated with the project. The risk(s) associated with a construction project should be allocated to the party with the best ability to control and manage that risk. The purchase and the requirement for purchase of insurance coverage is just one way in which *Owners*, *Designers*, and *Constructors* try to allocate and control~~s~~ some of the risk.

In selecting the appropriate delivery method, a thorough review of the potential risks and their allocation should be performed. The *Owner* should evaluate its ability and willingness to assume the risk inherent to the option selected. To accomplish this, each of the relevant major factors should be reviewed and considered.

Although identifying and coping with the factors in a project's environment is both complex and an ongoing task until completion is achieved, the focus of this handbook is primarily project initiation not project execution. We will use the luxury of this focus to narrow our determination of primary factors from the overall project environment to those that bear most directly on determining the "best" project delivery method. We are further assisted in this effort by one of the external factors for school construction projects receiving state--aid. This external factor is that the Design-Bid-Build project delivery option is the standard project delivery method for school construction projects. However, we

can recognize there are some primary factors affecting particular projects that might eliminate this delivery method or make it untenable without significantly increasing risk.

Establishing Determining Factors

This handbook groups the *Primary Factors* into five categories as shown in the table below:

Need Factors

Schedule/ Necessity to Overlap Phases

- Tight Project Milestones or Deadlines
- Amount of Overlap of Design & Construction Phases

Ability to Define the Project Scope/Potential for Changes

- Scope Definition
- Potential for Changes During Construction
- Need/Desire for the Contractor's Input During Design
- Flexibility to Make Design Changes After Construction Cost Commitments

Success Factors

Owner's Internal Resources & Philosophy

- Ability or Desire to Define and Verify Program & Design Content/Quality
- Experience with the Particular Delivery Method & Forms of Contracts
- Ability to Participate in Multiple Trade Contractor/Supplier Evaluations
- Desired Contractual Relationship and Ability to Recoup Savings

Desire for a Single Contract or Separate Contracts

- Ability or Desire to Take Responsibility for Managing the Design
- Ability or Desire to Eliminate Responsibility for Disputes Between Designer and Builder

Regulatory/ Legal or Funding Constraints

- Regulatory and Statutory Requirements
- State Budget and Funding Cycles

These are certainly not all that needs to be considered but addressing these *Primary Factors* will guide the selection of the most appropriate delivery option. Furthermore, addressing these early in the project cycle will increase the chances for a successful project.

The first two categories are grouped as *Need Factors*. These factors determine the need to move away from the Design-Bid-Build delivery method established as the standard delivery method for projects administered by DEED. Entities requesting approval for an alternative project delivery method must "prove out" in these categories regardless of their desire or preference for a delivery method other than Design-Bid-Build. The remaining three categories are grouped as *Success Factors*. These are the elements of the project environment that can determine how likely a project is to succeed in using an alternative project delivery method and which of the delivery options is most appropriate. Many of these are tied to the *Owner's* ability to execute the project in a non-traditional method. Following an acceptance by DEED that a need to move away from the department's standard delivery method has been established, the requesting entity must demonstrate it both has chosen and that it has the ability to manage the factors of the project environment aligned with the successful implementation of the alternative delivery option being considered.

Selecting a Delivery Method

Although there are a number of factors in making a decision concerning which project delivery option to recommend, by the time a few *Pprimary Ffactors* are applied, it becomes apparent which options are least appropriate. By the process of elimination, the most appropriate option(s) can be determined.

For each factor, there is a *Critical Question* that should be considered. Grouped within the five categories, each *Pprimary Ffactor* is listed along with its critical question, appropriate commentary and the ramifications associated with the answer. *Need Ffactors* are addressed first.

NEED FACTOR: Schedule/Necessity to Overlap Phases

Primary Factor: *Tight Project Milestones or Deadlines*

Critical Question: *Is overlap of design and construction phases necessary to meet schedule requirements?*

Discussion: Schedule is always a consideration on construction projects and will often drive the selection of the project delivery option. During the planning phase, a preliminary schedule should be developed. This master schedule will include an estimated duration for each phase of the project: needs assessment, project identification, planning, design, award, construction, and occupancy.

Simultaneously, the school district entity should evaluate their required date for occupancy. Comparing this date to the date generated from early versions of the preliminary master schedule will indicate whether any acceleration or overlapping of any of the phases may be required. "Traditional" Design-Bid-Build is inherently a linear, sequential process as opposed to Design-Build or CM/GC, each of which is capable of overlapping ~~of~~ the phases in the design and construction process.

Ramifications: If the project requires a schedule that can only be maintained by overlapping of the design and construction phases, then one of the alternative delivery options should be considered.

Primary Factor: *Amount of Overlap of Design and Construction Phases*

Critical Question: *Is there time to complete the Design Development stage of the design prior to starting construction?*

Discussion: Assuming it has already been determined that a traditional linear approach to the design and construction phases will not work, and some overlapping of the two phases is necessary, the next question is, "How much overlap of the design and construction is required?" If the construction start date is dictated by the construction completion date, and is required to be very early in the design process (e.g., during the Schematic or early Design Development stages), then the *Owner* should understand the additional responsibility and risk it may be taking by retaining the design responsibility and holding the design contract.

Other factors such as available resources to manage the design, experience with managing the aggressive decision making that will be required, and the possibility of being placed in between the *Designer* and the *Constructor* would all be closely related to the evaluation of this factor.

Ramifications: If the project requires ~~that~~ construction to start early in the design process, then who is taking responsibility for managing the design and the timely completion of the design needs to be considered. Transferring the design risk to the party responsible for construction may be a reason to consider using Design-Build in lieu of CM/GC.

NEED FACTOR: Ability to Define the Project Scope/Potential for Changes

Primary Factor: *Scope Definition*

Critical Question: *Is the scope of work difficult to define?*

Discussion: Each District/Municipality is unique and will have special requirements that could have a major impact on determining the proper method of delivery. Similarly, the complexity of the project and the ability to fully define the scope, early in the process, could also have an impact on determining the appropriate project delivery option.

The three points in any project where the need to define the scope become critical are:

1. Prior to selection of a constructor
2. After selection of a constructor but prior to establishing quality, cost, and schedule
3. After establishing quality, cost, and schedule

Each delivery option will require different levels of scope definition at each of these critical points. The inability to fully define scope early in the process will have a direct impact upon the *Owner's* ability to manage scope and cost increases later in the project.

Ramifications: If it would be difficult to produce a set of drawings and specifications that will fully describe the work in question (e.g., a renovation of an existing building), then one of the qualifications-based selection options should be considered.

Primary Factor: *Potential for Changes During Construction*

Critical Question: *Is there a significant potential for changes during the construction phase?*

Discussion: Whenever the scope is difficult to define or other issues tend to indicate that there is a high potential for changes during the construction phase, careful consideration should be given on how this will be handled. If one of the competitive cost delivery options (D-B-B, CM/GC BV, D-B BV) is used, as much of the work as possible should be quantified before a lump sum cost is agreed upon. In an environment of high uncertainty, one of the competitive qualifications options (CM/GC QBS, D-B QBS) should be considered.

Ramifications: If the scope of the project is likely to change during construction, then one of the qualifications-based delivery options may be more appropriate. An example might be a project where the tenants are unknown or likely to change. In this example, the identification of the

tenants may be a cause for required changes throughout all phases of the project including during the construction phase.

Primary Factor: *Need/Desire for the Contractor's Input During Design*

Critical Question: *Is input from a Constructor during design required or desired?*

Discussion: Throughout a project, the *Owner* will make decisions based on their definition of value. What varies from one project delivery option to another is who (which team member) is providing the information and when are they providing it during the project sequence.

This handbook looks at two broad types of information provided: 1) Design Solutions and 2) Constructability (including cost and schedule review of design solutions). What differs with each delivery option is who is providing the information and when are they brought on board. Also, when the information is being provided, and whether the information is intended to be provided at specific points in time or continuously throughout the process will depend on which delivery option is chosen.

There are many times when the demands of the project are unique or difficult to quantify. In these instances, the option of having the *Constructor* on board during the design phase can be of value. The *Constructor* can assist in schedule development and monitoring, in constructability and budget reviews, in factoring in current market conditions, and in locating and procuring long lead equipment items and trade contractors necessary for the work.

If there are significant schedule, budget, or constructability issues, it can be helpful for the decision maker to review these issues during the design phase. Many times, the *Designer* does not have the range of experience in the actual construction of a project to adequately address these issues. However, it should be noted that it is possible to hire a consultant to perform these tasks that will leave the agency open to all of the delivery methods and enable management and development of the scheme prior to commitment to a *Constructor*.

Ramifications: If the assistance of the *Constructor* is desired during the design phase to assist in defining the scope, constructability reviews, schedule determination, or budget confirmation, then one of the alternative delivery options should be considered.

Primary Factor: *Flexibility to Make Design Changes After Construction Cost Commitments*

Critical Question: *Are your design and scope requirements fully defined?*

Discussion: The cost of making changes throughout a construction project increases as the project develops. In the worst case this would include needing to make changes to work already in place. In an ideal situation, the design should be developed to the point where the scope of work~~s~~ is known and the ~~amount~~ number of changes can be reasonably predicted before commitment to a *Constructor*.

Where the design is used as the basis for selection of the *Constructor* in a competitive cost environment, its completeness will be a key factor in the successful cost management of the project once a commitment has been made to a contractor, regardless of whether construction has started.

Ramifications: It is important when selecting your project delivery method to consider how tightly the scope of work can be defined and review whether design flexibility is required during the construction process. If a significant amount of flexibility is required after commitment to a contractor, then a qualifications-based selection method might be more appropriate than one of the competitive cost methods.

SUCCESS FACTOR: *Owner's* Internal Resources & Philosophy

Primary Factor: *Ability or Desire to Define and Verify Program and Design Content/Quality*

Critical Question: *Will the Owner utilize outside resources to verify quality?*

Discussion: The *Owner's* assurance that there is a responsible person designated to verify quality during construction will relate directly to the *Owner's* in-house resource availability, and to what party the *Owner* assigns the role of project management on each specific project. How much direct influence an *Owner* has on how the quality is defined and verified will be affected by the decision of which option is chosen.

The *Owner's* definition of quality must be identified and communicated for the record early in the process. The quality of a construction project can be characterized by the following:

- *Functional quality* – the ability of the facility space to meet the *Owner's* program requirements (as well as code and safety requirements)
- *Systems quality* – the ability of the various building systems to meet the *Owner's* defined needs
- *Aesthetic (scope) quality* – the level of design and finish as defined in the design documents
- *Workmanship quality* – the physical execution of the design

All of these are closely related. How they are defined and verified should be considered when determining which project delivery option to use.

In the standard Design-Bid-Build delivery option, the definition of quality is heavily dependent upon the architect's ability to understand and translate the *Owner's* needs. In the CM/GC delivery options, this task is still assigned to the architect, though with assistance from the contractor. In Design-Build the *Design-Builder* assumes these duties. Production ~~of~~ quality during the construction phase is, in every option, the primary responsibility of the *Constructor*, but the verification of that quality will vary between the options. The architect, as the *Owner's* representative, is responsible in Design-Bid-Build and CM/GC. The *Owner* assumes this role in Design-Build.

Ramifications: If in-house resources are not available, extra caution should be taken when using Design-Build. If Design-Build is desired and in-house resources are not available, outside

resources should be engaged to assist in verifying that the quality desired by the *Owner* is ~~incorporated~~achieved.

Primary Factor: *Experience with the Particular Delivery Method and Forms of Contracts*

Critical Question: *Are agency in-house personnel experienced in alternative delivery options or, if not, will in-house personnel be augmented by other agency or contracted personnel?*

Discussion: The responsibility for success on every school construction project ultimately rests with the entity executing the project. Thus, the responsibility for overseeing and managing the entire process resides with the *Owner*. A "project manager" typically handles the process, whether formalized or not. For a typical school project, this responsibility can be fulfilled in one of several ways including:

1. In-house resources
2. Another state agency (i.e., DOT/PF)
3. A third-party consultant

One factor to consider is the level of expertise and experience of the *Owner* embarking on the construction project. In deciding which project delivery option and form of contract to recommend, the availability of *Owner* staff resources and experience is a major consideration. Some entities perform construction routinely and have capable and available staff to manage all phases of the project. Others seldom involve themselves in construction and thus will need to obtain experienced assistance.

Obtaining assistance for the *Owner* from a third-party project or program manager in certain circumstances may be considered. There are unique requirements for the school construction process. This should be taken into consideration when evaluating the use of third-party resources.

Ramifications: Regardless of the delivery option selected, if the *Owner* is inexperienced in management of a capital outlay program, assistance should be obtained by contracting with an experienced professional or by making arrangements for assistance from another state agency that has that experience.

Primary Factor: *Ability to Participate in Multiple Trade Contractor/Supplier Evaluations*

Critical Question: *Does the Owner need the ability to participate in the selection and evaluation of trade contractors or suppliers?*

Discussion: There may be instances where the *Owner* has a direct interest in the selection and evaluation of subcontractors or suppliers for a portion or the majority of the work. For example, the *Owner* may have a complex security system within a building that will require development with a particular subcontractor.

Instances may also occur where many elements of the project scope require development, particularly in a fast-track environment, and a relationship is required that offers a high degree of flexibility in choice and cost transparency from the subcontractor via the contractor.

Ramifications: Where the input required is limited to specific trades or suppliers it is important to ensure the *Owner's* bid documents are structured in such a way to allow control over individual elements, in which case any of the delivery options could suit the *Owner's* requirements. However, if the *Owner* requires a high degree of flexibility across many elements of the project, or the level of control is anticipated but unknown, then a competitive qualifications selection option will afford the *Owner* greater control and cost transparency.

Primary Factor: *Desired Contractual Relationship and Ability to Recoup Savings*

Critical Question: *Does the Owner wish to have a complete and timely access to all of the Contractor's Information?*

Discussion: How the *Owner* selects the construction entity and the resulting contractual relationship created will affect what information is required to be provided and when. For example, whether or not the recipient entity and their consultants are participants in the specialty contractor and vendor selection process and the information shared during this process, will be a direct result of the contractual relationship created. Access to all available information may or may not be necessary or desired. The *Owner* should be aware that the selection of a project delivery option and the resulting contractual relationship would likely affect the manner in which information may be required to be provided.

Legally, a fiduciary relationship arises automatically in several situations, however the specific form of fiduciary relationship contemplated in this document is the one arising when a person or firm has a duty to act for another on matters falling within a contractual relationship. More specifically, a person or entity acting in a fiduciary relationship to the *Owner* owes the *Owner* the duties of good faith, trust, confidence, and candor, and must exercise a high standard of care in managing money and property.

A *Constructor* selection based solely on *Total Construction Cost* will generally result in a contractual relationship that is not a fiduciary one. This will affect the timing of the availability of information and the ability of the *Owner* to make use of that information. If the construction entity is not on board during the design (typical in Design-Bid-Build when cost is the only consideration), collaboration at this stage is not an issue. If, however, some contractor involvement during the design phase is needed, a *Best Value* selection that includes considerations other than *Total Construction Cost*, can be used in selecting the *CM/GC* or the *Design-Builder*. Nonetheless, the contractual relationship developed is generally very similar to Design-Bid-Build concerning access to information.

A *Qualifications Based Selection* (i.e., the *Construction Cost of Work* not a factor at the time of selection) will create a fiduciary relationship. This also allows complete and timely access to the contractor's information. If the project scope is difficult to define, or matching the scope to the project budget is anticipated to be difficult, then having a collaborative process could prove to be advantageous. In such situations, a *Qualifications Based Selection* might be more appropriate.

Ramifications: If the project necessitates an open, collaborative relationship among the parties, then a *Q~~q~~ualifications--B~~b~~ased S~~s~~election* should be considered.

SUCCESS FACTOR: Desire for a Single Contract or Separate Contracts

Primary Factor: *Ability or Desire to Take Responsibility for Managing the Design*

Critical Question: *Does the Owner have in-house design resources qualified to oversee design professionals, and does the Owner have the ability to commit sufficient resources to design management?*

Discussion: Some recipient entities may have professional staff capable of providing quality oversight of design professionals for the *Owner*. The *Owner* must make an honest self-assessment, taking into account factors regarding complexity of the project and competing obligations of in-house staff, to determine realistically whether the agency is capable of design management.

Given self-assurance in agency ability, the agency can then consider the practicality of any desire to take on the responsibility for providing design management. If the project is of such unique function that the *Owner* has greater knowledge of its design intent than the agency thinks could be translated reliably into a design without intimate involvement of the district or municipality's own staff, then the *Owner* should consider holding a separate contract with the design professional. However, if the desire exists, the *Owner* must consider its commitment to provide the necessary resources.

Ramifications: The a~~A~~bility and desire to manage the design of a project are both reasons to consider holding separate contracts for design and construction, and argue against Design-Build.

Primary Factor: *Ability or Desire to Eliminate Responsibility for Disputes Between Designer and Builder*

Critical Question: *Does the Owner desire to hold a single entity responsible for coordination, collaboration, and productivity for the entire project?*

Discussion: A completed project is the result of extensive coordination of talent and resources. The skill sets of the *Designer* are not the same as those of the *Constructor*. Viewpoints and interpretations differ, as do personalities, agendas, ethics, and levels of responsibility.

Although holding separate contracts allows the *Owner* to manage the project through the leverage of direct legal relationships with the *Designer* and with the *Constructor*, the *Owner* takes on the responsibility for resolving disputes between the other two parties. If the *Owner* has the greater desire to transfer that responsibility than to use his contractual leverage, its tool is the single contract with an integrated contractual delivery method—Design-Build.

Ramifications: The integrated nature of Design-Build, with its single contract, allows the *Owner* to hold a single entity responsible for the project and keeps disputes between the *Designer* and the

Constructor in-house with the *Design-Builder*. The trade-off is the loss of *Owner* leverage penetrating separately to the differing skill sets and corresponding work products.

SUCCESS FACTOR: Regulatory/Legal or Funding Constraints

Primary Factor: *Regulatory and Statutory Requirements*

Critical Question: *Do laws, rules, regulations, etc., permit the use of an alternative project delivery method?*

Discussion: The statutory and regulatory basis for use of alternative project delivery methods on school construction projects has already been set out in an earlier portion of this publication.

The local requirements, under which a District/Municipal entity undertaking a project operates, may ultimately be the deciding factor in selecting the project delivery option. While the statutes, regulations and policies of the Departments of Administration (DOA) and Transportation & Public Facilities (DOT/PF) govern the procurement process for most State agencies, political subdivisions of the state may adopt their own laws, rules, regulations, and policies. While it is generally safe to say that the "standard" method of *Design-Bid-Build* is an acceptable method for all District/ Municipal entities, a review of the pertinent laws, rules, regulations, and policies early in the life of the project is strongly recommended in order to allow time to obtain approval for use of an alternative project delivery option. Regulations within a given locality may also determine which project delivery option can be used.

For school capital projects that incorporate state aid through the Department of Education & Early Development, regulations require that all contracts be awarded based on competitive sealed bids unless an alternative delivery option is approved by the commissioner. The commissioner will base a decision on the rationale provided by the requesting agency and the factors discussed in this handbook.

Ramifications: The decision on what delivery option is most appropriate must be made early in the planning phase of the project and properly documented so that sufficient time and justification can be prepared to gain approval for an alternative delivery option if that option is most appropriate.

Primary Factor: *State Budget and Funding Cycles*

Critical Question: *Is funding available for construction at initiation of design?*

Discussion: The State's budget and funding cycle could have an impact on the timing, sequencing, and a subsequent recommendation of a project delivery option. There are three funding combinations for design and construction addressed by this handbook. One is complete project funding that would include design and construction funding all at one time. The second is phased project funding, which is one funding for design, and a second separate funding for construction. The third, is phased construction funding which is one funding for design and then funding of multiple components of construction each funded separately.

Ramifications: While any of the options will work with complete project funding, any phasing of the funding can have a major impact on the decision of which option to select. For example, without complete project funding, Design-Build is not feasible.

Summary

With a list of options and list of major factors to consider, the goal is to determine through a process of elimination, "Which project delivery options are least appropriate to recommend on my project?"

The order in which the *primary factors* are applied by DEED in the review and approval process is illustrated in the ***DEED Alternative Project Delivery Approval Flowchart*** shown in Appendix B. An assessment of the *Need Factors* is applied to the project, any one of which may drive the need to use an alternate project delivery method. Next, the *Success Factors* are applied. These factors reflect judgments that must be made regarding the ability of *Owners* to be successful in implementing a particular delivery method. You should consider the input of several advisers who have experience going through this process. This experience will enable the *Owner* to understand the consequences of managing the project under the various delivery options.

For example, the need to accelerate the schedule may be cited as one of the primary reasons Design-Bid-Build is not the best option. There are circumstances, however, where breaking the project into multiple prime bid packages, each being design-bid-build, is a perfectly reasonable option. Having someone with the experience and understanding of how to manage such a process, and the risks associated with it, could offer valuable guidance as to many of the pros and cons of delivering a specific project using the multiple prime contractor variant of the Design-Bid-Build project delivery method.

As the factors are considered, how they relate to the ***DEED Project Delivery Option Matrix*** (p. 12) demonstrates which options have been eliminated. Since every project is unique, which factors apply and the weight they need to be given is also unique on every project. A group of trusted advisers should be able to use the benefit of their experience to assist the *Owner* in determining which factors should carry the most weight and ultimately which of these six options is most appropriate for each particular project.

Implementing Project Delivery Methods

Introduction

Just selecting the "right" delivery option is not enough. There are numerous details to be addressed in order to ensure the desired results are achieved. Requests For Proposals (RFPs) that clearly spell out expectations and match the right selection criteria with the right project delivery option are examples of the type of issues that must be addressed when implementing any project delivery method. Entities looking for assistance with these issues will benefit from the following information.

Considerations for Solicitation and Award

Using the ***DEED Project Delivery Options Matrix***, *Primary Factors* and ***DEED Alternative Project Delivery Approval Flowchart***, entities requesting an approval of an alternative delivery method under 4 AAC 31.080(f) will need to provide the following evidence and supporting documents.

Concurrence Items (Required prior to approval of alternative project delivery method)

- Provide a resolution from the municipal/borough entity or school board authorizing the requested alternative project delivery method; if municipal/borough code allows the use of the requested delivery method, a copy of that code can substitute for a dedicated resolution.
- Provide a document supporting the requested alternative project delivery method as being in the best interest of the state; address:
  - How the alternative delivery method effort will result in lower project costs/increased value to the state (be specific);
  - How quality standards will be maintained; and
  - How unknown conditions will be accounted for.
- Provide the name and qualifications of the *Owner's* project manager for the alternative delivery method process (list specific experience in the requested delivery method).
- Describe the basic process leading up to the award of the alternative delivery method contract (establish how competitive selection will be achieved).

Upon approval of an alternative delivery method under 4 AAC 31.080(f), directives will be issued by the department applicable to each individual project. These directives will be based on the following factors, some of which are required and will be applied to each project approved for an alternative delivery method and some of which are discretionary and will be applied as needed by the department to either increase the likelihood of a successful project or establish a stronger determination of "best interest" for the state:

Required Alternative Project Delivery Directives

- The alternative project delivery solicitation will occur under competitive, sealed proposals or, in the case of Design-Build-Bid, sealed bids.
- The RFP must contain the following information:
  - The aggrieved offeror protest provision meeting requirements of 4 AAC 31.080(c);
  - Identification of project bonding, insurance, and prevailing wage requirements; and
  - Identifications of the required project warranty period.
- The solicitation RFP and supporting documents including, but not limited to 1) a cost estimate based on the RFP documents and prepared by a qualified cost estimator showing the anticipated

construction cost to be at or below the budgeted amount, 2) the proposed scoring criteria, 3) positions held by evaluation team members, and 4) a copy of the agreement by which the work is to be undertaken, including any general conditions, supplementary conditions, and other project documents that the agreement will incorporate by reference must be approved by the department prior to advertising.

- The RFP evaluation team will include maximum of five members and must include a Facilities staff member from DEED if determined to be appropriate by the DEED Facilities Manager.
- Evaluation team meetings may be in person, ~~or~~ by telephone, or online meeting platform.
- A majority of the evaluation team must be experienced facilities professionals; the non-majority may consist of educators, board members or other elected/appointed officials, or other interested parties.
- The contract awarded must either be a *guaranteed maximum price* (GMP) or fixed price contract (allowances for cost savings may be incorporated).
- Sealed cost proposals will be provided separate from the responses to remaining proposal items and will be reviewed only after all other evaluation elements are finalized.
- Provisions for local hire as an evaluation criteria or contract performance requirement are excluded (ref. State of Alaska Attorney General advice dated February 18, 2004).

Additional Alternative Project Delivery Directives

- The RFP will require a guaranteed maximum price (GMP) from each offeror with a breakdown of costs by DEED Cost Format, Level 2.
- For Best-Value selections, consideration of cost as a selection criterion will incorporate an evaluation of both the GMP and an evaluation of the offeror's *General Conditions* and *Fees*. The GMP will constitute at least 50% of the possible scoring with all cost factors constituting at least 60% of the possible scoring.
- For QBS selections, the RFP will require objectively calculated cost factors to include the *Pre-construction* cost, *General Conditions* costs and the constructor's *Fee* to combine for at least 50% of the available points.
- An independent cost estimator will be retained, and a cost estimate will be prepared for the work prior to negotiation of the lump-sum contract.
- A separate scoring factor will be included in the evaluation criteria to evaluate the offeror's plans/abilities to incorporate the resulting facility into a preventive maintenance and facility management program.
- Prior to solicitation, designs will be completed to a sufficient detail (approximately 35% or greater) to provide clarity to the scope of the project and will contain: design standards, necessary drawings, material specifications, performance specifications, project constraints, and other information relevant to the project. (Note: this directive will become required for any request for Design-Build.)
- Identification of project documentation (i.e., software, manufacturer's literature, product warranties, product operating handbooks, inventory of installed equipment, maintenance cycles, etc.) required to establish an effective preventative maintenance and facility management program as defined by AS 14.11.011(b)(4) will be included in the RFP.
- Evaluation criteria and weighting as selected from Appendix C may be mandated by DEED to ensure selection criteria is responsive to the project environment.
- Restrictions on the use of a multi-step selection process. A multi-step selection process is any solicitation which evaluates offerors using sequential criteria. Typical first-step criteria

~~includes~~include qualifications/experience, technical capability, capacity, etc. and usually result~~s~~ in a short-list of qualified offerors continuing to subsequent steps and contract award.

- Legal review of the RFP by the entity's attorney or an independent counsel experienced in construction solicitations and familiar with the ~~entities~~entity's local codes and structure.
- For projects including site ~~as a~~in the criteria, provide site parameters and site selection criteria.
- In accordance with 4 AAC 31.025, sufficient interest via a deed or lease will be established for the proposed site prior to advertising.
- *Owner* representation must be provided by one of the following methods:
  - The *Owner* must provide a dedicated project manager with suitable experience and credentials to establish criteria, perform inspections and enforce *Owner* requirements;
  - The *Owner* must contract for project management/*Owner* representation by a consultant (subject to the provisions of statutory limitations on fees – AS 14.11.020, and professional services procurement requirements – 4 AAC 31.065); or
  - The design team is to be retained by the district under a separate contract from that of the general contractor and will act on the *Owner's* behalf.
- All construction materials that are to be installed by the contractor are to be purchased by the contractor; the recipient (i.e. municipality/borough/school district) shall not purchase and/or stock pile materials that are to be utilized by the contractor as part of the project construction.
- The price component will be factored such that the difference between the lowest cost proposal and other proposals grows at a rate of twice the proportionate differential between offers (a sample of that formula is depicted below).

$$Total\ GMP\ Points = 300 \times (Lowest\ Received\ GMP \div Proposers\ GMP) - 200$$

[where 100 is the maximum points available for the GMP]

Requesting Department Approval

Template

A Microsoft Word (.docx) template in is available from the department. The template has the analysis structure from this handbook with prompts for project-specific discussion to meet all department information requirements.

Request Letter

If the template is not used, a Recipient requesting department approval of an alternative project delivery method must include the information and analysis identified in the Delivery Method Selection Criteria & Processes section; summarized as the following:

1. Name the requesting district, project title and DEED project number (if available), and date of request.
2. Description of the project environment: scope and conditions.
3. Identify the project manager and any contributing entities (design team, district personnel, etc.).
    a. Provide qualifications and experience with requested project delivery method.
4. Identify the project delivery option being requested based on the options analysis.
5. A project delivery options analysis.
    a. Discuss the Need Factors and Success Factors of the project. Provide project information and ramifications or conclusions regarding each factor.
    b. Discuss how quality standards will be maintained.
    c. Address how unknown conditions will be accounted for.
6. Results of the options analysis.
7. Anticipated project schedule with and without the requested delivery method.
8. The basic process leading up to the award of the contract (establish how competitive selection will be achieved).
    a. Address the solicitation process.
    b. Identify the proposed makeup of the evaluation team.

Tips

- Provide an executive summary preceding the full options analysis. This can be a sentence stating the option being requested or a more complete summary of the process and result.
- Use the flowchart in Appendix B early in the process to help eliminate inappropriate methods.

Conclusion

The environment in which a project is initiated may necessitate an *Owner* to take specific, intentional steps toward setting its course in order to achieve a successful project. Those steps include assessing the project delivery method most likely to result in a project that meets scope, schedule, and budget constraints.

This handbook builds on an analysis of historic use of alternative project delivery methods on school projects in Alaska. It provides both a framework for clear discussion of the options and a process of evaluation whereby an *Owner* may, in conjunction with trusted advisers, determine the ~~appropriateness~~ suitability of using an alternative delivery method.

Stipulations and directives for various delivery methods are included for use once a best-interest determination has been made in favor of an alternative method. These directives are intended to keep the process of selecting construction entities for public capital projects funded with state aid through the Department of Education & Early Development open and fair.

Sources

1. *Project Delivery Options – Understanding Your Options*; Atlanta, GA; Georgia State Financing and Investment Commission, 2003.

2. *Project Delivery Options – Selecting the Appropriate Project Delivery Option*; Atlanta, GA; Georgia State Financing and Investment Commission, 2003.

Appendix A

Glossary

CM/GC Best Value (BV)

This is the construction manager as general contractor (at-risk) method. This method is defined by ~~the~~ use of separate design and construction contracts where the cost of the work is ~~a~~ one of the selection criteria and the total construction cost is not the sole selection ~~criteria~~criterion.

CM/GC QBS

This is the construction manager as general contractor (at-risk) method with a variation of the selection process. This method is defined by ~~the~~ use of separate design and construction contracts where the cost of the work is not one of the~~a~~ selection criteria nor is the total construction cost the sole selection ~~criteria~~criterion.

Competitive Sealed Bid

A standard solicitation provision whereby an offeror's price proposal is transmitted in a sealed envelope for consideration at a bid opening for comparison with other offerors. This solicitation method is the default method under DEED regulation.

Competitive Sealed Proposal

An alternative solicitation process whereby factors other than, or in addition to, price are solicited for consideration. Offeror~~'~~s are usually scored by a selection panel. This solicitation method is allowed under DEED regulation when supported as being in the state's best interest.

Constructor

The entity in a capital project responsible for the construction of a facility or infrastructure project (as differentiated from "contractor", which can be any entity providing a product or service).

Constructor's Fees

The component of a Constructor's Total Construction Cost that are above its direct and indirect costs (i.e., its profit); usually expressed as a percentage of those costs.

Construction Cost of Work

The fixed costs of labor and materials as provided for in the project scope.

Contract Type

The type of contractual arrangement between *Owners*, Designers and Constructors. Contract Type is one of the two determinants, Selection Method being the other, of a project delivery method.

Critical Question

The central question for each Primary Factor in the decision making process related to selection of the most beneficial project delivery method. Answers to critical questions are used to move through the *Alternative Project Delivery Approval Flowchart* to determine delivery options that best match a project's environment.

Designer

The entity in a capital project responsible for the design of a facility or infrastructure project and the documentation of that design for use by the Constructor.

Design-Bid-Build

Often referred to as the "traditional" project delivery method. This method is defined by the use of separate design and construction contracts where the cost of the work is one of the~~a~~ selection criteria and the total construction cost is the sole selection ~~criteria~~criterion.

Design-Build Best Value

This is normal design-build. This method is defined by the use of a combined design and construction contract where the cost of the work is ~~a~~ one of the selection criteria and the total construction cost is not the sole selection ~~criteria~~criterion.

Design-Builder

A term used to identify the entity contractually responsible to the *Owner* for both the Design and Construction of a capital project.

Design-Build Low Bid

This is a specific variation of the design-build project delivery method. This method is defined by the use of a combined design and construction contract where the cost of the work is ~~a~~ one of the selection criteria and the total construction cost is the sole selection ~~criteria~~criterion.

Design-Build QBS

This is normal design-build with a variation on the selection process. This method is defined by the use of a combined design and construction contract where the cost of the work is not ~~a~~ one of the selection criteria nor is the total construction cost ~~is~~ the sole selection ~~criteria~~criterion.

General Conditions

The component of a Constructor's Total Construction Cost that account for its cost of doing business that are not direct costs for materials and labor on a capital project (i.e., its overhead); usually itemized by category such as "home office", insurance, etc. but can be expressed as a percentage of direct costs.

General Contractor

The contractual entity responsible to an *Owner* for the delivery (execution) of a facility or infrastructure project. Subcontractors work under the authority of the General Contractor but do not have a direct contractual relationship with the *Owner*.

Need Factors

The subset of Primary Factors that drive an *Owner's* need to explore and/or use alternative project delivery methods. These factors pertain to challenges related to a projects schedule and scope definition.

Owner

The entity in a facility or infrastructure project that will issue contracts and direct work related to the design and construction and make payments following performance; the *Owner* is normally also the end user of the project.

Pre-construction Services

Services provided by a Constructor to support of the Designer in finalizing a project's design prior to the commencement of construction. Typical services include cost estimating, constructability reviews, schedule analysis, value analysis, phased construction, etc.

Primary Factors

The group of key factors of a project's environment that test both the need to move from Design-Bid-Build delivery and the *Owner's* likelihood of success using an alternative project delivery option.

Project Delivery Options Matrix
The matrix of basic options for the delivery of construction projects which results from the combination of selection methods (3 possible) and contract types (2 possible). This matrix yields six unique combinations understood to encompass all project delivery methods and their variants.

Qualifications Based Selection (QBS)
A method of selecting a Constructor where the Total Construction Cost is not a factor for selection. Under this method, constructors are primarily evaluated based on the qualifications they have that would indicate their ability to succeed on a particular project.

Selection Method
The method by which an *Owner~~s~~* will select the Constructor for a capital project. Differentiation of Selection Methods hinges on the role of the Total Construction Cost in the selection process. Selection Method is one of the two determinants, Contract Type being the other, of a project delivery method.

Success Factors
The subset of Primary Factors that drive assess an *Owner's* ability use alternative project delivery methods. These factors pertain to challenges related to resources, philosophy, and legal constraints.

Total Construction Cost
A Constructor's price for the execution of a facility or infrastructure project inclusive of the Construction Cost of Work (direct costs), General Conditions (overhead) and Fee (profit). Often solicited by *Owner~~'~~s* as a lump sum or guaranteed maximum price.

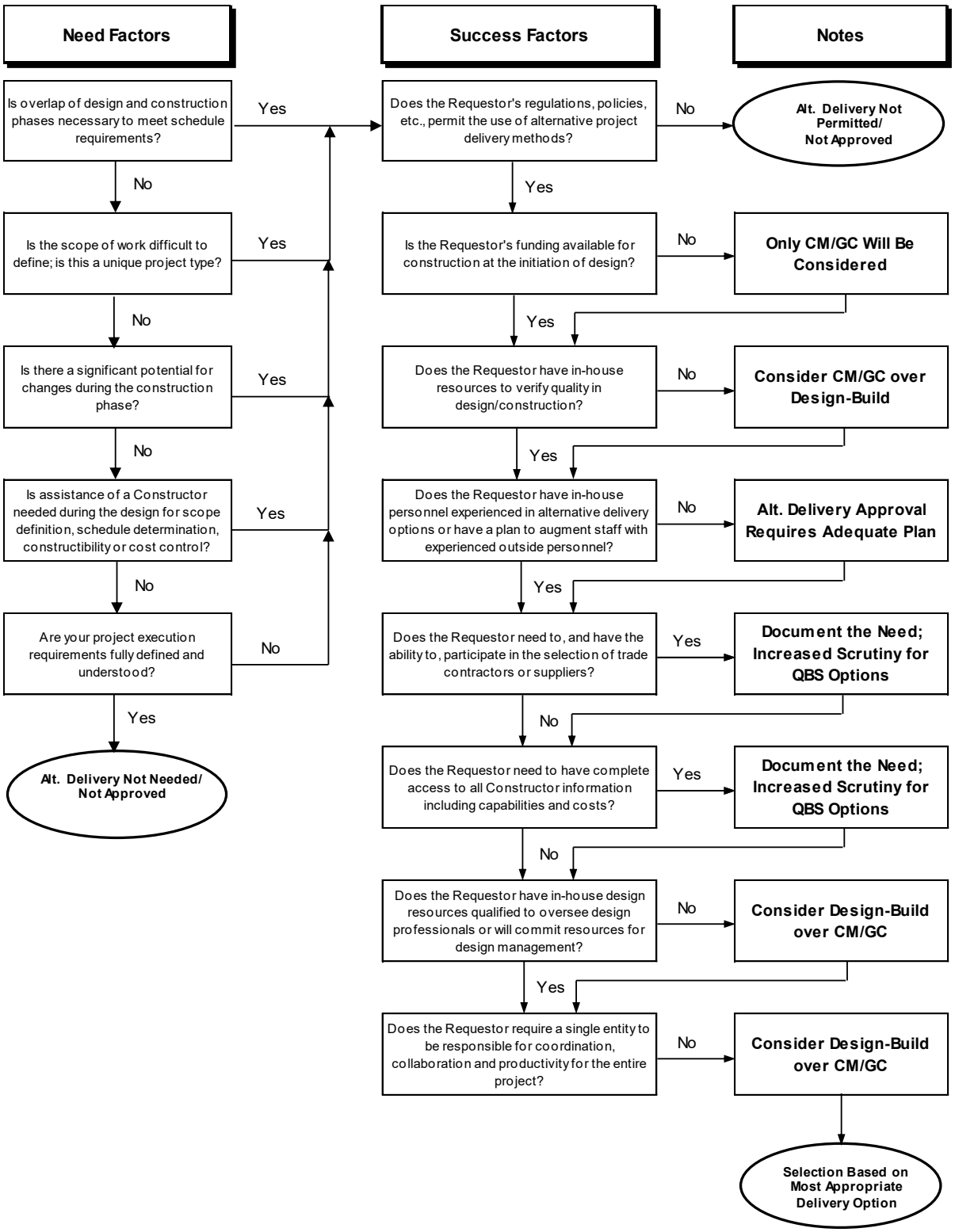
Total Design and Construction Cost
The combination of Total Construction Cost and design fees for which an *Owner* is responsible on a capital project.

Traditional Method
A term synonymous with the Design-Bid-Build project delivery method; also known as low bid.

Unique Characteristics
The features of a project delivery option that set it apart from all other options. Unique Characteristics result from assessing the Contract Type and Selection Method of a project delivery method.

Appendix B

DEED Alternative Project Delivery Approval Flowchart



Appendix C

Sample Evaluation Criteria

Preconstruction Services Experience	Range: 5-10%

Describe your firm's approach to the following preconstruction responsibilities: Design review and commentary, document coordination, constructability review and commentary, cost estimating, value engineering, site logistics, and subcontract preparation and packaging. Provide two or more examples of the range of pre-construction services your firm has provided on previous design-assist projects or projects with a guaranteed maximum price (GMP Projects). Describe the manner in which pricing and constructability services will be provided for areas of work normally subcontracted by the proposer.

Value Engineering/Project Estimating	Range: 5-10%

Describe your value engineering process and how you work with the design team to help reduce construction and life cycle facility costs. Explain your method of estimating the costs of construction during the design process before design documents are complete.

Design Assist/GMP Experience	Range: 10-15%

Provide a summary of projects of this type completed in the last 5 years. Describe your experience, providing details regarding your firms' specific contractual roles and responsibilities. Include the names, addresses, and phone numbers of *Owner* and Architect references for each project. Describe your experience working on a team approach with the *Owner*, Architect and other consultants to achieve the best facility possible within the established time frame and budget.

School Construction Experience	Range: 10-30%

Identify all of the school construction projects performed by the Proposer in the last 5 years where the Proposer has acted as a constructor (either as a General Contractor or a Design/ Builder). Provide names, addresses and phone numbers of *Owner* and Architectural references on projects listed. Highlight *[sub-arctic]* experience.

Project Team	Range: 5-15%

Describe the proposed Contractor's team, including the specific roles and responsibilities of each member. An organization chart would be helpful. Include the staffing requirements and identification of key personnel. Provide separate lists for the preconstruction and construction phases. Provide qualifications for the key individuals including history of employment, education, experience, and any other information the selection committee might find useful in evaluating the project team.

Management Plan	Range: 10-30%

Summarize how the proposer will staff and organize this particular project. Include information on the anticipated level of effort during the construction document design phase, estimating process, and construction quality control procedures. Outline work that will likely be accomplished via subcontract vs. proposer's own forces during the construction phase. Comment on the proposer's review of the attached proposed project schedule and their capacity to meet schedule. Address any significant scheduling issues and potential for partial completion/partial occupancy scenarios.

Quality Control	Range: 5-10%

Provide a summary of your firm's approach to quality control during construction. Include a description of the quality control organization you plan to employ and the authority assigned to the different level of quality control responsibility.

Preconstruction Fee	Range: 5-10%

Stipulated sum for all services to be provided until completion of Construction Document Phase.

GMP	Range: 50-65%

The guaranteed maximum price (GMP) with a breakdown of costs by DEED Cost Format or Construction Specification Institute Division.

Overhead & Profit for Change Order Work	Range: 5-8%

The Overhead & Profit percentage that the contractor will apply to the cost of work directed by change order to arrive at the total cost of the change order work.

References	Range: 5-8%

Include at least two *Owner* and two A/E references from similar projects included and described in the AIA Document 305– Contractor's Qualification Statement.

Contractor's Qualifications/Financial Capabilities	Range: 10-30%

Summarize the proposer's current and anticipated workload from _____ - _____. Include a description of projects, dollar values of construction for which the proposer is responsible, either as a prime or subcontractor, and bonding and insurance capacity available for the referenced period. Provide copy of contractor's State of Alaska Business License. Provide list of legal claims pending or settled over the past five years, either *Owner* or contractor initiated.

Maintenance and Management Plan	Range: 3-8%

Provide information on proposer's experience and implementation of the preventative maintenance and facility management program required by AS 14.11.011(b)(4).

Current and Projected Workload	Range: 5-10%

What has been your annual volume (in dollars) of construction for the past five years? What is your anticipated volume for the current year? What is your plan for the next two years?

Appendix D

Alternate Project Delivery Checklist

District/Recipient
Project:
Project Name
Project Number

Document Submitted:
Reviewer:

Project Data Check

Cost Information				Over Budget
Construction Budget	$0	Estimated Base Bid:	$0	$0
Proposed Alternates	$0	Approved Alternates	$0	
Space Information				Under Allowable
Allowable GSF:	0 GSF	Current GSF:	0 GSF	0 GSF

Review Information Review Date MM/DD/20YY

DEED Required

Item	DEED Requirement - *Need Factors*	Reviewed	Comments
1	Tight project milestones or deadlines.	?	
2	Amount of overlap of design and construction phases.	?	
3	Scope definition.	?	
4	Potential for changes during construction.	?	
5	Need/desire for the contractor's input during design.	?	
6	Flexibility to make design changes after construction cost commitments.	?	
7	Other.	?	

Item	DEED Requirement - *Success Factors*	Reviewed	Comments
8	Ability or desire to define and verify program & design content/quality.	?	
9	Experience with the particular delivery method & forms of contracts.	?	
10	Ability to participate in multiple trade contractor/supplier evaluations.	?	
11	Desired contractual relationship and ability to recoup savings.	?	
12	Other.	?	

Item	DEED Requirement - *Concurrence Items*	Reviewed	Comments
13	Provide a resolution supporting the requested project delivery method.	?	

Item	DEED Requirement - *Need Factors*	Reviewed	Comments
14	Request must address how the alternative delivery method will result in lower project costs/increased value to the state.	?	
15	Request must address how quality standards will be maintained.	?	
16	Request must address how unknown conditions will be accounted for.	?	
17	Provide name and qualifications of the Owner's project manager for the alternative delivery method process (list specific experience).	?	
18	Describe the basic process leading up to the award of the contract (establish how competitive selection will be achieved).	?	
19	Other.	?	

Prior Document Coordination – Ed Specs/Schematic Design

Item	Prior Doc Coordination Requirement	Reviewed	Comments
1	X.	?	
2	X	?	
3	X	?	

Best Practice

Item	Best Practice Requirement	Reviewed	Comments
1	For Design-Build, establish accounting protocols to track Design and Construction costs separately.	?	
2	Consider limitation on DEED approval period if project is not commenced (e.g., 6 months, 9 months, etc.).	?	
3	X.	?	
4	X.	?	

Action Items

Item	Reviewer Questions	Recipient Responses	Resolved
1			?
2			?
3			?
4			?

Alternative Project Delivery Approval
REVIEW CHECKLIST

District:
Project/School:
Project Delivery Option Requested:

Item	Requirement	Checked	Comments
	Need Factors		
	Tight project milestones or deadlines	❒	
	Amount of overlap of design and construction phases	❒	
	Scope definition	❒	
	Potential for changes during construction	❒	
	Need/desire for the contractor's input during design	❒	
	Flexibility to make design changes after construction cost commitments	❒	
	Success Factors		
	Ability or desire to define and verify program & design content/quality	❒	
	Experience with the particular delivery method & forms of contracts	❒	
	Ability to participate in multiple trade contractor/supplier evaluations	❒	
	Desired contractual relationship and ability to recoup savings	❒	
	Concurrence Items		
	Provide a resolution supporting the requested project delivery method	❒	
	Request must address how the alternative delivery method will result in lower project costs/increased value to the state	❒	
	Request must address how quality standards will be maintained	❒	
	Request must address how unknown conditions will be accounted for	❒	
	Provide name and qualifications of the Owner's project manager for the alternative delivery method process (list specific experience)	❒	
	Describe the basic process leading up to the award of the contract (establish how competitive selection will be achieved)	❒	
	Possible Directives*-see pages 31-33 of project delivery method handbook*		
	6 month approval expiration	❒	

Printed: 08/09/17 Alternative Project Delivery Approval Checklist.doc Page 1 of 1
Reviewed by: _____

Alternative Project Delivery Procurement
REVIEW CHECKLIST

District:
School:
Project Name/Number:

Item	Requirement	Checked	Comments
	RFP Review		
1	RFP incorporates design standards and project description items	❒	
2	Evaluation criteria includes a fixed price (e.g., LS or GMP)	❒	
3	Evaluation criteria clear and sets cost at 50% or greater weight	❒	
4	Provisions for a PM plan are incorporated in evaluation criteria	❒	
5	Owner representation clear; as either independent design team, qualified owner staff or consultant	❒	
6	Contract agreements anticipated for use are included in RFP	❒	
7	Advertising period of 21 days or longer	❒	
8	At least three publishing dates	❒	
9	Sealed proposals requested with award to most qualified offeror	❒	
10	Provisions to negotiate final cost and move to other ranked offerors (QBS/ Pre-construction Services)	❒	
11	Provisions for award protest within 10 days included	❒	
12	Bid bonds provided for	❒	
13	Performance/Payment bond provided for	❒	
14	Notice that the project requires compliance with AS 36.05.070, prevailing wage rates	❒	
15	Contractor's liability insurance included in agreement	❒	
16	Notice that the project requires compliance with AS 36.15.010, use of local forest products required wherever practicable	❒	
17	Local hire encouragement is not mentioned	❒	
18	GMP will be submitted in a separate sealed envelope	❒	

Printed: 08/09/17 Alt. Delivery RFP Checklist Page 1 of 2
Reviewed by: _____

~~Appendix E~~

District Logo

[Project Name]

Project Delivery Options Analysis

XYZ School District

Date: [Month, Day, Year]

PROJECT MANAGER	[Name] [Title] XYZ School District [City], Alaska
CONTRIBUTORS	[Name] [Title] XYZ School District
	[Name] [Company] [City], Alaska

Table of Contents

Executive Summary

Background

In [Month, Year], the XYZ School District submitted a capital project to the Alaska Department of Education & Early Development for FYXX funding consideration. The project, entitled [Project Title], received funding through DEED and the district entered into a Project Agreement with the following final scope:

- ***[Copy from Project Agreement]***

Purpose

The purpose of this document is to evaluate project delivery method options available under Department of Education & Early Development provision and select the delivery method that had the greatest influence on the success of the [Project Name] project. This evaluation identified six alternative delivery methods as described in the DEED publication Project Delivery Methods Handbook but focuses primarily on [number] alternatives. These are summarized as follows [select from among those below as extracted from the DEED handbook]:

Design-Bid-Build

Design-Bid-Build is the most common project delivery option. It is often referred to as the "traditional" method. For school projects in Alaska with a state contribution, Design-Bid-Build is the default delivery method. All other project delivery options require a specified approval.

There are three prime players: *Owner*, *Designer* and *Constructor* (general contractor). The relationship of these parties is depicted in the graphic at the right.

A standard three-question test can be applied to determine, from these relationships, whether a delivery option falls into the Design-Bid-Build category. Those three questions and their results are as follows:

Are the *Designer* and *Constructor* contracts combined?	**NO**
Is the *Construction Cost of Work* a selection criteria?	**YES**
Is the *Total Construction Cost* the sole selection criteria?	**YES**

Under this delivery method, selection of the *Constructor* is based on a *Total Construction Cost* with the award going to the lowest responsible and responsive bidder.

Construction Manager/General Contractor—Best Value

CM/GC—BV is the next most common project delivery option. It allows the *Owner* to maintain control throughout the design process but provides for the early involvement of a "best qualified" *Constructor*. For school projects in Alaska with a state contribution, CM/GC is an alternate delivery method and requires a specified approval by both school boards and DEED.

There are three prime players: *Owner*, *Designer* and *Constructor* (general contractor). The relationship of these parties is depicted in the associated graphic.

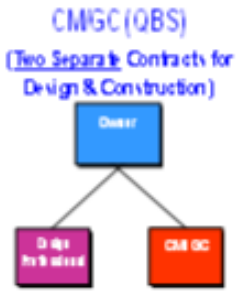
The standard three-question test can be applied to determine, from these relationships, whether a delivery option falls into the CM/GC category. Those three questions and their results are as follows:

Are the *Designer* and *Constructor* contracts combined?	**NO**
Is the *Construction Cost of Work* a selection criteria?	**YES**
Is the *Total Construction Cost* the sole selection criteria?	**NO**

Under this delivery method, selection of the *Constructor* is based on a best value weighting of *Total Construction Cost* with other factors; the award goes to the CM/GC that best meets the predefined qualifications and cost selection criteria.

Construction Manager/General Contractor – QBS

CM/GC—QBS is a lesser used project delivery option. It allows the *Owner* to maintain control throughout the design process while providing for the early involvement of a "best qualified" *Constructor* without regard to the construction cost of work. For school projects in Alaska with a state contribution, CM/GC–QBS requires that cost elements other than the Cost of Work provide 50% of the evaluation. CM/GC-QBS is an alternate delivery method and requires a specified approval by both the recipient entity and DEED.



There are three prime players: *Owner*, *Designer* and *Constructor* (manager-general contractor). The relationship of these parties is depicted in the graphic at the right.

The standard three-question test can be applied to determine, from these relationships, whether a delivery option falls into the CM/GC category. Those three questions and their results are as follows:

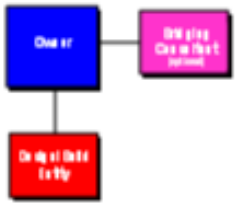
Are the *Designer* and *Constructor* contracts combined?	**NO**
Is the *Construction Cost of Work* a selection criteria?	**NO**
Is the *Total Construction Cost* the sole selection criteria?	**NO**

CM/GC selection: Qualifications based; does not incorporate any weighting for the *Construction Cost of Work*. Rather, selection is based on weighting of predefined criteria with the award going to the offeror that best meets the predefined criteria; selection criteria must include weighting of some cost factors at 50% unless otherwise approved. Typically these include *General Conditions* or *Fee* costs.

Design-Build Bid

Design-Build—Bid is a niche project delivery option. It requires a level of *Owner* sophistication to exercise quality control throughout the design and construction process. However, its simplicity is ideal for *Owners* with clearly documented standards but relatively few management resources. It also provides for the early involvement of a "best qualified" *Constructor/ Designer*. For school projects in Alaska with a state contribution, Design-Build is an alternate delivery method and requires a specified approval by both school boards and DEED.

Design-Build Bid
(Single Contract for Design & Construction)



There are two prime players: The *Owner* and the *Design-Builder*. [The *Designer* (architect) and the *Constructor* (general contractor) are combined into one entity.]

The three-question test has the following result:

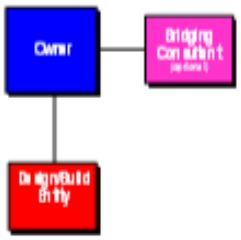
Are the *Designer* and *Constructor* contracts combined?	**YES**
Is the *Construction Cost of Work* a selection criteria?	**YES**
Is the *Total Construction Cost* the sole selection criteria?	**YES**

Design-Builder selection: Based on *Total Design and Construction Cost* with the award going to the lowest responsible and responsive bidder.

Design-Build—Best Value

Design-Build—BV is the least common of the three primary project delivery options. It requires a level of *Owner* sophistication to exercise quality control throughout the design and construction process. However, its simplicity is ideal for *Owners* with clearly documented standards but relatively few management resources. It also provides for the early involvement of a "best qualified" *Constructor/ Designer*. For school projects in Alaska with a state contribution, Design-Build is an alternate delivery method and requires a specified approval by both school boards and DEED.

Design-Build (Best Value)
(Single Contract for Design & Construction)



There are three prime players: *Owner*, *Designer* and *Constructor* (general contractor). The relationship of these parties is depicted in the graphic at the right.

The standard three-question test can be applied to determine, from these relationships, whether a delivery option falls into the Design-Build category. Those three questions and their results are as follows:

Are the *Designer* and *Constructor* contracts combined?	**YES**
Is the *Construction Cost of Work* a selection criteria?	**YES**
Is the *Total Construction Cost* the sole selection criteria?	**NO**

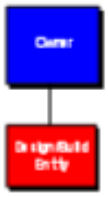
Under this delivery method, selection of the *Design/Builder* is based on some weighting of *Total Construction Cost* including the *Construction Cost of Work* with the award going to the Design/Builder that best meets the predefined qualifications and cost selection criteria.

Design-Build—QBS

Design-Build—QBS is a lesser used project delivery option. It requires a level of *Owner* sophistication to exercise quality control throughout the design and construction process. However, its simplicity is ideal for *Owners* with clearly documented standards but relatively few management resources. It also provides for the early involvement of a "best qualified" *Constructor/Designer*. For school projects in Alaska with a state contribution, Design-Build–QBS requires that cost elements other than the Cost of Work provide 50% of the evaluation. Design-Build—QBS is an alternate delivery method and requires a specified approval by both the recipient entity and DEED.

There are two prime players: The *Owner* and the *Design-Builder*. [The *Designer* (architect) and the *Constructor* (general contractor) are combined into one entity.]

Design-Build
(QBS)
(Single Contract for Design & Construction)



The three-question test has the following result:

Are the *Designer* and *Constructor* contracts combined?	**YES**
Is the *Construction Cost of Work* a selection criteria?	**NO**
Is the *Total Construction Cost* the sole selection criteria?	**NO**

Design-Builder selection is not based on any weighting of the *Construction Cost of Work*. Rather selection is based on weighting of predefined criteria, with the award going to the *Design-Builder* that best meets the predefined selection criteria. Selection criteria must include weighting of some cost factors at 50% unless otherwise approved. Typically these include *General Conditions* or *Fee* costs.

Delivery Options Evaluation Process

Using the Department of Education & Early Development's *Project Delivery Methods Handbook*, the district's project manager assessed a series of Determining Factors. These factors are established by DEED and include items related to a project's schedule, the ability of the district to define the scope of the project and potential for changes, the district's internal resources available to execute the project and its preference for structuring contracts and finally, any regulatory or legal constraints. Primary considerations under each of these categories were reviewed and evaluated, the results of which are included in the later sections of this document. [Optional: In an effort to confirm the basis of assumptions, particularly regarding possible project schedules and construction methods, the project manager also interviewed specialists with experience in these areas. These are listed in the contributor's section of the study's acknowledgements.}

Results

This analysis indicates the [Project Name] project has a high likelihood of success under the [enter method] project delivery method. However, the anticipated success of this method is dependent on the following factors:

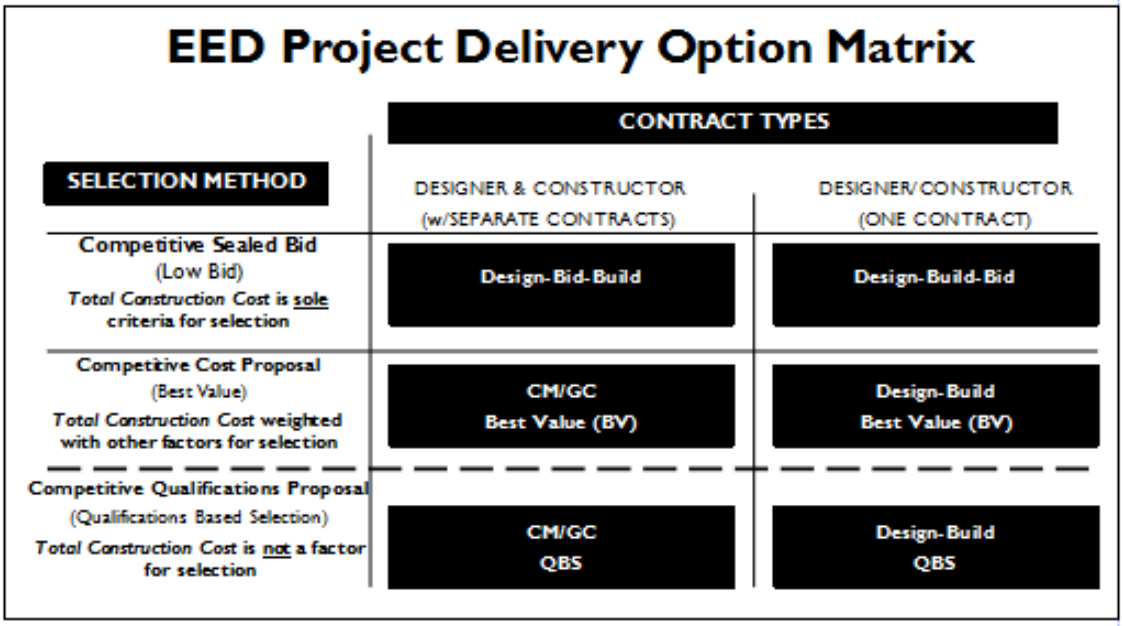
A. [List/discuss any schedule-related issues.]

B. [List/discuss any budget-related issues.]

C. [List/discuss any scope-related issues.]

Project Delivery Options

The XYZ School District reviewed the following matrix of project delivery options—each defined by a unique combination of *contract type* and *selection method*—discussed in the Department of Education & Early Development's (DEED) *Project Delivery Methods Handbook* .



The district recognizes that the default method established in regulation is the Design-Bid-Build delivery method, However, because it is a key principle of project management that benefits may be available to *Owners* when the traditionally distinct entities of the *Designer* and the *Constructor* are strategically aligned or even merged, XYZSD has undertaken to analyze the permissible alternative project delivery methods for possible use on it's [Project Name] Project (DEED #XX-XXX). This document provides the results of that analysis.

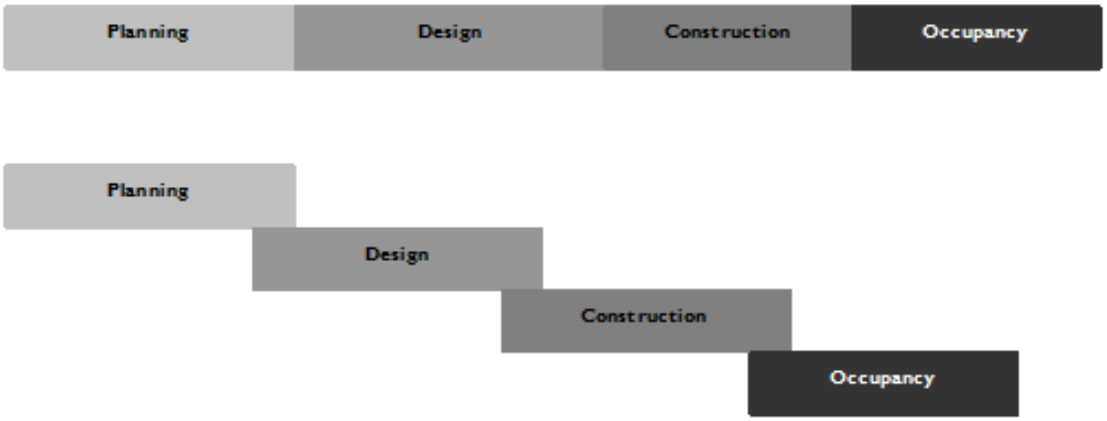
Having agreed to a set project delivery method options, the next step taken by XYZSD was to determine which of the options is most appropriate for the particular project under consideration. This analysis does not assume there is only one possible option for project delivery. However, while no one project delivery option is perfect, the district believes one option may be better suited than another based on the unique requirements for a particular project. The requirements for the [Project Name] project were evaluated to determine which of the various options would most likely produce the best outcome for the state and the school district.

As part of the analysis, the district implemented a variation of the DEED recommendation of establishing a "group of trusted advisors". This effort primarily consisted of gathering some expertise in areas of [list field(s)]. That knowledge,

combined with in-house expertise regarding the work effort and timelines related to project design and the education process, was used to provide the needed reality check on the determinations made under each delivery option.

The Project Environment

Every project occurs in the context of a unique environment, an environment consisting of a variety of both physical and philosophical factors. This environment bears greatly on the successful maturation of a project. That maturation occurs in four typical phases: planning, design, construction and occupancy. These can occur sequentially or may be overlapped (see illustration).



The main characteristics of a project's environment consist of its schedule, the need and ability to establish and define its scope, the resources available to the project, the risks associated with the project and the external constraints placed on the project.

Although identifying and coping with the factors in a project's environment is both complex and an ongoing task until completion is achieved, the focus of this analysis is primarily project initiation not project execution. The district will use the luxury of this focus to narrow our determination of primary factors from the overall project environment to those that bear most directly on determining the "best" project delivery method. The district is further assisted in this effort by one of the external factors for school construction projects receiving state aid. This external factor is that the Design-Bid-Build project delivery option is the standard project delivery method for school construction projects. However, if we can recognize there are some primary factors affecting particular projects that might eliminate this delivery method or make it untenable without significantly increasing risk, an alternative is provided for.

Determining Factors Analysis

Establishing Determining Factors

Need Factors		Success Factors		
Schedule/Necessity to Overlap Phases	Ability to Define the Project Scope/ Potential for Changes	*Owner's* Internal Resources & Philosophy	Desire for a Single Contract or Separate Contracts	Regulatory/Legal or Funding Constraints
Tight Project Milestones or Deadlines	Scope Definition	Ability or Desire to Define and Verify Program & Design Content/Quality	Ability or Desire to Take Responsibility for Managing the Design	Regulatory and Statutory Requirements
Amount of Overlap of Design & Construction Phases	Potential for Changes During Construction	Experience with the Particular Delivery Method & Forms of Contracts	Ability or Desire to Eliminate Responsibility for Disputes Between Designer and Builder	State Budget and Funding Cycles
	Need/Desire for the Contractor's Input During Design	Ability to Participate in Multiple Trade Contractor/Supplier Evaluations		
	Flexibility to Make Design Changes After Construction Cost Commitments	Desired Contractual Relationship and Ability to Recoup Savings		

The district's analysis groups the *Primary Factors* into five categories as shown in the table below, taken from the DEED Handbook:

By addressing these *Primary Factors*, the district was confident it could guide the selection of the most appropriate delivery option and increase the chances for a successful project.

The first two categories are grouped as *Need Factors*. These factors determine the need to move away from the Design-Bid-Build delivery method established as the standard delivery method for projects administered by DEED. In the following section, **Delivery Method Selection**, XYZSD will demonstrate how the project's environment establishes the need versus the desire or preference for a delivery method other than Design-Bid-Build. The remaining three categories are grouped as *Success Factors*. These are the elements of the project environment that can determine how likely a project is to succeed in using an alternative project delivery method and which of the delivery options is most appropriate. Many of these are tied to the XYZSD's ability to execute the project in a non-traditional method. Regardless of whether the project environment shows a need to move away from the department's standard delivery method or to apply the standard method, XYZSD will demonstrate it both has chosen and that it has the ability to manage the factors of the project

environment aligned with the successful implementation of the project delivery option selected.

Evaluating Determining Factors

For each factor, there is a *Critical Question* that should be considered. Grouped within the five categories, each *primary factor* is listed along with its critical question, appropriate commentary and the ramifications associated with the answer. *Need factors* are addressed first.

Need Factor #1: Schedule/Necessity to Overlap Phases

Primary Consideration: *Tight Project Milestones or Deadlines*

Critical Question: *Is overlap of design and construction phases necessary to meet schedule requirements?*

Discussion: [Enter information on project schedule.]

Schedules supporting the analysis offered can be reviewed in Appendix A.

Ramifications: [Summarize impacts of schedule discussion on this primary consideration.]

Primary Consideration: *Amount of Overlap of Design and Construction Phases*

Critical Question: *Is there time to complete the Design Development stage of the design prior to starting construction?*

Discussion: [Enter information on how overlap might address project schedule.]

Ramifications: Enter conclusions of schedule discussion on this Need Factor.]

Need Factor #2: Ability to Define the Project Scope/Potential for Changes

Primary Consideration: *Scope Definition*

Critical Question: *Is the scope of work difficult to define?*

Discussion: [Enter information on project scope definition.]

Ramifications: [Enter impacts of scope discussion on this primary consideration.]

Primary Consideration: *Potential for Changes During Construction*

Critical Question: *Is there a significant potential for changes during the construction phase?*

Discussion: [Enter information on project scope change potential.]

Ramifications: [Enter impacts of change discussion on this primary consideration.]

Primary Consideration: *Need/Desire for the Contractor's Input During Design*

Critical Question: *Is input from a Constructor during design required or desired?*

Discussion: [Enter information on how contractor input might address project scope issues.]

Ramifications: Enter conclusions of contractor input discussion on this primary consideration.]

Primary Consideration: *Flexibility to Make Design Changes After Construction Cost Commitments*

Critical Question: *Are your design and scope requirements fully defined?*

Discussion: [Enter information on how changes after cost commitments relate to project scope issues.]

Ramifications: [Enter conclusions of changes to scope discussion on this primary consideration.]

Success Factor #1: Owner's Internal Resources & Philosophy

Primary Consideration: *Ability or Desire to Define and Verify Program and Design Content/Quality*

Critical Question: *Will the Owner utilize outside resources to verify quality?*

Discussion: [Enter information on the qualifications and experience of the Owner's staff to establish and review quality issues. Discuss internal tools and resources and the need for any outside resources.]

Ramifications: [Enter conclusions related to in-house resources and experience, and any need for outside/additional resources.]

Primary Consideration: *Experience with the Particular Delivery Method and Forms of Contracts*

Critical Question: *Are agency in-house personnel experienced in alternative delivery options or, if not, will in-house personnel be augmented by other agency or contracted personnel?*

Discussion: [Enter information on how the qualifications and experience of the Owner's staff. Discuss internal tools and resources and the need for any outside resources (e.g., architects, engineers, project managers, construction inspectors, etc.) Note limitation for managing any delivery method.]

Ramifications: [Enter conclusions regarding Owner experience and any impact on the project.]

Primary Consideration: *Ability to Participate in Multiple Trade Contractor/Supplier Evaluations*

Critical Question: *Does the Owner need the ability to participate in the selection and evaluation of trade contractors or suppliers?*

Discussion: [Discussion should include project schedule options, Owner personnel knowledge and experience, and the need to participated in the selection of subs and lower tier specialties.]

Ramifications: [Enter conclusions regarding the need to participate in acquisition of lower-tier contractors and the Owner's internal or external resources.]

Primary Consideration: *Desired Contractual Relationship and Ability to Recoup Savings*

Critical Question: *Does the Owner wish to have a complete and timely access to all of the Contractor's Information?*

Discussion: [Enter information related to the level of involvement in the Contractor's information about the job.]

Ramifications: [Enter conclusions. Generally, if the Owner is not fully able to take advantage of an open, collaborative relationship among the parties for making financial decisions, then a *qualifications based selection* does not need to be considered under this factor.]

Success Factor #2: Desire for a Single Contract or Separate Contracts

Primary Consideration: *Ability or Desire to Take Responsibility for Managing the Design*

Critical Question: *Does the Owner have in-house design resources qualified to oversee design professionals, and does the Owner have the ability to commit sufficient resources to design management?*

Discussion: [Enter information about the Owner's in-house resources for managing or executing Design. What experience is there and does it need to be augmented?]

Ramifications: [Enter conclusions about the Owner's ability and desire to manage the design of the project or to assign that responsibility to another entity.]

Primary Consideration: *Ability or Desire to Eliminate Responsibility for Disputes Between Designer and Builder*

Critical Question: *Does the Owner desire to hold a single entity responsible for*

coordination, collaboration, and productivity for the entire project?

Discussion: [Enter information on the ability and experience of XYZSD' responsibility for resolving disputes between the Design and Construction entities.]

Ramifications: [Discuss the conclusions regarding the needs of the project to have Designer and Constructor entities integrated or the pros/cons of separation and the ability to manage such.]

Success Factor #3: Regulatory/Legal or Funding Constraints

Primary Consideration: *Regulatory and Statutory Requirements*

Critical Question: *Do laws, rules, regulations, etc., permit the use of an alternative project delivery method?*

Discussion: [Enter information about state (DEED) requirements for alternate delivery methods. Discuss the local requirements and allowances for alternative delivery methods.]

Ramifications: [Enter conclusions regarding law and regulatory issues. Consider timelines that may be needed.]

Primary Consideration: *State Budget and Funding Cycles*

Critical Question: *Is funding available for construction at initiation of design?*

Discussion: [Discuss the State's budget and funding cycle and how they may or may not have an impact on the timing, sequencing and a subsequent recommendation of a project delivery option.]

Ramifications: [Enter conclusions such as: "Any of the permitted delivery options will work with complete project funding," or other statement supporting the project environment.]

Delivery Method Selection

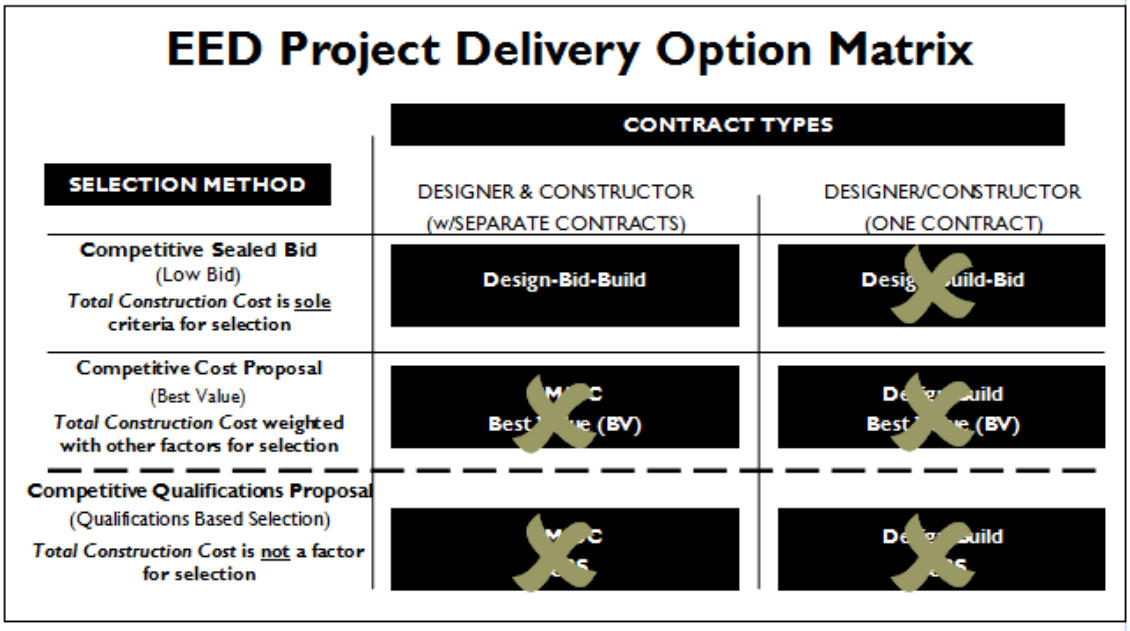
Although there are a number of factors in making a decision concerning which project delivery option to recommend, by the time a few *primary factors* are applied, it becomes apparent which options are least appropriate. By the process of elimination, the most appropriate option(s) can be determined.

Having used the DEED matrix of options and worked through its list of major factors to consider, the district is able to determine through a process of elimination, "Which project delivery options are least appropriate to recommend on this project?"

The order in which the *primary factors* have been applied in our analysis is driven by the approval process as illustrated in the ***DEED Alternative Project Delivery Approval Flowchart*** shown in Appendix B. An assessment of the *Need Factors* was applied to the project, any one of which may drive the need to use an alternate project delivery

method. Next, the *Success Factors* were applied. These factors reflect judgments that were made regarding the district's ability to be successful in implementing a particular delivery method.

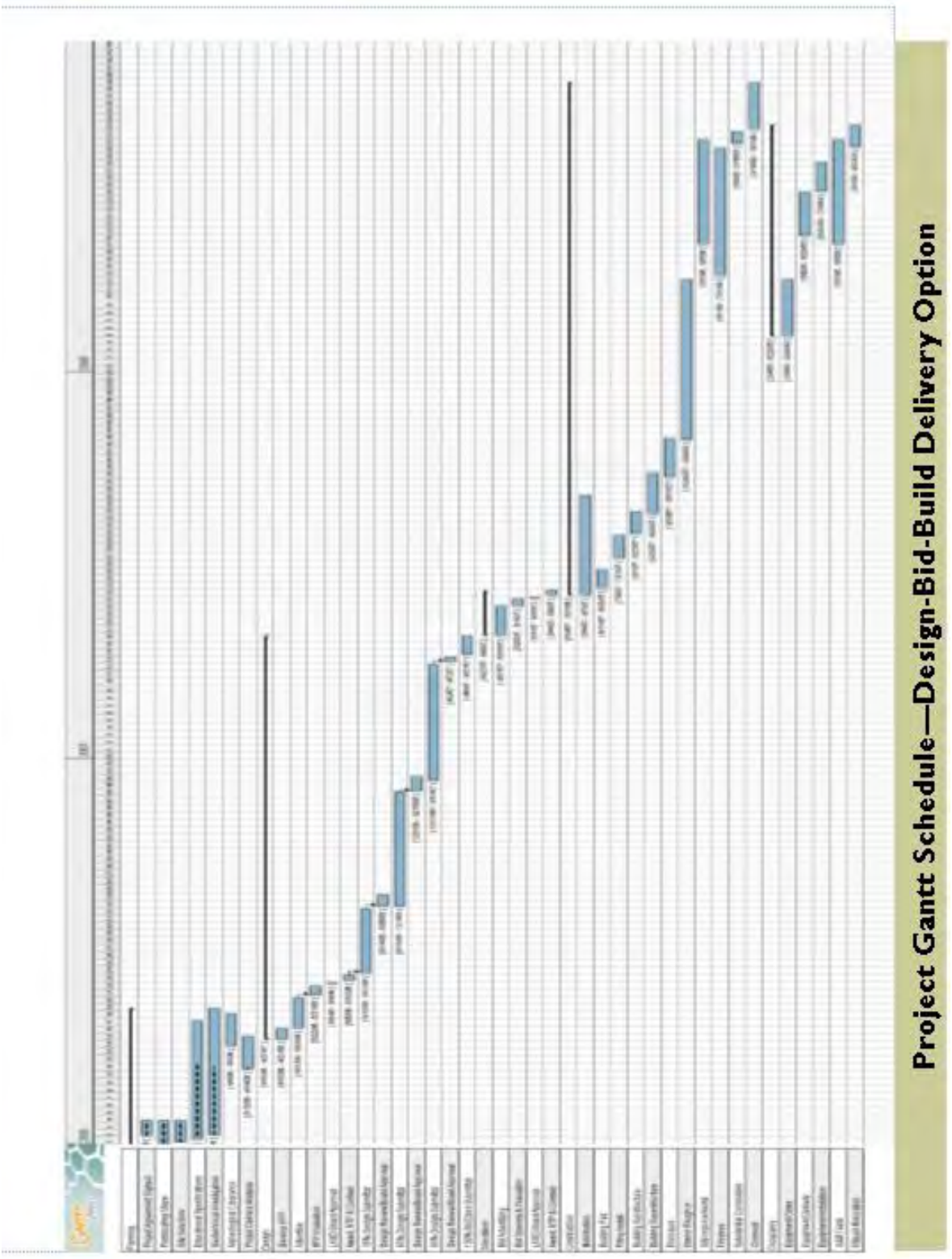
The depiction of the DEED Project Delivery Options Matrix showing the project delivery options eliminated as a result of the districts analysis is included below.



[Note: Adjust markings above as required.]

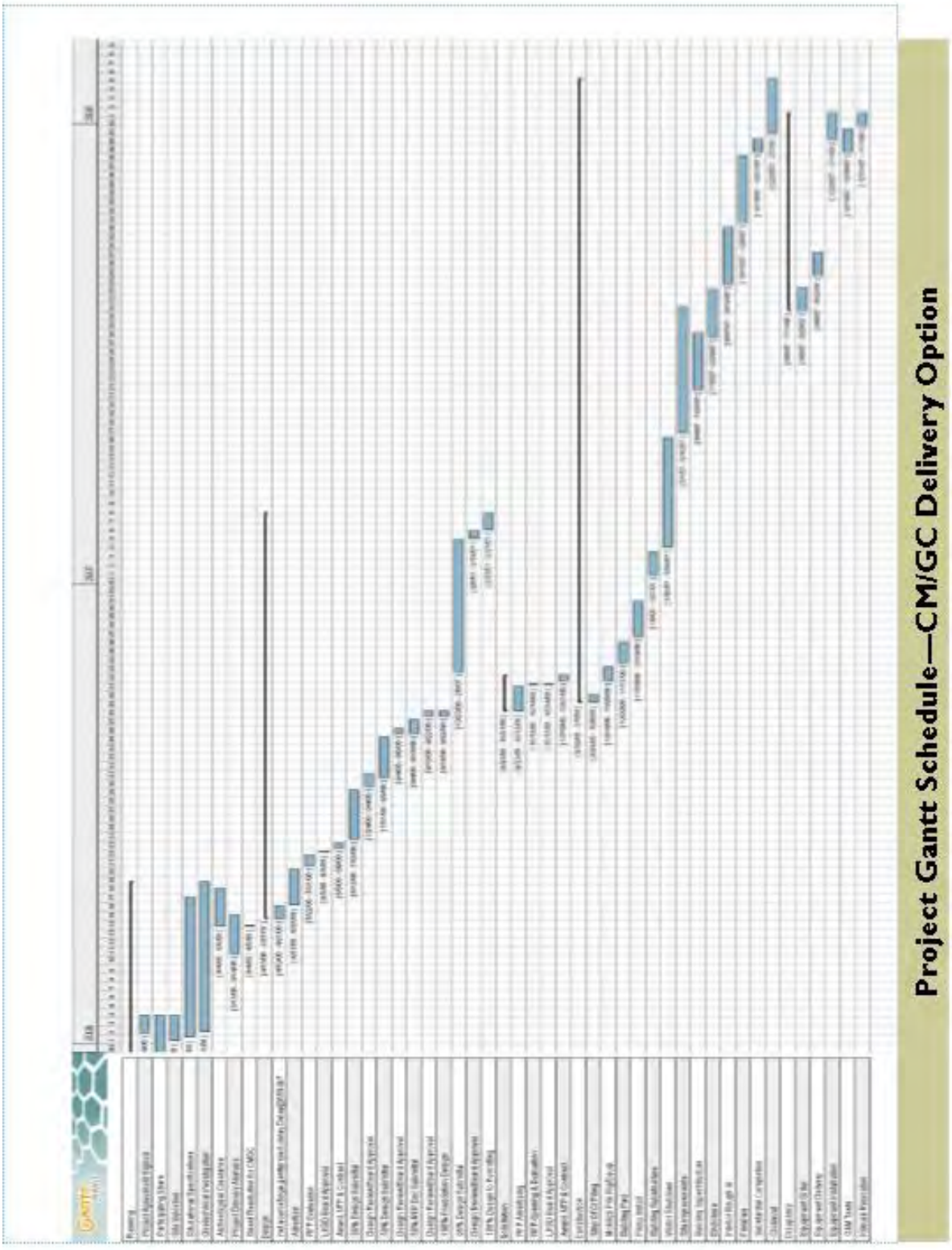
In summary, the XYZ School District is proposing to use the [Enter name] project delivery method for the [Project Name] project. [Add additional support narrative as needed OR alternative outcomes based on information yet to be finalized or determined.]

Sample School Capital Project—Project Delivery Options Analysis



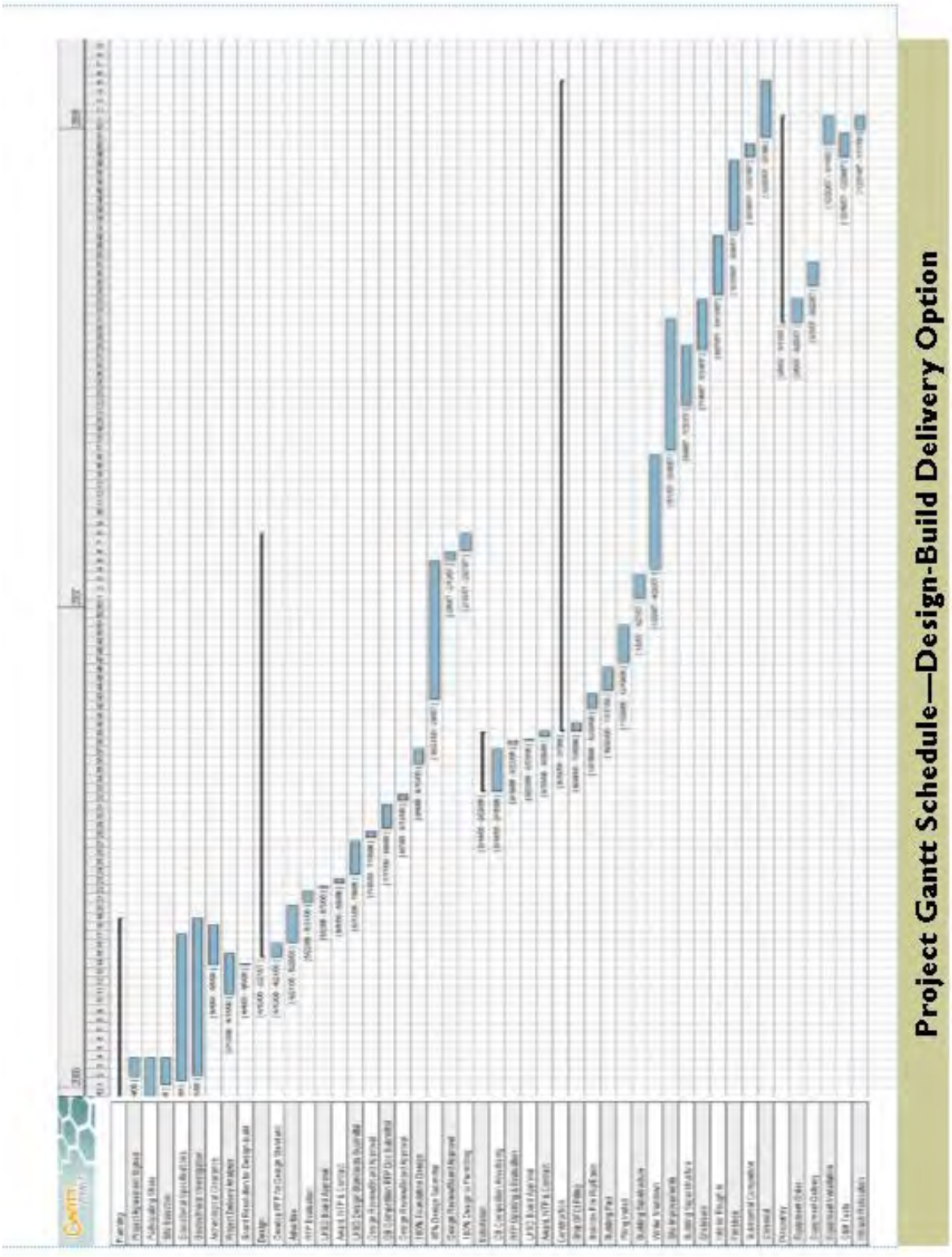
XYZ School District Appendix A Page 1

Sample School Capital Project—Project Delivery Options Analysis



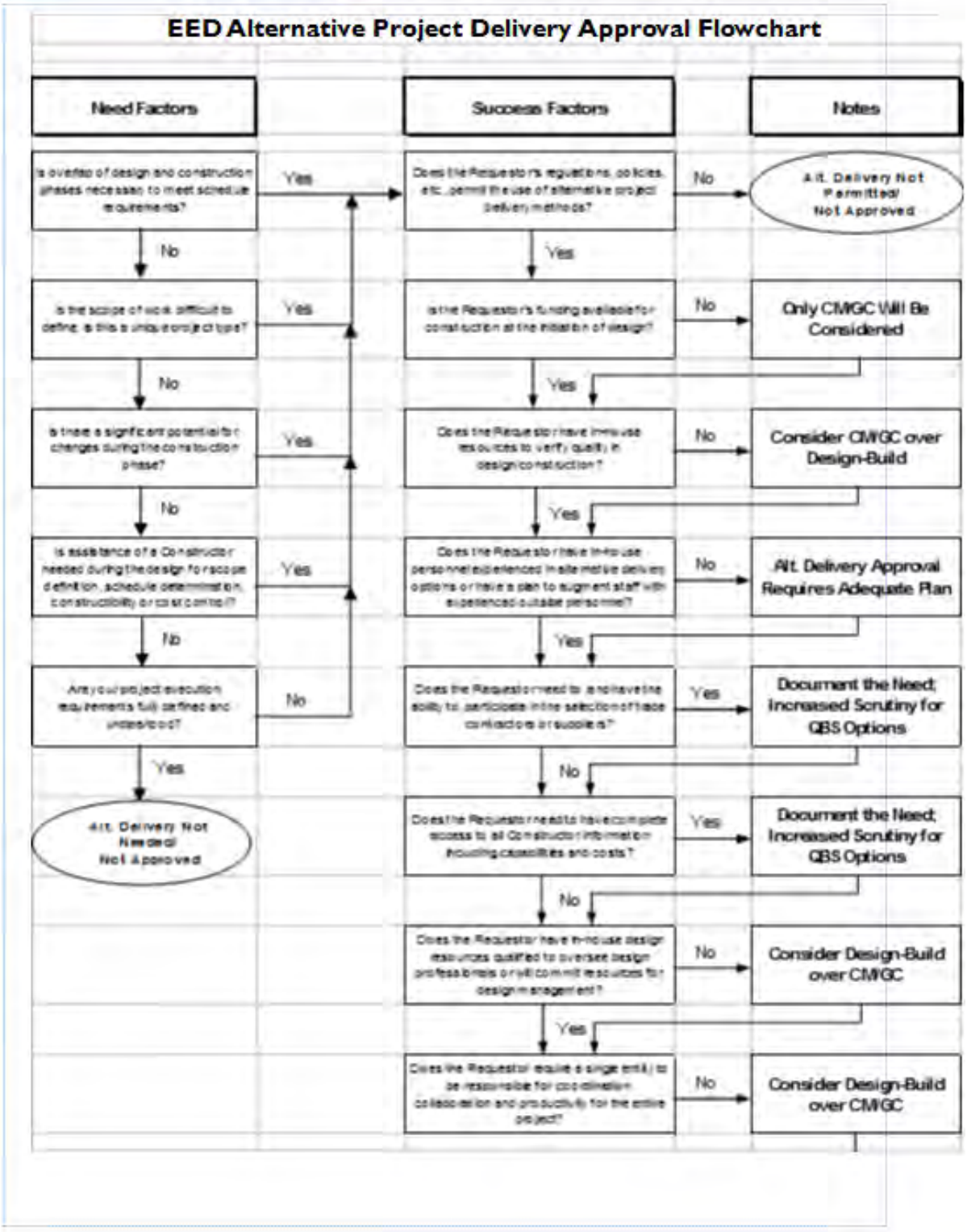
XYZ School District Appendix A Page 2

Sample School Capital Project—Project Delivery Options Analysis



XYZ School District Appendix A Page 3

Sample School Capital Project—Project Delivery Options Analysis



XYZ School District Appendix B Page 1

Alaska School Facilities Preventive Maintenance & Facility Management Handbook

The *Alaska School Facilities Preventive Maintenance & Facility Management Handbook* cover memo and draft publication will be issued as supplemental material prior to the meeting.

State of Alaska **Department of Education & Early Development**
Bond Reimbursement & Grant Review Committee

Capital Project Administration Handbook

P U B L I C A T I O N C O V E R

April 20, 2022

Issue

The department has initiated an update of the *Capital Project Administration Handbook* and is seeking committee approval of the revised publication for department and stakeholder use.

Background

Last Updated/Current Edition
Publication was last updated in 2017. Current edition available on the department's website (education.alaska.gov/facilities/publications/CapitalProjectAdminstrationHandbook.pdf).

Summary of Proposed Changes
This proposed publication updates the 2017 prior publication. The department prepared this update based on changes to the template project agreement, the adopted 2019 regulations, and the department's experience in grant administration. Key revisions/additions to the publication address the following:

- Restructuring of the document to provide required submittal discussion grouped by project phases; additional development of information on the department's project agreement.
- Identification and discussion of submittals added in support of regulation changes: ASHRAE 90.1 compliance checklist, commissioning agent services agreement, and commissioning report.
- Identification and discussion of submittals added to template Project Agreement's Submittal Requirements Appendix that had previously only been identified in the Grant Payment Schedule Appendix. Includes: soils investigation report, condition survey, archeological clearance, construction schedule, and value analysis.
- Updated language to reflect regulation changes.
- Additional detail and information requested DEED-approval for in-house/force account work.

Version Summary & BRGR Review

February 28, 2022: The initial draft update is presented for committee review. Period of public comment to follow. A final publication anticipated in April.

April 20, 2022: Revised final draft for committee review; incorporates edits from public comment period and department review.

Public Comment

Public comment period opened March 1, 2022 and closed March 31, 2022. The department received public comment from three individuals and a state agency. The comments and the department's response through the Facilities unit are included with this paper.

BRGR Input and Discussion Items

Were department responses to public comment clear and sufficiently addressed in the revisions, as necessary? No additional discussion items came up during review of the public comments and development of the current draft.

Options

Approve final publication for issuance and use by the department.
Amend final publication and approve for issuance and use by the department.
Seek additional information.

Suggested Motion

"I move that the Bond Reimbursement and Grant Review Committee approve the department's proposed update of the *Capital Project Administration Handbook* for issuance and use by the department."

DEPARTMENT OF EDUCATION AND EARLY DEVELOPMENT

COMPILED PUBLIC COMMENT AND DEPARTMENT RESPONSES

CAPITAL PROJECT ADMINISTRATION HANDBOOK

MARCH 1, 2022 TO MARCH 31, 2022

PUBLIC COMMENT RECEIVED	DEED RESPONSE
Under Project Administration Submittals, Section 7) it states Design Fees should not exceed 10% of the construction cost. a. Does the 10% 'limit' include Bidding/Construction Services or is that separate from the 10% Design Fees? b. Does the 10% 'limit' include 10) Value Analysis services? c. The 10) Value Analysis section could use more definition on what is expected. Is this a Life Cycle Cost Analysis for optional systems or equipment? d. Does the 10% 'limit' include the Energy Consumption and Cost Report? i. Is an energy remodel required for this Energy Consumption report? e. Does the 10% 'limit' include the Commissioning services? *D.MURRAY 3/15/22*	Thank you for your comments. The design services allocation is inclusive of design, bid services, value analysis, energy cost/consumption report, and commissioning. The 10% value was reviewed in 2019-2020 by the Bond Reimbursement and Grant Review Committee and found to scale adequately with construction cost. Value analysis, as used, includes both independent, formal processes, and informal processes integrated within Design. Both rely heavily on life-cycle cost analysis for support. Additional information was added to the publication. A building energy model is not required for the energy cost and consumption report.
Could not find any requirement for record drawings or at least redlines from the Contractor. Would recommend that some level of record drawings be included in the required. Too often Owners pay for onsite as-built notes for a project when if they had some sort of record drawings that expense may be decreased or eliminated. *D.MURRAY 3/15/22*	Thank you for your input, will consider. The department does not require redlines from the Contractor or as-builts from the Designer; however, either would be an allowable project expense.

PUBLIC COMMENT RECEIVED	DEED RESPONSE
Design section doesn't speak to the DEED space evaluation process or what qualifies for an exclusion or a variance and how to count space. Also, it'd be helpful to include more information on how and when to request non-normal project options. *ANONYMOUS 3/18/22*	Space evaluation is not a topic this handbook covers at this time and is completed through the process identified in regulation. Alternative project methods are discussed in a separate handbook and is referenced in the publication's Alterative Project Delivery section; however, a note has been included within a relevant Project Submittals.
In the project agreement section the most elemental part of the agreement is not addressed. Title and recipient. Who decides which entity in the municipality will be the recipient? What happens when the district and city disagree? Is there a formal process or request that happens? *ANONYMOUS 3/24/22*	Thank you for your comment. Project titles are determined by the department following review and validation of the project. The recipient entity determination is covered in AS 14.14.060.
Thanks for providing our office with an opportunity to review. There was only one section that I felt needed input from our office. New or revised text is in red below [edits in revised draft]. One big thing our office is advocating is to shift language away from SHPO clearance. That language gives the impression that our office "approves" a project or that a geographic area never needs to be reviewed again. Of growing interest in communities is their local history, which can be seen in their historic buildings such as schools. We recommend all major projects on or affecting buildings older than 45 years be reviewed by our office to account for changes to historic buildings. *S.MEITL, DNR, SHPO 3/30/222*	Thank you for the feedback; the recommended edits have been incorporated into the revised publication.

From: Douglas (Doug) Murray
To: Weed, Lori (EED)
Subject: Comments on DEED Facilities Capital Projects Handbook Draft 3rd Edition
Date: Tuesday, March 15, 2022 2:20:56 PM
Attachments: image001.png

Hi Lori, I have a couple of comments/questions on the draft document.

1. Under Project Administration Submittals, Section 7) it states Design Fees should not exceed 10% of the construction cost.
    a. Does the 10% 'limit' include Bidding/Construction Services or is that separate from the 10% Design Fees?
    b. Does the 10% 'limit' include 10) Value Analysis services?
    c. The 10) Value Analysis section could use more definition on what is expected. Is this a Life Cycle Cost Analysis for optional systems or equipment?
    d. Does the 10% 'limit' include the Energy Consumption and Cost Report?
        i. Is an energy remodel required for this Energy Consumption report?
    e. Does the 10% 'limit' include the Comissioning services?

2. Could not find any requirement for record drawings or at least redlines from the Contractor. Would recommend that some level of record drawings be included in the required. Too often Owners pay for onsite as-built notes for a project when if they had some sort of record drawings that expense may be decreased or eliminated.

Thanks for the opportunity to comment on the Handbook.

Douglas Murray, PE
Principal // Mechanical Engineer
RESPEC
9101 Mendenhall Mall Road, Suite 4
Juneau, Alaska 99801
PO Box 32723, Juneau Ak 99803
907.780.6060

From:	Alaska Online Public Notices
To:	Weed, Lori (EED)
Subject:	New Comment on Public Comment Period for Updated Publication "Capital Project Administration Handbook"
Date:	Friday, March 18, 2022 4:05:28 PM

A new comment has been submitted on the public notice **Public Comment Period for Updated Publication "Capital Project Administration Handbook"**.

Submitted:

3/18/2022 4:05:23 PM

Unknown location
Anonymous User

Comment:

Design section doesn't speak to the DEED space evaluation process or what qualifies for an exclusion or a variance and how to count space. Also, it'd be helpful to include more information on how and when to request non-normal project options.

You can review all comments on this notice by clicking here.

Alaska Online Public Notices

From:	Alaska Online Public Notices
To:	Weed, Lori (EED)
Subject:	New Comment on Public Comment Period for Updated Publication "Capital Project Administration Handbook"
Date:	Thursday, March 24, 2022 11:16:43 AM

A new comment has been submitted on the public notice **Public Comment Period for Updated Publication "Capital Project Administration Handbook"**.

Submitted:

3/24/2022 11:16:39 AM

Unknown location
Anonymous User

Comment:

In the project agreement section the most elemental part of the agreement is not addressed. Title and recipient. Who decides which entity in the municipality will be the recipient? What happens when the district and city disagree? Is there a formal process or request that happens?

You can review all comments on this notice by clicking here.

Alaska Online Public Notices

From: Meitl, Sarah J (DNR)
To: Weed, Lori (EED)
Cc: Meitl, Sarah J (DNR)
Subject: RE: DEED Seeking Public Comment on Publication: Capital Project Administration Handbook
Date: Wednesday, March 30, 2022 8:26:00 AM

3130-2R DEED / 2022-00306

Hi Lori,

Thanks for providing our office with an opportunity to review. There was nly one section that I felt needed input from our office. New or revised text is in red below. One big thing our office is advocating is to shift language away from SHPO clearance. That language gives the impression that our office "approves" a project or that a geographic area never needs to be reviewed again. Of growing interest in communities is their local history, which can be seen in their historic buildings such as schools. We recommend all major projects on or affecting buildings older than 45 years be reviewed by our office to account for changes to historic buildings.

6) Cultural Resources Review
All state-funded or authorized public construction or improvement projects are required to get a review from the state's Office of History and Archaeology (OHA) within the Department of Natural Resources pursuant AS 41.35.070. The OHA is also known as the SHPO (the State Historic Preservation Office). All projects, including major maintenance projects, need to be reviewed by OHA whether ground disturbance is included in the project or not. An OHA review ensures that culturally significant resources are not affected by the project. Please note a review by OHA can take up to 30 days and that a cultural resource survey may be necessary to provide information about cultural resources in the project area. For more information about OHA's review process, visit http://dnr.alaska.gov/parks/oha/shpo/sec106.htm. A request for project review form can be found at http://dnr.alaska.gov/parks/oha/pdf/106application.pdf.

Best,
Sarah

Sarah Meitl
Review and Compliance Coordinator
Alaska State Historic Preservation Office
Office of History and Archaeology

Capital Project Administration Handbook

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ACKNOWLEDGEMENTS

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

Table of Contents

Introduction

Overview

Alaska statutes provide for state aid—through debt reimbursement and grants—for construction, rehabilitation, and improvement of schools and education-related facilities. While the state maintains the resources to responsibly execute such projects when awarded or approved, statutes provide for this responsibility to be transferred to local governments or regional school boards. Statutes require that an agreement be used to document the transfer and authorize the department to adopt regulations establishing the requirements for the agreement.

This document was developed to assist the parties who are, or will be, responsible for the execution of capital improvement projects that include state aid through the Alaska Department of Education and Early Development (DEED). Entities eligible to assume this responsibility include school districts and municipal governments with education oversight.

The goal of this handbook is to provide an outline of the department's requirements for capital improvement project administration and to ensure that the implementation of the project is in compliance with school construction statutes and the regulations which implement them. From the initiation of the project agreement to the final execution of the termination agreement, the DEED Facilities Section is also available to assist the recipient in executing their capital improvement project in an efficient and timely manner. The handbook provides direction in three major areas: project initiation through the project agreement, submittal requirements, and project closeout. It also touches on the related issues of procurement and project delivery.

In this document, the term "department" will be used to identify the Alaska Department of Education and Early Development. Other State of Alaska departments identified in this handbook will be referred to by their appropriate departmental designations.

Lastly, this handbook provides information on the administration of capital projects from the focused perspective of the department's statutes and regulations. For a more general overview of construction management concepts and procedures, the Construction Management Association of America publishes a document entitled *An Owners Guide to Construction Management* (cmaanet.org/sites/default/files/files/inline-files/Owners%20Guide.pdf)~~, which is available on the internet at: cmaanet.org/sites/default/files/files/inline-files/Owners%20Guide.pdf~~.

Authority

AS 14.11.17(a)

(a) The department shall require in the **grant agreement** that a municipality that is a school district or a regional educational attendance area . . .

AS 14.11.020(a)

(a) The assembly or council of a municipality that is a school district or a regional school board may, by resolution or majority vote of the body, assume the responsibilities relating to the planning, design, and construction of a school or an education-related facility located within the boundaries or operating area of the municipality or regional educational attendance area. After receipt of a request by an assembly or council under this subsection, the department shall provide for the assumption of the responsibilities requested. After receipt of a request by a regional school board under this subsection, the department may provide for the assumption of the responsibilities requested.

AS 14.11.020(d)

(d) The commissioner shall adopt necessary regulations implementing this section, and setting out the requirements for agreements between the department and a municipality or regional educational attendance area relating to the assumption by the municipality or regional educational attendance area of responsibilities for the planning, design, and construction of a project.

4 AAC 31.023(c)

(c) The department will, before the disbursement of grant or allocations of other financial assistance money to a school district, require the execution of a grant or other financial assistance agreement, on a form prescribed by the commissioner, that contains the following conditions:

(1) the project will be constructed and equipped under the requirements of 4 AAC 31.020(a), within the project budget determined under 4 AAC 31.022(e);

(2) money will be disbursed as the parties agree to allow the accomplishment of stages in the project, such as site acquisition; design and construction; and to reimburse the district for money actually and necessarily spent, before the award of the grant or allocation of other financial assistance,

(A) for planning costs, design costs, and construction costs incurred not more than 36 months before the submission of the grant application; and

(B) site acquisition costs incurred not more than 120 months before the grant or other financial assistance application for which the department has given its approval under 4 AAC 31.025;

(3) the district's performance under the grant or other financial assistance is subject to financial audit at any time; the cost of an audit required by the state is an allowable cost of school construction;

(4) the site for the school facility is approved under 4 AAC 31.025;

(5) designers of the facility shall be selected under 4 AAC 31.065; and

(6) construction shall be performed by contracts awarded under 4 AAC 31.080.

School Capital Project Funding

Background

The Department of Education and Early Development administers state aid for school capital improvement projects (CIP) under two basic funding mechanisms, grants and debt reimbursement. Either of these mechanisms may be used to fund projects in two categories, school construction and major maintenance. The school construction program is designed for construction of new facilities, rehabilitation of facilities to improve instructional programs, or for adding square-footage to existing school facilities. The major maintenance program is designed for maintenance, repair, and rehabilitation of existing school facilities. The minimum project amount for a grant is $50,000,[1] and for debt under the current program, the minimum project amount is $200,000.[2]

Grant Projects

The grant program is available to all school districts in Alaska, and consists of an annual application and prioritization process. Districts applying for grant funding need to submit applications to the department by the beginning of September of each year. Applications are then reviewed for eligibility and then ranked by department staff. Initial priority lists are transmitted to the Governor and made available to the public at the beginning of November. Districts have the opportunity to ask for reconsideration of the department's determination once the initial priority lists are published and, if not satisfied, may continue an appeal to the State Board of Education & Early Development. The department publishes final priority lists after appeals are settled. The timing of the grant program is designed to allow the legislature adequate time to consider the project priority lists (one for school construction and one for major maintenance) as they deliberate the budget for the following fiscal year. Grant awards are allocated based on the priority lists when funds are appropriated in the budget signed into law.

For more information on the grant application process, visit the department's CIP website (education.alaska.gov/Facilities/FacilitiesCIP.html)

Debt Projects

The debt program is available to districts in municipalities or boroughs with the ability to sell bonds to finance local public works projects. Districts applying for state aid through the debt reimbursement program do so on the same application form as the grant program. However, debt applications do not have a prescribed annual cycle. Instead, a variety of factors including legislative allocations and local election cycles establish opportunity for debt reimbursement funding. Over the history of debt reimbursement funding, there have been periods of time where allocations of debt for school projects were unrestricted, periods when limits on the allocations were made based on timeframes and district size, and periods, such as from 2015 – 2025, when the debt program was closed. Once the department receives and approves an application for debt reimbursement, the Recipient's next step is to provide the department with verification of a successful ballot initiative authorizing the sale of bonds for the project. Certified election results and a copy of the bond ballot language are adequate to serve this purpose.

[1] 4 AAC 31.900(21)
[2] AS 14.11.100(a)

Fund Sources

A primary difference between grant and debt projects lies in the source of funding. Under AS 14.11, funding for grant projects is to be appropriated by the legislature into the School Construction Grant Fund, Major Maintenance Grant Fund, or Regional Educational Attendance Area and Small Municipality Grant Fund and is to be used to fund projects from the department's priority lists that are prepared annually based on the submitted grant applications. The funds are part of the state's operating and capital budgets. Funds for debt projects are 100% local. All project funding for debt projects is locally available at the time the municipality sells the bonds and receives the proceeds. State funding for the debt program is appropriated by the legislature in each year's operating budget and is allocated to each municipality based on its anticipated debt service payments for the subsequent fiscal year.[3]

Payment Milestones

Another major difference between grant and debt projects is in the processing of payments. Payments under the grant program are based on completion of certain milestones that are evidenced in the form of submittals to the department. Each submittal or series of submittals provides the department with verification on the progress of the project. Once the department confirms the adequacy of a submittal, a payment to the Recipient is processed. Additional description of the standard payment milestones is included as part of this handbook.

Payment for debt projects is based on an annual submittal from the Recipient that provides a projection of the expected municipal obligations for bond repayment. These reports are due to the department by October 15th of each year.[4] For debt projects, payment to a municipality is not tied to the project submittals; however, a Recipient is still required by law to provide the department with submittals as described in this handbook.

Demonstration of Participating Share

In addition to complying with submittal requirements, Recipients of grant funding are required to provide a participating share in order to secure the state aid. The participating share amount for municipal districts varies between 5% and 35% in five stepped increments. The percentage is indexed to a ratio of taxable property valuations and district enrollments. All regional educational attendance areas—those in unincorporated areas of the state—have a 2% participating share. As a result of the participating share requirement, all grant projects have funds from at least two sources, state and local.[5] Participating share requirements are discussed further under the payment section of this handbook.

Similar to the participating share requirement for grant projects, debt projects also have a shared funding structure between the state and the local entity. The debt reimbursement mechanism establishes a percentage for each debt project at which the municipality's scheduled debt service payment will be reimbursed. The percentage of reimbursement offered by the state has varied over time from 90% to 60%, depending on project type, and could decline even further if reinstated ~~after 2025~~.

[3] AS 14.11.100(a)
[4] AS 14.11.102
[5] AS 14.11.008

Project Agreement

Introduction

All capital improvement projects, whether funded the grant program or through the debt reimbursement program, begin with the execution of a Project Agreement between DEED and the school district or municipality that is receiving the financial aid. In the Project Agreement, the entity receiving the state aid is referred to as the Recipient; this term will be used for the remainder of this handbook. The Project Agreement transfers the responsibility for execution of the project from DEED to the Recipient. The Project Agreement also establishes the terms and conditions by which the capital improvement project is to be executed. Requirements in the Project Agreement come from state statute, regulation, and state-adopted building codes. Other requirements come from adopted policies and guidelines produced by the department.

Soon after budget approval for a capital improvement project grant award, or receipt of voter approval documentation for debt reimbursement projects, a Recipient will receive a draft Project Agreement. The draft Project Agreement contains two parts: the standardized body of the agreement and either four or five appendices (for debt or grant projects respectively).

The body of the agreement identifies the name of the project, the DEED project number, and the Recipient entity. **All correspondence with the department regarding a project should include the DEED project number.** The first page of the Project Agreement body also defines two important pieces of information: the effective date of the agreement, and the name of the Recipient's project coordinator. For grant projects, the effective date of the agreement establishes the practical starting point of the three-year period in which the Recipient is required to provide evidence of the district's participating share in accordance with AS 14.11.008(a)(2). Participating share requirements, and the technical aspects of the beginning date, will be discussed in greater detail later in this handbook. The project coordinator is the individual working for the Recipient entity that will be responsible for the day-to-day management of the capital improvement project. The project coordinator does not have to be the same individual who signs the Project Agreement for the Recipient.

The body of the agreement incorporates the appendices by reference, and defines a number of standard contract clauses or provisions governing the transfer of responsibility between the two parties. The contract provisions are an integral part of the agreement, and modification is not generally considered. The standard provisions identify procedural requirements for the Recipient, cite statute, regulation and guidelines applicable to the project, and clarify important terms for the implementation of the Project Agreement. It is important for the Recipient to read and understand the Project Agreement in its entirety. Department staff is available to help explain the importance of language in the Project Agreement.

The final page of the main Project Agreement contains the signature line. The signatory individual must be a~~n~~ person with the authority to accept the terms and conditions of the agreement on behalf of the Recipient.

Project Agreement

Contract Clauses

A Project Agreement contains clauses that govern all aspects of project administration. Select clauses within the full listing below have additional information highlights; however, Recipients should review the specific language in the agreement.

Assumption of Responsibility / Project Responsibility

This clause assigns the responsibility for planning, design, construction, including procurement of professional services and construction contracts from the state departments (DEED and Department of Transportation and Public Facilities) to the Recipient.

Project Coordinator

Governing Provisions

Grant Funds / Debt Reimbursement (Bonds) Funds

Project Document Reviews

This clause identifies the planning and design documents, and in what formats, that are submitted to the department for review.

Approvals and Permits

Safety Precautions and Programs

Project Scope Review

This clause states that the Recipient is responsible for ensuring that the project conforms to the approved scope of work and any scope modification will be reviewed under the Additional Work section of this publication and submitted to the department for approval. Also states that payments may be suspended if final bid documents do not conform to the approved scope.

Value Engineering

This clause states that the Recipient and its consultants will incorporate value based design efforts appropriate to the size of the project.

Final Inspection and Acceptance

Project Audit

This clause states that the Recipient's performance is subject to financial audit at any time and that project records must be kept for three years after project completion.

Project Accounting

This clause specifies that all revenues and expenditures will be included in the project accounting, which will conform to Governmental Accounting and Financial Reporting Standards. Also states that any proposed change must be approved by amendment.

Project Close-out

Maintenance, Operation, Ownership of the Completed Project

Termination of Contract for Cause / Convenience of the State / Withdrawal of Debt Project Approval

Contracting

Percent for Art

This clause identifies when a percent for art expenditure is required and provides direction on membership of a selection committee.

State Held Harmless

This clause provides protection for the State and DEED from liabilities that might arise from improper actions of the Recipient in accomplishing the project.

Reporting Requirements

In-House Requests

Alternative Procurement

Project Schedule / Funding Expiration

This clause identifies a five-year window to complete the project, unless the Recipient requests and is granted an extension.

Facility Disposal (grant only)

Participating Share (grant only)

Appendices

The Project Agreement appendices provide supporting information important for the implementation of the Project Agreement.

Project Scope and Budget (Appx A)

Appendix A consists of four parts, and serves a similar purpose for both grant and debt reimbursement projects. It defines the project's scope of work and establishes the project budget by which the work will be executed and accounted. Appendix A is the most important part of the Project Agreement for the Recipient to review because this is one of the few parts of the Project Agreement that is flexible and can be modified.

The first section of Appendix A contains the scope of work. The scope of work specifically defines the project's eligibility for the construction of new space, and provides a brief description of the work to be accomplished by the project. For debt reimbursement projects, the scope also identifies the appropriate debt reimbursement rate. The Recipient should review this part of the Project Agreement carefully to verify that the department's description of the project matches the Recipient's understanding of the work to be completed.

The next section of Appendix A contains special provisions that apply to the project. This section is utilized to specify special or unique circumstances, conditions, or limitations relating to the project. Generally, this section contains standard language regarding the relationship between the municipality and the school district according to AS 14.14.060 for boroughs and AS 14.14.065 for cities. This relationship is clearly defined in statute and will not be covered in this handbook.

The third section of Appendix A details the project budget and funding available for the project. This section contains the name of the project and the source of funding. Total funding is identified by funding source. Some projects may be funded from a combination of state, local, or federal funds with state funding in the form of capital grants or debt reimbursement.

The final section of Appendix A provides a breakdown of the total project budget into nine categories. The budget categories provide the department with a method of accounting for various project costs. Descriptions of the budget categories are included in Appendix E of the grant Project Agreement and Appendix D of the debt reimbursement Project Agreement. Construction Management by Consultant is limited by AS 14.11.020(c)[6]. Expenditures beyond the budgeted amounts in any category require the approval of the department and may require, at the department's discretion, an amendment to the agreement.

Payment Schedule (Grant Appx B)

Appendix B of the Project Agreement varies for debt reimbursement and grant projects. Appendix B defines the payment schedule and associated submittal items for grant projects. Debt projects do not have a payment schedule but rather are paid on an annual basis, so the remainder of this paragraph only applies to grant projects. Appendix B identifies the required project submittals and payment amounts by percentage of total grant funds, for each progress payment. The Recipient should carefully review the payment schedule to ensure that the schedule and specific submittals are applicable to the proposed project.

Applicable Codes (Grant Appx C; Debt Appx B)

Appendix C of the grant Project Agreement and Appendix B of the debt reimbursement agreement contain the applicable statutes, codes, regulations, standards, and guidelines that govern the implementation of the project. Some of the governing provisions are federal requirements, others are state requirements, and others are department requirements. Not all of the provisions apply to every project.

Required Submittals (Grant Appx D; Debt Appx C)

Appendix D of the grant Project Agreement and Appendix C of the debt reimbursement agreement are also identical and identify the submittal requirements and required approvals for the project. The requirements identified in this appendix duplicate the submittal requirements identified in the Appendix B Payment Schedule for grant projects. Again, not all submittal items are required for every project. For instance, a Site Selection Report is not required for a roof replacement project. The Recipient should review the required submittal items and discuss any questions or issues regarding the required items with the department prior to signing the Project Agreement.

Budget Definitions (Grant Appx E; Debt Appx D)

Appendix E of the grant Project Agreement and Appendix D of the debt reimbursement agreement are also identical. This appendix provides definitions for the nine budget categories itemized in the Appendix A budget and also provides financial coding to be used when accounting for expenditures in a particular budget category. This standard appendix is included with the Project Agreement to facilitate proper categorization and accounting of the project costs. The definitions provided will help the Recipient when reviewing the proposed budget for the project (definitions are provided as an appendix to this publication).

[6] 4% for projects less than $500,000; 3% for projects over $500,000, but less than $5,000,000; and 2% for projects over $5,000,000

Project Agreement Amendments

As a project progresses, the Recipient may encounter situations where a change to the project agreement's scope or budget is necessary to achieve a successful outcome. Common examples include: new design solution for more cost-effective construction, budget allocation adjustments, or an additional of Recipient funding to meet cost overruns. Any amendment proposed by the Recipient will require a written request and justification for the department to evaluate.

Summary

The reading and understanding of the Project Agreement used to transfer responsibility for the execution of the project from the department to the Recipient is a very important step in understanding the Recipient's relationship with the department. If a Recipient does not fully understand the department's expectations and requirements, administration of the project will be more difficult.

Project ~~Administration~~ Submittals

Department regulations and project agreements are set up to mirror industry best practices in project performance and administration. As such, the submittal requirements flow with a standard design-bid-build construction project process. The required submittals provide the department with information to verify both project progress and conformance with the scope identified in Appendix A. A listing of the submittals and required review and approvals can be found in Appendix C of the debt reimbursement Project Agreement and Appendix D of the grant Project Agreement.

The submittals listed in the Appendix constitute the actual deliverables required for each Project Agreement. These submittals are required for both grant and debt projects; however, depending on the project, all submittals may not be required. Other submittals may be included as additional requirements for payment milestones in the grant project agreement payment schedule. The department will work with the Recipient in development of the Project Agreement to clearly identify which project submittals a Recipient will be required to submit.

Except as provided for in 4 AAC 31.040 for construction and bid documents, the department will process submittal reviews within a week of receipt, or will notify the Recipient if a longer time period is required.

Project Administration

It is important to ensure that each party has a firm understanding of the project scope, the allocated revenue, the project budget, and the reporting requirements. Clear communication between the department and the Recipient should occur throughout the administration of the project.

Executed Project Agreement

As described above, the Project Agreement transfers the responsibility for execution of the project from DEED to the Recipient and establishes the terms and conditions by which the capital improvement project is to be executed. This contract ensures that both parties are on the same page when it comes what is needed for a successful completion of a project. Receipt of an executed Project Agreement authorizes the encumbrance of funds and subsequent issuance of payments.

Financial Structure

In order to ensure that the project's financial reporting is consistent with the Project Agreement, documentation showing the financial structure established in the Recipient's accounting system is required. The budget categories and allocations should conform to the Project Budget in Appendix A. The accounting structure detail may vary by Recipient but should conform to the current version of the DEED Chart of Accounts (education.alaska.gov/publications/chart_of_accounts.pdf); pertinent sections are provided as an appendix to the Project Agreement.

Participating Share (Grants)

Each district is required by law to provide evidence of participation in the project. A district's participating share "…may be satisfied by money from federal, local, or other sources, or with locally contributed labor, material, or equipment".[7] A district's participating share is based on percentages

[7] AS 14.11.008(c)

codified in statute.[8] A district has three years from the passage date of the bill funding the project to satisfy the participating share requirement. For ease of implementation, the department normally uses the effective date of the funding bill, which typically aligns with the start of the fiscal year. In certain instances, the department has authority to grant an extension of the three-year requirement[9] if requested by the district; however, it is a rare circumstance.

The submittal can take the form of a resolution that directs a commitment of funding for the project in an appropriate amount, or in the form of a letter identifying appropriate in-kind contributions that a district or borough will be directing towards the project. A report from the accounting system documenting the transfer to the capital project account will also be accepted.

If a district plans on using an in-kind contribution of land, the land needs to be provided as a budget item in the project application and in the project agreement. If a district plans on using other local contributions, such as labor or equipment, the department needs to be notified within 30 days of signature of the project agreement.[10]

In-House Work Request

In-house work or "force account" is an alternative project delivery method that must be approved in advance by the department. For additional information, see In-House Services~~In-House Services~~.

Project Delivery Methods

Determination of an alternative project delivery method, should happen as early as possible and requires department approval. See the *Project Delivery Methods Handbook* for more information.

1) Annual Report

Annual reports are required for all active capital improvement projects funded through the Department of Education and Early Development. There are separate annual report forms for debt reimbursement projects and for grant projects. Annual report forms are available on the department's Forms website (education.alaska.gov/forms).

The "Annual Report for Grant Capital Improvement Project" form is used for grant projects and it is due on or before July 31 each year that a project is active. The report consists of a two-page form requiring updated financial information for the project, and a narrative description of the progress on the project. The "Annual Project Summary for Debt Retirement" form is used for debt projects and is due on or before October 15 each year a project is active.

Much of the budget information required on the forms is available from Appendix A of the Project Agreement, or from any subsequent budget amendments to the Project Agreement. The forms include two columns for project budget information, the Original Budget and the Current Budget. The current budget should be the same as the original budget unless the Recipient and the department have agreed to modify the original budget by an amendment to the Project Agreement. The

[8] AS 14.11.008(b)
[9] AS 14.11.008(g)
[10] 4 AAC 31.023(d)

Expenditures to Date column should reflect the total project expenditures from inception through the end of the reporting period, for each budget category. The Encumbrances column should track all committed future expenses (balance of professional services contracts, construction contract, etc.).

In addition to the financial information, the forms also require ~~brief~~ descriptions of the work performed ~~to date~~in the current reporting period, the work planned for the next ~~year~~reporting period, and reasons or explanations for any project-related delays that might have occurred.

Who Can Sign Annual Reports?

Whomever has authority from the Recipient to certify to the report's accuracy. Common persons include:

- Signor of the agreement
- Named project coordinator
- Chief finance officer

~~In addition, f~~For debt projects, and in accordance with state law,[11] by October 15th of each year, all municipal school districts are required to submit to the department the amount of funds they will need in order to meet their anticipated debt service payments on DEED-approved debt projects for the following fiscal year. This request will also need to include anticipated debt reimbursement on unsold bonds requiring payment during the subsequent fiscal year.

Projects that do not submit an annual report by the required deadline will have payments withheld until the report is received.

Planning & Pre-Design

Project planning lays important groundwork for successful completion of a project. Work at this stage is focused on gathering, both information and personnel. Obtaining accurate information regarding facility conditions and owner/Recipient needs and expectations ensures that the design solution meets the current and future needs. Getting the right team of professional services personnel will help the project achieve the intended goals. Review and request for approval of alternative project delivery methods may also occur during this phase.

Many aspects of planning and pre-design often occur prior to approval of funding and execution of the Project Agreement; projects that anticipate applying for state aid should follow the identified requirements to ensure that the project will be eligible for funding and reimbursement.

2) Site Selection Report

Projects that require the acquisition of land are required to provide a report detailing the site selection process. The department's publication entitled *Site Selection Criteria and Evaluation Handbook* (education.alaska.gov/Facilities/publications/SiteSelection.pdf) summarizes the department's suggested process for evaluating and selecting potential school sites. A district is not required to utilize the department's procedure for selecting a site, but this process has been identified by the

[11] AS 14.11.102

department as a comprehensive and objective method of site selection. ~~The department's handbook is available from the department's website: education.alaska.gov/Facilities/publications/SiteSelection.pdf~~

Selection of a school site is complex and difficult decision not to be taken lightly by a district. The department's handbook provides general guidelines that will assist a district in identifying and acquiring an appropriate site.

In order to receive funding or reimbursement for the costs of site acquisition, the site needs to be approved by the department.[12] The value of land eligible for funding or reimbursement is fair market value as determined by appraisal, not to exceed the amount identified in the project agreement.[13] If a district intends on using the purchase or exchange of land as part of the district's participating share, the department will need to be notified within 30 days of signing the grant agreement[14]. It is important to note that only land purchased within the 120 months preceding the application will be determined eligible for reimbursement by the department.[15]

3) Soils Investigation Report

A site or soils investigation report, also known as a geotechnical report, provides important data to design and construction personnel on the type and quality of the subsurface material under a proposed construction site. This information is used by designers and engineers to properly design foundations and any site earthwork that may be needed.

4) Condition Surveys

A condition survey of the facility or building systems is a critical part of documenting the need for a project. It informs and supports the scope of a project in the planning stage to ensure that the project is complete in addressing any deficiencies. Department has published a *Guide for School Condition Surveys* (education.alaska.gov/facilities/publications/ConditionSurvey.pdf) and a template; however, other formats are acceptable.

Any needed hazardous material assessments or surveys may also be included under this submittal requirement.

5) Educational Specifications

The department requires submittal of an Educational Specification for "all new public elementary and secondary schools, and additions to and rehabilitations of existing facilities."[16]

Educational Specifications ("Ed Specs") describe the general educational goals of a proposed school construction project. The document is intended to communicate the facility owner or user's spatial and functional requirements of a project to the design team. The design team will then develop project constraints and requirements that ultimately guide the design solution for the project.

[12] 4 AAC 31.025(a)
[13] 4 AAC 31.025(e)
[14] 4 AAC 31.023(d)
[15] 4 AAC 31.023(c)(2)(B)
[16] 4 AAC 31.010

A more detailed description of the Educational Specifications and guidelines for its development is located in the department's *A Handbook to Writing Educational Specifications* (education.alaska.gov/Facilities/publications/EdSpec.pdf)~~., which is available on the department's website: education.alaska.gov/Facilities/publications/EdSpec.pdf~~

6) ~~Archeological Clearance~~Cultural Resources Review

All state-funded or authorized public construction or improvement projects are required to get an archeological clearance from the state's Office of History and Archaeology (OHA) within the Department of Natural Resources.[17] ~~Also known as a~~The OHA is also known as the "SHPO" (State Historical Preservation Office) ~~clearance. These are projects that are affecting undisturbed areas, not previously granted clearance.~~ All projects, including major maintenance projects, need to be reviewed by OHA whether ground disturbance is included in the project or not. ~~The clearance~~An OHA review ensures that culturally significant resources are not affected by the project. Please note a review by OHA can take up to 30 days and that a cultural resource survey may be necessary to provide information about cultural resources in the project area.

Review OHA's website (dnr.alaska.gov/parks/oha/shpo/sec106.htm) for more information on the review process or for a project review request form (dnr.alaska.gov/parks/oha/pdf/106application.pdf).

7) A/E Services Agreement

Submittal of an A/E Services Agreement provides the department with verification that the Recipient has entered into a contractual arrangement with a design professional for development of the project design. The department will also use this opportunity to review the design contract amount and verify that it does not exceed the amount budgeted in the project agreement for design services. The Recipient can use the AIA standard form B101-2007 as a model agreement between the Recipient and design consultant.

DEED *CostFormat*

Ensure the solicitation for any design or cost estimating services specifies that the cost estimate conforms to the DEED *CostFormat* (education.alaska.gov/facilities/facilitiescostformat)

The department will review the A/E Agreement, and may solicit additional information from the Recipient regarding the design services selection process in cases where the estimated consultant contract fee is in excess of $50,000.[18] In these cases, consultant selection needs to be accomplished by:

- soliciting written proposals;
- advertising at least 21 days in advance of the proposal due date in a newspaper of general circulation, or by an alternate means of notice through publication on the Internet if approved by the department;
- awarding the contract to the most qualified offeror; and

[17] AS 41.35.070
[18] 4 AAC 31.065

- providing a 10-day administrative review process for aggrieved offerors.

Nothing in the A/E selection requirements "precludes a school district from retaining the services of a consultant on an as needed basis under a multi-year contract, if the term of the contract is not more than five years."[19]

Design fees should not exceed 10% of the construction cost of a project unless additional services are required over and above standard architectural and engineering services, such as a facility condition survey, site survey, geotechnical investigation, or an educational specification. In cases where the design fee exceeds 10%, the Recipient should be prepared to provide a detailed explanation of the additional services or costs that resulted in the increased design fee.

Additional information on the selection and contracting of professional services, including A/E, construction management, and commissioning agent, is provided in the department's *Professional Services for School Capital Projects*~~,~~ (education.alaska.gov/facilities/publications/ProfessionalServices.pdf).~~which is available on the department's website: education.alaska.gov/facilities/publications/ProfessionalServices.pdf~~

Commissioning Agent Services Agreement

Commissioning, as defined in regulation, is the functional testing activities for a mechanical, electrical, fuel oil, controls, or building envelope system to ensure that a facility or a system operates as the owner and designers intended and that prepares an owner to efficiently operate its systems and equipment. Commissioning and use of a commissioning agent (CxA) is required for projects constructing or adding over 5,000 square feet or rehabilitating an education-related facility over 10,000 square feet, as set out in regulation.[20] The commissioning agent must be certified by a DEED-approved program;[21] a list of approved certifications is available on the department's website (education.alaska.gov/facilities/publications/DEED-Approved-CxA.pdf)

Commissioning and commissioning agent services must be procured under 4 AAC 31.065(a), see the above-referenced *Professional Services for School Capital Projects* publication.

Commissioning is permitted and encouraged on systems impacted by the project but not substantially upgraded in the rehabilitation.

Design

During the design phase, the Recipient's design team takes the original conceptual design or general scope and refines and defines it into a concrete biddable solution. Along the way, different approaches to accomplish the project may be evaluated to determine the most appropriate and cost-effective solution.

[19] 4 AAC 31.065(b)
[20] 4 AAC 31.080(j)
[21] 4 AAC 31.900(32)

8) Schematic Design Documents

The schematic design documents are sometimes referred to as the 35% documents, and they provide the department with a milestone review of progress on the project. The department will review the documents for compliance with state statute and regulation regarding development of educational facilities.[22] The documents will be compared with the direction provided in the Educational Specifications, and the budget will be compared with the Project Agreement and any associated project amendments. The review should not be considered as a code compliance review, or a value engineering review; however, if the department identifies a design issue, comments will be offered for consideration to the project designer.

At this stage of the project, the department will also review the square-footage of the facility and compare it with the amount of square-footage authorized in the Project Agreement in order to verify compliance with the department's space requirements, so a summary table of square footage is helpful.

Schematic design documents should include the following components:

- Site Civil Drawings (including utility information)
- Architectural Drawings
- Structural Drawings
- Mechanical Drawings
- Electrical Drawings
- Project Specifications

Along with the schematic design documents, the Recipient will also need to submit a schematic level cost estimate for the project. A checklist establishing design compliance with the adopted energy efficiency standards will need to be completed and submitted by the Recipient (see submittal #9).

At this stage of the project, the Recipient should also submit any preliminary reports that were produced during the early stages of the design process such as a site survey, geotechnical investigation, value analysis, and any additional reports that have a bearing on the design of the project.

In the case where a district is utilizing in-house procedures, or where alternative procurement methods are used, submittal requirements will be worked out on an individual basis between the department and the Recipient.

9) ASHRAE Compliance Checklist

An ASHRAE Compliance Checklist should be initially completed by the design team during the schematic design phase for review and approval by the department. This checklist will be reviewed and updated at each stage as the design progresses; this will form a final checklist for use at substantial completion. The Excel ASHRAE 90.1-2016 compliance checklist template is available on the Facilities' publication webpage ~~at: education.alaska.gov/facilities/docs/ASHRAE90-1-2016_DEED-Checklist.xlsx~~.

[22] 4 AAC 31.030

10) Value Analysis

The value analysis process will vary based on the scope of the project and should occur prior to a design being fully developed. Straightforward component replacement projects may have only a few options evaluated by the project team. New construction or renovation projects should anticipate soliciting the services of a value analyst consultant for a 1-3~~-7~~ day evaluation process. Depending on the complexity of the project, different levels of analysis and reporting may be required:

Level 1: Lead: Self-performed by the design team.
Participants: Design Team, Recipient, DEED
Process: Documents a range of value alternatives and evaluates each on a life-cycle cost basis and proposes the implementation of successful alternatives into the project.
Product: Report that identifies the items considered, individual cost analysis, and basis for inclusion or exclusion in the project.

Level 2: Lead: Independent entity (not associated with the design team) with experience in developing and assessing cost-effective design and construction alternatives.
Participants: Independent Entity, Design Team, Recipient, DEED
Process: Provides service that generally conforms with ASTM E1699. Support for value analysis is provided by the design team who assists in documenting and analyzing value alternatives on a life-cycle cost basis.
Product: Report that documents the process and proposes the implementation of successful alternatives into the project; identifies the items considered, individual cost analysis, and basis for inclusion or exclusion in the project.

Level 3: Lead: Independent entity or firm with credentials as a Certified Value Specialist (CVS) by SAVE International (may also be VMA certified in some cases).
Participants: Independent Entity, Design Team, Recipient, DEED, Specialists
Process: Duration is 1-3 days depending on project size and complexity. Support for the value analysis is provided by the design team with the addition of specialists as needed in construction/ constructability, energy analysis, and cost analysis if not represented.
Product: Report conforming to SAVE International standards.

Level 4: Equal to Level 3, except that an independent team of design professionals is used in addition to the design team.

11) Design Development Documents

The design development submittal is sometimes referred to as the 65% submittal, and provides the department with a milestone review that helps track progress on the project. Like the schematic review, this submittal should include the following components:

- Site Civil Drawings (including utility information)
- Architectural Drawings
- Structural Drawings
- Mechanical Drawings
- Electrical Drawings
- Project Specifications

Along with the design development documents, the Recipient will also need to submit a design development level cost estimate for the project.

The department's review of the design development documents will focus on a verification of issues identified during the schematic design review. The department will also verify eligible space, and compare the cost estimate with previous estimates and the original project budget.

In the case where a district is utilizing in-house resources, or where alternative procurement methods are used, submittal requirements will be worked out on an individual basis between the department and the district.

12) Energy Consumption and Cost Report

In accordance with AS 14.07.020(a)(11), the district is required to provide an Energy Consumption and Cost Report. This report will not be required for all projects. Projects that will require an Energy Consumption and Cost Report include new construction projects, major renovation projects where multiple buildings systems are being renovated or replaced, or renovation/addition projects where space is being added to an existing building and existing building systems are being renovated or replaced. This report will provide an annual estimate of energy consumption and cost for both electricity and heating.

13) Construction Documents

The Construction Document submittal is sometimes referred to as the 95% submittal. At this stage of project development, the drawings and specifications should be virtually complete.

The department has several roles and requirements when it comes to the review of the construction documents.

The 95% documents need to be submitted to the department at least 20 working days before a bid invitation is made.[23] This provides the department with adequate time to review the documents for compliance with DEED statutes and regulations.

If construction bids are to be invited, the Recipient needs to supply the department with fully stamped and signed construction documents at least five working days before bid invitation. The exception is if the 95% documents submitted to the department were stamped and signed.[24]

If the Recipient is not planning to invite bids, stamped and signed drawings need to be submitted to the department no less than 15 working days prior to the start of each construction phase.[25]

[23] 4 AAC 31.040(a)(1)
[24] 4 AAC 31.040(a)(2)
[25] 4 AAC 31.040(a)(3)

A Recipient may request a waiver to the construction document submittal requirements identified above if the district or municipality is able to demonstrate the capacity to provide a "through and complete independent review."[26]

The approval of construction documents submitted for review is void after two years unless construction is started.[27]

In addition to the previously mentioned requirements, the department will review the documents to verify that the Recipient has addressed issues identified during the Design Development review, to verify square-footage, and to verify that the construction cost estimate is below the available construction budget as identified in the project agreement and associated project amendments.

Why Cost Estimates?

Regular costs estimates at design milestones help the Recipient gain an understanding of the potential construction costs and helps keep the project scope within the approved budget. The final costs estimate provides a basis for what a contractor should be able to do the work for and provides help in evaluating the bids.

In the case where a district is utilizing in-house procedures, or where alternative procurement methods are used, submittal requirements will be worked out on an individual basis between the department and the district.

A Recipient with a project incorporating work that requires Alaska Department of Environmental Conservation (ADEC) review (e.g. contaminated soils, sewage lagoons, etc.) must ensure that all necessary approvals are received and ADEC approval letters are submitted to the department.

14) Bid Documents

The department reviews bid documents for compliance with state statute and regulation. Bid documents need to be submitted to the department at least five working days prior to invitation to bid.[28]

The Recipient is required to select a contractor on the "basis of competitive sealed bids".[29] The Recipient is also required to advertise the invitation to bid in accordance with 4 AAC 31.080(b), which is included here for reference:

> The school district shall publish the first notice of its solicitation at least 21 days before the opening of the offers. The department may approve a solicitation period shorter than 21 days when written justification submitted by the school district demonstrates that a shorter solicitation period is advantageous for a particular project and will result in an adequate number of responses. A school district may provide additional notice by mailing its solicitation to contractors on any list it maintains, and any other means

[26] 4 AAC 31.040(a)(4)
[27] 4 AAC 31.040(b)
[28] 4 AAC 31.040(a)(2)
[29] 4 AAC 31.040(a)

> reasonably calculated to provide notice to prospective offerors. The district shall provide notice of its solicitation by publication at least three times in a newspaper of general circulation in the state. The department may approve an alternate means of notice through publication on the Internet if the website has the express purpose of advertising similar solicitations, has unrestricted public access, and is equally likely to reach prospective offerors.

The Recipient is must provide for the "administrative review of a complaint filed by an aggrieved offeror that allows the offeror to file a bid protest, within 10 days after notice is provided of intent to award the contract".[30]

Under no circumstances should the Recipient require a local contractor preference,[31] or include provisions in a bid request that requires or requests local hire as a criterion for contractor selection.

The department may deny or limit its participation in the costs of construction if a district does not comply with department's requirements for competitively selected contracts.[32]

In the case where a district is utilizing in-house procedures, or where alternative procurement methods are used, submittal requirements will be worked out on an individual basis between the department and the district.

15) Building Permit

The Division of Fire and Life Safety is the State Building Official. Construction, repair, remodel, addition, or change of occupancy of any building/structure, or installation or change of fuel tanks must be approved by the Division of Fire and Life Safety unless that review authority is delegated to specific community jurisdictions. Delegated jurisdictions typically provide a building permit following their approval. The Division of Fire and Life Safety issues a plan review certificate.

The building permit submittal provides verification that the appropriate building officials have reviewed the plans and that they are in compliance with state and local requirements.

Many cities and boroughs also have zoning or site plan permits that are needed and which fall under the general designation of building permit for the purposes of the Project Agreement. Project Coordinators should become familiar with these requirements and, when necessary, secure these additional permits and submit them to the department.

Construction

The construction phase is an amalgam of physical activity and administrative checks and balances. The core of these administrative processes—which happen both within each party and between the parties—are coordination meetings, submittals, and construction observation. This phase begins with 'paperwork' and, if successful, also ends with 'paperwork'—though much of this documentation is now accomplished using electronic platforms.

[30] 4 AAC 31.080(c)
[31] 4 AAC 31.080(d)
[32] 4 AAC 31.080(e)

Unlike the design phase, where the Recipient and DEED may be in regular communication during the development of the project scope, it is not uncommon for very little correspondence to occur during construction after the bid is awarded. The three scheduled touch-points include: any requests for change orders that may require department approval (see Additional Work~~Additional Work~~ section), 50% completion with A/E certification and change order logs to date, and notification to DEED when the substantial completion inspection is scheduled.

16) Bid Tabulation

Once a Recipient receives and opens bids for a project, the department requires submittal of the bid tabulation. This document provides verification to the department that the lowest responsive bid is from the contractor selected to perform the work. This submittal document is typically in the form of a table that provides a list of bidders, base bids, additive or deductive alternates, and architect or engineers estimate for the work. ~~This document can be faxed or emailed to the department.~~

In the case where a district is utilizing in-house procedures, or where alternative procurement methods are used, submittal requirements will be worked out on an individual basis between the department and the district.

If no bids are received that are within the amount budgeted in the project agreement for construction, contact the department to discuss the options available. These options can include discussion of value engineering options with the low bidder, a budget amendment to the project agreement to add additional funds from Recipient or to shift allocations from other budget categories, an amendment to the project scope identified in the project agreement, or the need to re-design and re-bid the project.

17) Construction Contract

Once the Recipient has selected the Contractor, the next submittal is the actual construction contract. The department reviews the construction contract to verify that it is consistent with the bid, and that it adequately protects the state interests in regard to project funding.

After the contract is awarded, the district must register the project with the Department of Labor and Workforce Development, per AS 36.05.035. This will allow the contractor to file a Notice of Work with that department. This filing should be confirmed by the district to ensure that submittal #29 Notice of Completion will be available.

18) Construction Schedule

The schedule for mobilization, completion of construction phases, substantial completion, final completion, and demobilization is agreed to as part of the construction contract. Small single-scope projects may have a commencement date and substantial completion date noted in the construction contract and not need further documentation. Larger new construction and renovation project may have multi-page documents with intricate overlapping timelines.

19) Contractor's Payment/Performance Bond

Along with the construction contract, the Recipient needs to provide evidence that the Contractor has obtained payment and performance bonds.[33] This demonstration provides the department with the assurance that the project can be completed if the Contractor fails to meet its obligations under the contract.

20) Substantial Completion Certificate/Occupancy Permit

Once construction is complete, the Recipient is required to submit documentation that the project is substantially complete. Typically, a completed AIA form G704 will satisfy this submittal requirement. If the document references a list of items to be completed or corrected that list should be provided to the department with the submittal.

Pre-Inspection Walkthrough

Recipient may consider requesting the general contractor do their own pre-inspection walk-through prior to the substantial completion inspection, in order to clean up and spot the more obvious issues.

If a certificate of occupancy is required by the local jurisdiction, it should be supplied to the department at this time.

21) Change Order Log

In order for the department to verify that the work completed is the work specified in the project agreement scope, the Recipient is required to submit a change order log that lists all approved change orders for the project. The change order log can be in the form of an Excel spreadsheet listing the change order description, date requested, date completed, and associated increase or decrease in the project cost associated with the change. In addition to the log, documents providing supporting detail for each change order may be requested for review. Department review of change orders may find scope and associated costs not eligible within the project. Review the Additional Work ~~Additional Work~~ section to determine whether department pre-approval may be needed for a particular change order.

For

Construction Closeout

As construction wraps to a close the Recipient should take steps to ensure that the contractor has met the scope and terms of the contract have been meet. Prior to final payment, the contractor should also provide assurances that there are no outstanding liens, subcontractor payments, or state taxes due.

"Redline" and Record Documents

Include 'redline' mark-ups in your construction contract and record documents in your A/E contract to ensure you have an accurate record of the work at the end of the project. To make sure it doesn't get missed, put it on the agenda of your weekly/monthly progress meetings.

[33] AS 36.25.010

22) Release of Liens

The Release of Liens submittal assures the department that the Contractor has no pending financial obligations in regard to the project. The Recipient can have the Contractor complete AIA form G706A to satisfy this submittal. Submittal of individual release of liens from all subcontractors can be accepted; this list is cross-checked to the Department of Labor Notice of Completion of Public Works (#29 submittal).

23) Release from Contract

The Release from Contract provides the department with the assurance that the Contractor has completed the work on the project, and that there are no outstanding obligations expected by the Contractor of the Recipient. The Recipient can have Contractor complete AIA document G707 in order to satisfy the submittal requirement.

~~Prior to the Recipient issuing final payment to the contractor,~~ Alaska statutes require the clearances in submittals #28 – #30 to be obtained prior to the Recipient issuing final payment to the contractor.

24) Commissioning Report

The commissioning report will be a written document that addresses each system commissioned under the services provided in the CxA agreement. The report will describe the function tests applied to the systems, their performance, corrective actions taken at the time of commissioning, and any recommendations for continued monitoring or final adjustments.

Project Closeout

The following final Recipient actions on a project allow the department to close a project. These actions assure the department that the final project funding can be released without concern of encumbrance by any of the involved parties and that the Recipient is in a position to adequately operate and maintain the facility.

25) Preventive Maintenance and Facility Management Documents

The preventive maintenance and facility management submittal provides the department with the assurance that the improvements have been integrated into the Recipient's preventive maintenance program. Documentation updated with the project-specific information can be supplied in the form of reports from the district's maintenance management system listing preventive maintenance components by building system and preventive maintenance schedules, a copy of the district's custodial care plan, certification of training on installed building systems, and an updated renewal and replacement schedule. The reports should clearly identify the inclusion of the improvements made by the project.

In addition, the Recipient should provide the department with verification that equipment purchased as a part of the project has been added to the district's fixed asset inventory system.

26) Recorded Building Title

In the case of a replacement school project in a Regional Educational Attendance Area, the department will provide a quitclaim deed relinquishing any state interest in the new facility.

27) Final Project Accounting

The final project accounting provides the department with the ability to reconcile the original project budget with actual project expenditures. In general, the agreement provides for an independent project audit to be submitted by the district; however, when acceptable to the department, the requirement may be satisfied with the submittal of a project closeout worksheet that includes a certification of funds expended consistent with the project agreement. The Microsoft Excel workbooks for grant and debt projects are available on the department's website (education.alaska.gov/Facilities/publications.html). The closeout worksheet includes a certification by the Recipient that the funds were expended consistent with the project agreement; provides the department with verification that the funds paid to the recipient were spent to complete the project scope as identified in the Project Agreement. The department will review the submitted transactions and may ask for detailed backup to support any particular transaction.

Percent for Art Expenditure

A project requires an art allocation if it involves construction of a new facility or a remodel or renovation of an existing facility.[34] If a project requires art, the amount is identified in the project agreement and may be adjusted by amendment if necessary. The Recipient needs to confirm, through final project accounting, that the amount allocated for art has been expended. Assistance is available from the Alaska State Council on the Arts in completing the requirements for expenditures on art.

28) Corporate Income Tax Clearance

The corporate income tax clearance is requested by the Recipient from the State of Alaska, Department of Revenue (DOR), Tax Division for the Contractor. The Recipient provides DOR with the Contractor's name, address and tax ID number, and the DOR will provide the department with the requested clearance. Clearance should be received by the Recipient prior to final payment to the contractor.

29) Employment Security Tax Clearance

The Recipient requests an employment security tax payment clearance from the State of Alaska, Department of Labor & Workforce Development (DOLWD), Employment Security Tax Division. Clearance should be received by the Recipient prior to final payment to the contractor. The clearance is then submitted to the department; no payroll documents should be provided to DEED as a submittal.

30) Notice of Completion of Public Works

The Contractor requests a Notice of Completion of Public Works through ~~the~~ DOLWD, Labor Standards and Safety Division, Wage and Hour Administration website (labor.alaska.gov/lss/home.htm). This provides verification that the contractor paid the prevailing wage rates to its employees. The agency will issue the document to the Contractor. Required for public construction contracts exceeding $25,000.[35]

[35] AS 36.05.005

Termination Agreement

Once all of the required submittals have been received, and the department verifies the accuracy of the final project accounting, the department will have the Recipient sign a Termination Agreement. This document terminates the relationship between the department and Recipient for a particular Project Agreement.

A Recipient should verify the total amount referenced in the agreement and the amount received.

Additional Work

Managing Changes in Scope

It would be extremely rare for a project to move from the award of a construction contract to completion of work without any changes in the scope of work contained in the Construction Documents. The purpose of this section is to define when changes in scope are allowed as Additional Work and when they become new work, and are not permitted. The following establishes the department's guidelines for managing changes in scope. The guidelines are based on four principles:

1) grants and approval for debt reimbursement are made to a specific, defined project,
2) funding for those projects is based on reasonable estimates and includes contingencies for unknowns,
3) it should be the norm for successful projects to have funds remaining at completion, and
4) those funds are reserved to the state as established within the provisions of AS 14.11 and 4 AAC 31 for use on subsequent department-approved projects.

For a district needing a change in scope on a grant or debt project funded or approved under AS 14.11.020 or AS 14.11.100, the following procedures apply:

a. If the proposed change in scope is the result of a clarification of the department-approved Construction Documents and is necessary for the completion of the work as awarded, that change will be considered Additional Work. Approval from the department is not required for this activity, however, the district is required to capture the change in a change order log and must provide that log for review by the department as provided for in the submittal Appendix. This review could result in disapproval of unsupported change order work and a requirement that the Recipient self-fund that change.

b. If the proposed change in scope is for the award of an Alternate which was listed in the department-approved Construction Documents but was not awarded due to a lack of funding available to award the alternate under the original construction contract, that change will be considered Additional Work. Approval from the department is not required for this activity; however, the district is required to notify the department of this change in scope and shall provide a budget analysis demonstrating that the cost of the change is within the project's budget. [Note: a district is permitted to reduce, but shall not increase, the scope of an alternate to match the budget.]

c. If the proposed change in scope was an element of the project in the department-approved Schematic, Design Development, or Construction Documents submittals but was removed as a result of a lack of funding available to continue including that element in the project's scope of work, that change will be considered Additional Work. Approval from the department is required prior to issuing any contract document for this work and the district shall provide both evidence as to where the work was originally included in the project and a budget analysis demonstrating that the cost of the change is within the project's budget.

d. If, during the design phase of a project, a proposed change of scope from that identified in Appendix A of the Project Agreement is sought, that change will be considered Additional Work if: 1) it provides a different technical solution to a building system defined in the scope,

and 2) it is the result of additional information gained during the design process that was not available when the scope was defined, or 3) it is the result of a change to regulatory or code standards that were established—or should have been established—in the original scope. Approval from the department is required prior to incorporating these changes into the project and the district shall provide supporting evidence. An amendment to the Project Agreement scope will be issued by the department as needed.

e. If, following substantial completion of the construction contract, a proposed change in scope to correct a project deficiency is sought, that change will be considered Additional Work only if all the following conditions are met: a) it is to correct a specific design or construction deficiency within the project's approved scope, or it is to correct an unanticipated life-safety deficiency caused by the project, b) the item is not a warranty issue as defined in the contract, c) it is identified within 12 months of substantial completion.

f. If the proposed change in scope does not meet these definitions of Additional Work, then it will be considered new work and the proposed change will be denied. New work will be subject to inclusion in a new project under the provisions of AS 14.11 and 4 AAC 31 including the specific procedures identified in 4 AAC 31.064 for redirection of bond proceeds.

At A Glance
Table: Allowable Scope Change

	Reason for Scope Change	DEED Approval	District Action Needed
a	Changes due to clarifications, minor oversights, latent conditions	Not Required	1) include description and cost in change order log provided with submittals
b	Award of alternate, previously DEED-approved in Construction Docs	Not Required	1) provide analysis proving change is within budget 2) provide CO log at closeout
c	Award of scope from DEED-approved design documents, not included in bid	Required	1) demonstrate where work was previously included in approved plans 2) provide analysis proving change is within budget
d	Changes in approach or changes necessary due to additional info or code/regulation updates	Required	1) provide supporting evidence of new or additional info or updated codes 2) provide analysis proving change is within budget 3) wait for approval of PA amendment
e	Corrects deficiency in approved scope or life-safety issue caused by project, within 12 months of substantial completion	Required	1) provide supporting evidence of new or additional info or updated codes 2) provide analysis proving change is within budget 3) wait for approval of PA amendment
f	Re-direction of bond proceeds	Required	1) follow procedures in 4 AAC 31.064

Contracting for Changes in Scope

Additional Work will, unless otherwise approved by the department, be accomplished within the existing design and construction contracts issued for the project. However, on occasion, such contracts may no longer be available for use or may have constraints which limit their effective use. If, in contracting for changes in scope within a project, the Recipient supports the use of new project management, design, or construction contracts, and the department concurs, the provisions of 4 AAC 31.065 and 4 AAC 31.080 will apply.

Alternative Project Delivery

~~In 2004, the department implemented the . The handbook, which is periodically updated, provides guidance to districts interested in utilizing alternative procurement methods for school construction. The department's website hosts the most current document at: education.alaska.gov/Facilities/publications/project_delivery_handbook.pdf~~

Alternative project delivery offers districts additional choices for completing school construction projects in cases where the traditional design-bid-build process will not accomplish the desired result in terms of project flexibility or schedule.

Alternative project delivery does not allow a Recipient to provide any kind or type of local preference in selecting contractors or hiring staff for a particular project.

A decision to utilize alternative project delivery is a complicated one, and the department recommends that a district interested in exploring this type of procurement work closely with the department to identify if one of the methods described in the *Project Delivery Method Handbook* (education.alaska.gov/Facilities/publications/project_delivery_handbook.pdf) will accomplish the goals of the Recipient.

In-House Services

A Recipient may choose to accomplish a project with a combination of in-house and/or contracted services. Materials for the project may be directly procured and or included in the construction contract, as appropriate. These construction delivery methods are permissible under state guidelines when it is in the best interests of the state. Examples of situations where in-house project delivery is appropriate:

- The limited size and scope of a project makes this type of alternative project delivery appropriate.
- A ~~District~~ Recipient has experience on particular types of work where unknown factors may exist, and where the situation does not lend itself to a competitive traditional contractor bid process.
- A ~~district's~~ Recipient's project timeline does not easily accommodate traditional construction processes.
- Small project size, and remote rural location does not provide enough incentive for general contractors to bid on the work~~,~~; however, specialty and sub-contractors are~~, may be~~ available to supplement district staff and capabilities.

A ~~district~~ Recipient may proceed with in-house services only after a request has been made with the department and has been approved. This approval may include ~~some~~ stipulations to ensure that proper

delivery is in the state's best interest. This request can be in the form of a letter and should include the following:

- A statement showing that this project is approved by the school board that in-house performance is approved for this project or as a board approved policy.
- A clear statement of the project showing the total scope of work and how it is in the best interest of both the district and to the state.
- A work plan that includes~~;~~:
    - A schedule of activities;
    - A listing of all in-house trades required and proof that the ~~district~~ Recipient personnel has the required expertise; and
    - A detailed take-off and budget showing all labor, materials, equipment, mobilization and delivery, contracted services, and professional services if required.
- If the project budget exceeds $100,000, the ~~district~~ Recipient will be required to provide a detailed explanation showing why it is in the state's~~'~~ interest and estimate of project costs if the project was to be contracted out.
- Discussion of design services proposed or why it is not required.
- A statement acknowledging that all procurement including professional and contracted services are competitively procured per this handbook and all statutes and regulations under AS 14.11 and 4 AAC 31.

The department has a sample letter available upon request of the Recipient and is available to work with the Recipient in preparing the letter.

Upon receipt of the Recipient's ~~application~~request, the department will review to determine completeness and reasonableness. The department will make a determination and either: approve as requested, approve with changes, or deny. Those projects where the Recipient ~~will~~ may choose to apply for recovery of funds expended through the grant program should contact the department in advance so that a project file can be initiated under its Pre-CIP program to track approvals and submittals.

Conclusion

This handbook provides some general guidelines and describes statutory limitations that a Recipient needs to be aware of when completing a capital improvement project for school construction or major maintenance.

The department also publishes other documents that are designed to help a district with various stages or components of the department's project application and funding processes. For a list of these publications, which may be downloaded in their latest editions, refer to the department's Facilities Publication website (education.alaska.gov/Facilities/publications.html).

Appendix A – Grant Payment Schedule

In grant projects, submittals and payments are integrated. The following section provides a discussion of the submittal requirements typically associated with each grant project payment.

In the grant Project Agreement, Appendix B contains the payment schedule the department uses for approval of payment requests. Throughout the life of most projects, there are ten milestones, each of which is more fully described below. The payment milestones provide the department with a means for tracking progress on the project. The payment schedule is structured so that the Recipient is able to receive up to 50% of the available funding prior to award of the construction contract. This allows the district to keep the project moving forward throughout the payment review process.

Payment #1: Financial Structure

The requirements for processing of payment #1 include submittal of a completed, signed Project Agreement, and DEED approval of the district's financial structure. The submittal should conform to the DEED Chart of Accounts, pertinent sections are provided as an appendix to the project agreement, and budget amounts should reflect the values approved in the project agreement.

This is the time that a district should be preparing an in-house letter for the department's approval if the district intends on completing any of the work with in-house forces. A sample request letter is available that provides an example of the items to be covered when making such a request; however, all portions of the letter may not need to be completed for all projects. For more information see In-House Services.

Payment #1 submittals qualify for release of 5% of the project funding.

Payment #2: Participating Share

Payment #2 documentation establishes that the Recipient has committed to provide the local participating share required by statute.

Payment #2 submittals qualify for release of 5% of the project funding.

Payment #3: Pre-Design Submittals

Payment #3 combines receipt of submittals # 2 through 7 as listed in Appendix D of the grant agreement.

2) Site Selection Report
3) Soils Investigation Report
4) Condition Surveys
5) Educational Specifications
6) Archeological Clearance
7) A/E Services Agreement
   Commissioning Agent Services Agreement

In order to qualify for Payment #3, the department needs to receive copies of the documents mentioned above. In some instances, a project may not require Educational Specifications or Site

Selection report, but a project will generally always have some type of Condition Survey and A/E services agreement.

In the case of a district completing work in-house, where the above-referenced documents may not be available, the department will work individually with the district to determine the most appropriate submittals for pre-design work on a project.

Submittals for payment #3 show the department that the Recipient has made the necessary arrangements to begin a school construction project.

Payment #3 submittals qualify for release of 10% of the project funding.

Payment #4: Schematic Design Submittal

The submittals for Payment #4 are the Schematic Design Documents, which are sometimes referred to as the 35% documents. For more information on the schematic design submittal, please see the discussion in the next section of this document. Payment #4 combines receipt of submittals #8, 9, and 10 as listed in Appendix D of the grant agreement.

8) Schematic Design Documents
9) ASHRAE Compliance Checklist
10) Value Analysis

In the case where a district is utilizing in-house procedures, or where alternative procurement methods are used, Payment #4 submittal requirements will be worked out on an individual basis between the department and the district.

Provide an Energy Consumption and Cost Report in accordance with AS 14.07.020(a)(11) and as further described under submittal #12 in the next section of this document.

Payment #4 submittals qualify for release of 10% of the project funding.

Payment #5: Design Development Submittal

The submittals for Payment #5 are the Design Development Documents, which are sometimes referred to as the 65% documents. This submittal is listed as submittal #11 in Appendix D of the grant agreement.

In the case where a district is utilizing in-house procedures, or where alternative procurement methods are used, Payment #5 submittal requirements will be worked out on an individual basis between the department and the district.

In the case of a new school in a Regional Education Attendance Area, the Recipient will need to provide evidence to the department that adequate site control exists for the project. Adequate site control is demonstrated in the form of a long-term lease, or document showing adequate title interest in the property on which the project will be constructed.

Provide an Energy Consumption and Cost Report in accordance with AS 14.07.020(a)(11) and as further described under submittal #12 in the next section of this document. Submittal of this report under Payment #5 is only necessary if the report was not submitted under Payment #4.

Payment #5 submittals qualify for release of 10% of the project funding.

Payment #6: Construction Document Submittal

The submittals for Payment #6 are the Construction and Bid Documents, which are sometimes referred to as the 95% documents. These submittals are listed as submittals #13 and #14 in Appendix D of the grant agreement.

In the case where a district is utilizing in-house procedures, or where alternative procurement methods are used, Payment #6 submittal requirements will be worked out on an individual basis between the department and the district.

Payment #6 submittals qualify for release of 15% of the project funding.

Payment #7: Contract Award Submittals

Payment #7 submittals include the following documents:

15) Building Permit
16) Bid Tabulation
17) Construction Contract
18) Construction Schedule
19) Contractors Payment/Performance Bonds

This series of documents shows the department that construction start is imminent. In the case where a district is utilizing in-house procedures, or where alternative procurement methods are used, Payment #7 submittal requirements will be worked out on an individual basis between the department and the district.

Payment #7 submittals qualify for release of 10% of the project funding.

Payment #8: Certification of 50% Completion

Payment #8 submittals include a letter from the Architect or Engineer signifying that the project construction is 50% complete, a copy of the current request for information (RFI) log between the contractor and the designer, the current request for proposals (RFP) log between the owner and the contractor, and the current change order log.

These submittals document the project progress and provide an opportunity for the department and Recipient to review the status of current and possible future changes and their categorization as change orders. In the case where a district is utilizing in-house procedures, or where alternative procurement methods are used, Payment #8 submittal requirements will be worked out on an individual basis between the department and the district.

Payment #8 submittals qualify for release of 20% of the project funding.

Payment #9: Substantial Completion Submittal

The submittal for Payment #9 consists of a Substantial Completion Certificate or Occupancy Permit, this is listed as submittal #20 in Appendix D of the grant agreement. This submittal provides the department with verification that construction activities are complete.

Note: One year after the date of substantial completion the Recipient is to submit an auditable accounting of project expenditures.

Payment #9 submittals qualify for release of 10% of the project funding.

Payment #10: Final Audit/Project Closeout

Payment #10 submittals consist of the following documents:

21) Change Order Log
22) Release of Liens
23) Release from Contract
24) Commissioning Report
25) Preventive Maintenance and Facility Management Documents
26) Recorded Building Title
27) Final Project Accounting
28) Corporate Income Tax Clearance
29) Unemployment Security Tax Clearance
30) Notice of Completion of Public Works

The submittals for Payment #10 provide the department with the assurance that all necessary accounting and closure procedures are complete.

In addition to the above submittals, in the case of a Regional Education Attendance Area, the Recipient will need to provide evidence to the department of building disposal or demolition of abandoned or excess buildings. Evidence can be in the form of a letter from the district assuring the department that the appropriate disposition action has taken, or will take place.

Payment #10 submittals qualify for release of 5% of the project funding.

Appendix B – Budget Category Definitions

The standard budget format in the project agreement includes the following budget categories, although not every project will have an allocation in each category.

Construction Management by Consultant (CM) includes management of the project's scope, schedule, quality, and budget during any phase of the planning, design, and construction of the facility and full-time onsite representation. Consultant CM should include all costs incurred by private consultant to perform the CM work. Refer to AS 14.11.020(c) for the limitations on consultant CM.

Land includes actual purchase price plus title insurance, fees and closing costs. Land cost is limited to the current fair market value, by appraisal, not to exceed the amount budgeted for land in the project agreement.

Site Investigation includes land survey, geotechnical investigation, environmental and cultural survey, and site selection study costs, but not site preparation costs.

Design Services includes all full standard architectural and engineering services as described in AIA Documents B102-2007, and B201-2007. Additional A/E services such as educational specifications, condition surveys, and post occupancy evaluations should also be categorized as Design Services, however, onsite owner representation and inspections beyond the scope of work described in AIA Documents B102-2007, and B201-2007 should be categorized as CM.

Construction includes the cost of all material, labor, equipment, and associated expenses required to perform the project's facility construction and site development. Construction costs can be incurred via a competitively awarded contract or, with prior department approval, via the use of in-house labor and procurement of materials per local ordinances.

Equipment/Technology includes all moveable furnishings and instructional devices or aids such as classroom furniture, musical instruments, science lab and physical education equipment and stage/sound equipment. It does not include installed equipment, or consumable supplies, with the exception of the initial purchase of library books. For more information see the DEED publication Guidelines for School Equipment Purchases. This item also includes Technology such as computers, 2D/3D printers/scanners, monitors, video projectors, interactive whiteboards, video cameras, digital cameras, large format displays, video recorders/players, image processors, robotics, calculators, electronic test equipment, voice over IP, digital telephone, etc. Consultant services necessary to make technology items operational may also be included.

District Administrative Overhead 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. The maximum for non-project specific indirect administrative costs is 3%, as defined in regulation [4 AAC 31.023(c)(7)]. It also includes In-House Construction Management (CM), which is similar to CM by Consultant, with the exception that in-house CM includes actual district/ borough staff time allocated to the project, staff travel expenses, and other direct costs of the in-house activity.

Appendix B: Budget Category Definitions

Percent for Art includes the statutory allowance for art in public places. This may fund selection, design/fabrication, and installation of works of art.

Project Contingency is a safety factor to allow for unforeseen changes. The use of contingency funds to address budget overruns should be coordinated with the department through a budget amendment. No costs shall be accounted for as Contingency expenditures.

State of Alaska **Department of Education & Early Development**
Bond Reimbursement & Grant Review Committee

Alaska School Design and Construction Standards

P U B L I C A T I O N C O V E R

April 20, 2022

Issue

The department is presenting for approval a revised final version incorporating comments from the second public comment period of the new *Alaska School Design and Construction Standards* handbook.

Background

Last Updated/Current Edition
This is a new publication; no current edition is available.

Public Comment
An initial round of public comment was held October 19, 2021 through November 18, 2021, that generated over 1100 individual comments from 15 entities, which were reviewed by the Model School Subcommittee and incorporated into a new draft document. A second round of public comment was held March 4, 2022 through March 25, 2022, with 180 individual comments registered from 7 entities. Proposed department responses are behind this cover memo.

Publication Summary & Summary of Proposed Changes
The draft publication is organized in three parts to accomplish the mandate in AS 14.11.017(d) to develop regionally based model school construction standards that describe acceptable building systems to achieve cost-effective school construction: Part 1 – Purpose and Applications, Part 2 – Design Principles, Part 3 – System Standards. Within Parts 2 and 3, narrative background is provided followed by specific standards in either tabular or list form. The standards are grouped into three categories: Baseline, Provisional, and Premium.

Version Summary & BRGR Review

Drafts of the publication were presented to the committee at the following meetings:

- September 8, 2020 – original BDS draft presented that provided an overall structure to the publication and completed Part 1 describing its purpose and use. Part 2 Design Standards, and Part 3 System Standards were left incomplete due to limited funding for the consultant assistance; committee directed DEED to develop incomplete sections.
- February 25, 2021 – DEED presented four draft sections for Part 3: 01 Site and Infrastructure; 02 Substructure; 03 Superstructure; and 07 Conveying Systems. Updated Part 3 structure and numbering to index to *DEED CostFormat*.
- March 17, 2021 – DEED presented two additional Part 3 sections: 10 Equipment and Furnishings, and 11 Special Conditions. Part 2 had several sections with further development and included some alternative formats for comparison and consideration.
- July 21, 2021 – DEED presented subcommittee work primarily aimed at finalizing the structure and level of detail of the document. New content was also developed for ~10 subsystems.

September 8, 2021 – DEED presented an initial draft for consideration of issuing for public comment.

December 9, 2021 – DEED presented a revised draft with only grammatical edits drawn from public comment and internal review. Content edits were discussed.

February 28, 2022 – DEED presented subcommittee work on review of the public comments received on the initial draft and a revised draft with department and subcommittee edits responding to public comment as well as additional revisions. BRGR approved the proposed comment responses and approved a second round of public comment.

April 20, 2022 – DEED is presenting a review of responses to the second round of public comments on the revised draft and is presenting a final revised draft for adoption.

BRGR Input and Discussion Items

- Page "zero" general comments are worth reviewing as they contain policy and procedure concerns.
- A majority of comments were in reference to Part 2 School Buildings and their space characteristics. This is as expected since this section of the Standards address areas the department has not regularly addressed.
- A few additional Best Practice/Lessons Learned were offered. This will continue to be an important area of this document.

Options

Approve proposed comment responses for issuance by the department to commenting entities.
Revise proposed comment responses for issuance by the department to commenting entities

Approve the proposed updated draft publication for an additional period of public comment.
Amend the proposed updated draft publication and approve for additional period of public comment.
Seek additional information.

Suggested Motion

"I move that the Bond Reimbursement and Grant Review approve the proposed review comments [as presented / as revised] for distribution."

"I move the that the Bond Reimbursement and Grant Review Committee approve the final draft of the *Alaska School Design and Construction Standards* [as presented / as edited] for use in evaluating projects during the upcoming FY24 CIP cycle."

Alaska School Design and Construction Standards
Public Comment Review Worksheet
March 2022

Cmt ID	nd. No.	Page	Section	Item No.	Review Comments	DEED Review Response
1	C11	0	Overall		I can appreciate the great deal of work that went into making this draft and understand the legislature has requested some measurable guidelines to control building costs be established. I worry that the approach these standards have taken will not achieve the intended goal.	Thank you for your comment. Many cost-effective, high performance K-12 schools have been designed and constructed in Alaska within constraints on state-aid established by DEED. In large part, these standards have been explicitly prepared to continue that reality.
2	B2	0	throughout		All mentions of the "American Disability Act" should be revised to "Americans with Disabilities Act".	Accepted.
3	C3	0	throughout		Space standards: The sq ft should be accompanied by maximum number of students expected for each space. A secondary general classroom of 650 sq ft can accommodate 18 students by minimum education standards of 35 sq ft per student. Current education specifications for Alaskan school districts utilize 40 sq. ft. per student. Other standards remove the space utilized for teacher's desk and cabinetry and recommend at least 20 sq ft net usable space per student for the balance. Currently, many schools in Alaska are accommodating 30-40 students in some high school classes. The life safety building code occupancy count would be 20 sq ft per person, allowing 32 persons total. The life safety building code minimum is relative to emergency exiting in case of a fire or other unexpected event, they are not expected to be utilized as educational space standards. It is alarming the Department might be intent on taking over the education specifications in a one size fits all approach, but if that is the intent, examples of how the stated baseline can be achieved for the numbers of students expected should be provided. It is not clear that all the baseline objectives can be met with the minimum space. Provide space and amenities for instruction and learning associated with grade levels in support of adopted curriculum and a variety of teaching/learning styles in all or some of the following areas: instructor-led learning, individual, team and project-based learning, small group activities, computer-based learning/research, instructional storage, and personal storage.	Thank you for your comment. Planning factors for specific school spaces were developed by examining current, 21st century learning environments present in Alaska. This document is, and will continue to be, reality-based and open to adjustment as needed.

Cmt ID	nd. No.	Page	Section	Item No.	Review Comments	DEED Review Response
4	D1	0	Title Page	Title	Add " and Education Specifications"? It seems more like a design standards and a means of Ed Specs after reading through this docs.	No change. Design elements in Baseline, Provisional, and Premium categories are certainly included in the publication and should be used as one of many resources when developing a project's educational specifications.
5	C12	0			General Recommendation: Consider a comparative cost model where a per square foot cost is established for an area with plenty of baseline data and require dual estimates for baseline area and site specific location (i.e. cost if built in Fairbanks compare to Cost built in Golovin).	This version of this resource currently exists in the department's Cost Model for Alaskan Schools. The Department and BRGR have previously considered a resource allocation method based on a specified cost per square foot by community and determined that strategy to be ineffective and to costly to implement.
6	C13	0			General Recommendation: Remove prescriptive recommendations that are design professionals' responsibility. There are multiple examples in this draft where the detail of the standard could be in conflict with model building code, ADA regulations, or other sections of the standard.	Partially concur. Nothing in this document should contradict adopted building codes. Please assist in identifying where those are present.
7	C14	0			General Recommendation: Provide public outreach to the broader community of educators, design professionals and community leaders throughout the state for review and comment of the impact the adoption of these standards may have. Be explicit how this document applies to Education Specifications developed by school districts including maximum and minimum classroom size.	Thank you for your comment. Extensive opportunity to comment and participated in the development of this document was available to the parties you mention. See earlier response regarding educational specifications.
8	C15	0			General Recommendation: Provide overview of how the standard is intended to be used by school districts and design professionals supporting them.	Thank you for your comment. Part 1 of the document is devoted to this area and is likely to cover 90% of implementation efforts. Implementation that is unclear will be worked though in a collaborative process and will be subject to established formal appeal processes if necessary.
9	TM14	0	throughout		It doesn't seem like there should be any "TBD" left in the final document. Remove or revise.	Concur. TBD should be replaced before issuing final publication.
10	C1	1	1		The mission of the department of education is to provide and excellent education for every student and the Vision is All students will succeed in their education and work, shape worthwhile and satisfying lives for themselves, exemplify the best values of society, and be effective in improving the character and quality of the world about them. The proposed standards on cost effective school construction should not compete or conflict with the overall mission of the Department of Education. Recommend these words above be included into the Purpose and Application section.	No change. This over-arching mission can be easily found in other venues and is implicit in this publication.
11	WN27	1	Acronyms		The following acronyms were identified and need to be added: AFF, CF, HEPA, and UL.	Accepted.

Cmt ID	nd. No.	Page	Section	Item No.	Review Comments	DEED Review Response
12	D2	2	Part I - Purpose and Application	4th Parag	It appears this paragraph should support alternate delivery methods: Best Value and GCCM	Thank you for your comment. Best Value and CMGC delivery methods could align with goals stated in this paragraph and are recommended when supported by the overall project environment.
13	WN28	2	Acronyms		The acronyms ADA and IECC have incorrect full titles.	Accepted.
14	C2	5	Part 1	Cost Factor	The cost factors on page 5 indicate a percentage above baseline or CF-1 but the cost factors are only listed for some products in some categories. For example, page 13 lists Complex floor patterns as CF-3 but no CF factor is listed for complex walls or ceilings. How are school districts intended to use this information to guide them? Is there an opportunity to gain approval for a complex floor pattern if one can provide backup that it is less than 5% increase in cost over a scheme without patterns? What would be the procedure for gaining approval of a premium designated item if no CF factor is listed?	Thank you for your comments and questions. Cost Factors and LCCA evaluations are listed where currently anticipated as appropriate. If no CF or LCCA adjustment is listed, an exception is not provided. Your questions correctly identify the anticipated process of evaluation and approval of a Premium or Provisional item. A cost worksheet will be used to support or limit the item in question. The exact process and tools will need to be developed.
15	WN1	5	Part I Purpose & Application	Prerequisites	Saw that this section is not yet developed; tried to add relevant content as follows: "DEED intends to use the information in these Standards to assess project design and identify elements that may not be suitable for state aid and to suggest elements that may improve a project from both operational and construction cost aspects. Elements that are deemed ineligible for state aid may be included in a project but must be funded by other means. Designers and districts are encouraged to consult this document when contemplating what elements to include or exclude from a project."	No change. The Maine document uses this area to specify a process of pre-design where stakeholders, including DOE, will go over the requirements of the project--presumably including their Standards. We don't have such a process but could implement one in the future possibly through these Standards.
16	A1	7	2.1 Census Area	Map	I reviewed the proposed documents and have no comments on the standards. However, I believe the Census map on p. 7 is outdated. I think the Wade Hampton area is now Kusilvak. (Wade Hampton was a confederate general and slave owner who never set foot in Alaska as far as I know.)	Accepted. A correctly labeled census area map has been added.
17	WN29	8	2.1 Regionally Based Design	Para 2	Title for IECC is in correct.	Accepted.
18	TM2	8	2.2.A Building Location & Orientation	Para 1	This section should include a reference to the DEED Site Selection Handbook.	Accepted.
19	TM3	8	2.2.A Building Location & Orientation	3 Base	Suggest adding "direction" following "prevailing wind".	Accepted.
20	D4	9	2.2.B Safety & Security Site Design	12 Base	Provide crossing lines at the school main entrance and the sidewalk access.	Concur. Baseline 7 has been edited to read "…separate or segregate pedestrian pathways, sidewalks and/or boardwalks from vehicular traffic with markings or barriers as needed."

Cmt ID	nd. No.	Page	Section	Item No.	Review Comments	DEED Review Response
21	D3	9	2.B Safety & Security Site Design	14 Base	Second Sentence capitalize "With."	No change. Comment is unclear (now Baseline 13). Second sentence begins with "Small" and is capitalized. The word "with" is part of the first sentence.
22	TM4	9	2.2.B Safety & Security Site Design	7 Base	Remove "consider" and clarify elements for safety between pedestrian and vehicular traffic.	Accepted.
23	D5	10	2.2.B Safety & Security Site Design	16 Base	20 feet has no enough space for trees that are over 20' tall. So 30 feet for tree is suggested.	Partial concurrence. Clearance distance is for perimeter of tree or bush. Planting location will differ by species. Will add, "Use CPTED principles."
24	D6	10	2.2.B Safety & Security Site Design	16 Base	Add "and the building outlines" to the end of the sentence.	No change. This area of the standard is dealing with security, not general maintenance.
25	D7	10	2.2.B Safety & Security Site Design	16 Base	20 feet seems too far for bushes, 10 feet feels better.	Partial concurrence. Distances remain but will add, "Use CPTED principles."
26	D8	10	2.2.B Safety & Security Site Design	Baseline	Add number 21. "Provide an accessible path from the building to the playground. Lessons learned the needs for the ADA access."	Thank you for your comment. No change. Already incorporated in Baseline 8.
27	BC1	11	2.2.D Building Entrances	3 Base	Not always practical in compact school design on piling.	Thank you for your comment. See definition of Baseline for applicability.
28	WN2	12	Part 2 Design Principles	3.A. General Planning Principles	Premium 22: "…large sliding doors." How large is too large? Should this possibly indicate the threshold of what is too large?	Thank you for your question. Intended to address a subset of operable partitions. Revised to "full-height sliding doors".
29	WN30	12	2.3.A General Planning Principles	10 Base	Increase the Concept and SD provision to show expansion space from 15% to 30%.	Accepted.
30	TM6	12	2.3.A General Planning Principles	15 Prem, 22 Prem	Revise Cost Factor from CF-3 to CF-2. Intent was to allow these if the increased cost was less than 5% for the system.	Concur. This change has been made.
31	D11	13	2.2.B Safety & Security Building Design	4 Base	Does this "secure access" need to be considered for a bus entrance that is other than the main entrance?	Thank you for your question. Generally, this should not occur but measures could be extended if it did.
32	D10	13	2.2.B Safety & Security Building Design	4 Base	Is this the main entrance, or receiving on the backside?	Thank you for your question. This is a service entry apart from the main entry.
33	D12	13	2.2.B Safety & Security Building Design	4 Base	Does secure mean that the main office needs to buzz them in?	Thank you for your question. The intent for visitor identification is static monitoring. A remote actuated door latch is not envisioned.

Cmt ID	nd. No.	Page	Section	Item No.	Review Comments	DEED Review Response
34	D13	13	2.2.B Safety & Security Building Entries	6 Base	Laminated is preferred because it stays in place when broken and better for our cold environment.	Concur. This is now Baseline 8. Laminated security glass is included in the item.
35	D9	13	2.3.A General Planning Principles	14 & 21 Prem	What is CF-3 to represent?	Thank you for your question. CF-3 indicates additional cost of 5% to <8% above Baseline ("simple" ceilings and floors). Note: Revised to CF-2.
36	D14	13	2.3.A General Planning Principles	15 Prem	The floor finishes may need some more notes. Is the wood floor for main occupied rooms? Should it not use for corridors?	Thank you for your question. Two flooring materials are Premium: wood (except at gymnasiums) and natural stone. Added terrazzo.
37	BC2	13	2.3.B General	3 Base	Required by code; unnecessary to state here.	Point taken and the intent of this publication is to avoid restating code provision. However, two exits are not always required in these spaces. The intent here is likely to allow multiple exits for security reasons when safe exiting allows only one.
38	D15	14	2.2.B Safety & Security Building Design	9 Base	Baseline 9 and Provisional 11 are the same.	Concur. This change has been made. (now only Provisional 10)
39	D17	14	2.C Safety & Security at Classrooms	3 Base	Phone is VoIP. Does Audio Enhancement (AE) have this capability? All teachers typically have radios. It appears that VoIP goes off with an IT shut down, or power outage. What happens with AE in these situations. Appears we still meet this with the radios.	No changes. This provides for an accepted baseline for regular and emergency communications. A 'hardened' system could be considered for a Provisional item (please submit). Radios are not a capital project equipment item.
40	D16	14	2.C Safety & Security at Classrooms	4 Prov	should this say "laminated" or "safety" It appears security means something else	Thank you for your comment. All instances will be normed to "security glass' to allow flexibility.
41	D20	15	2.3.Cat A General Use Classrooms	2 Base	Specialties: Add tall behind 36in and 42in.	No change. Adequately defined by context.
42	D22	15	2.3.Cat A General Use Classrooms	2 Base	Spatial Elements: Instead of the +/- change to min.	No change. The intent is to approximate a 9ft ceiling height, not a 9ft minimum ceiling height with no maximum.
43	D23	15	2.3.Cat A General Use Classrooms	2 Base	Spatial Elements: Should secondary school ceiling high be increased to 10ft +/-.	Concur. Added as provisional for grades 9-12.
44	D19	15	2.3.Cat A General Use Classrooms	5 Prov	It appears ceramic tile should be avoided in these classrooms due to cleanability	Thank you for your comment. FRP replaced ceramic tile during last comment period as more cost effective.
45	D18	15	2.3.Cat A General Use Classrooms	7 Prem	Consider adding plumbing fixtures to clarify this does not include soap dispensers to align with page 112.	Item 7 is Provisional, not Premium. No need to list all fixtures. No change recommended.
46	D21	15	2.3.Cat A General Use Classrooms	8, 13 Prov	The bullets #8 to #13 seems the baseline needs, should they be moved to baseline?	No change. These items are not consistent throughout all schools/districts and function better as Provisional.

Cmt ID	nd. No.	Page	Section	Item No.	Review Comments	DEED Review Response
47	BC3	15	2.3 Cat A, General Classroom	2 Base	Confirm heights - (1) can we not have lower cabinets in rooms for younger children? (2) what are 42" wall cabinets? If uppers, we should say that. If full-height cabinets, then 42" is too short.	No change. 42in wall cabinets (uppers) cost more than 36in units but are accepted as Baseline. A district could still choose to specify 36in cabinets.
48	D24	16	2.3.Cat A General Use Classrooms	B BP/LL	Consider adding "or waterproof material where the counter has a sink" to the end of the first sentence.	No change. Wording does not prohibit the norm of a 'waterproof' backsplash in wet areas.
49	BC4	16	2.3 Cat A, General Classroom	A BP/LL	Duplicate from earlier section on security.	Concur. Items carry similar meaning but are worded differently. Will merge wording and keeping only in Safety & Security at Classrooms.
50	D25	17	2.3.Cat A - Art	2 Base	Ventilation/Exhaust: Should the kiln exhaust be integrated with outside air intake?	Thank you for your question. Design of kiln/kiln room exhaust will require additional detail beyond this document and may include proximity to air intakes and/or make-up air requirements. No change.
51	BC5	17	2.3 Cat A, Art	2 Base	Why can't these be taller than 52"?	Thank you for your question. This describes a floor mounted deep storage cabinet. Above 52in, storage becomes over shoulder height and may become less safe for large items.
52	D26	18	2.3.Cat A Science	6 7 8 Prov	Should voice amplification systems be baseline in all teaching/classroom spaces?	Considered, as some Districts are using these, some don't, and others have installed them but have partial adoption by teachers, this would seem to fit within Provisional systems instead of Baseline.
53	C4	19	2.3.Cat A Science	15 Prem	The designation of any type of fume hood as a premium for rooms other than chemistry will diminish the full potential for Alaskan school districts to develop 21st Century learning spaces on par with the lower 48 in support of project based learning methods and STEM focused programs.	No change. Revisions to this particular provision should be driven by specific curriculum, use cases, and analysis versus a generalization that this provision does not support STEM.
54	D27	20	2.3.Cat A, Music/Drama	D BP/LL	Add item D. Tiered Flooring should be ADA accessible.	Concur. Added language to Premium 11.
55	C5	21	2.3.Cat A Bi-Cultural/ Consumer Ed	10 Prov	Why would extending walls to the bottom of deck to promote acoustical separation be provisional? Should this not be a standard method or at least a baseline option for achieving basic acoustic separation? It can be very costly to try to mitigate sound transfer after the space is built. I noted somewhere else the district is recommending acoustical panels be incorporated- these may not be necessary if the space is properly designed, detailed and constructed in the first place. The granularity in this proposed standard is an example of how good intentions may lead to additional cost and poorer quality. This section may also be in conflict with subsequent sections related to STC ratings.	Thank you for your comments. This item was conformed to a Baseline item in 3A General Planning Principles.
56	BC6	21	2.3 Cat A, Bi-cultural	2 Prem	Consider that this may be a good location for washer & dryer since in smaller schools this area may be used for special ed life skills training.	No change. Special Education, Provisional 8, allows for shared W/D in smaller schools.

Cmt ID	nd. No.	Page	Section	Item No.	Review Comments	DEED Review Response
57	TM23	21	2.3.Cat A Music/Drama	2 BP/LL	Consider adding this back and including ventilation: "Design walls and floors to prevent noise through ceilings or structural elements."	Concur. Remains at BP/LL but added language for ventilation systems.
58	WN25	27	2.3.A Gym	Title	Suggest revising Gym as a space name to Gymnasium (p. 20, 23,27, 28, 41, 49, 104, 142, and 144.	Concur but will require a corresponding change to CIP Application Instructions, Appendix D.
59	D28	28	2.3.Cat A, Spec Ed	D BP/LL	OT/PT ceiling may need higher than 9 ft for balls and practicing equipment's.	Concur. Added allowance to BP/LL item D.
60	D29	29	2.3.Cat B Teacher Workroom/Breakroom/Offices/Parent Resource	2 Base	Finishes: Consider adding Resilient at breakrooms since the users could use area rugs.	Concur. Added "or resilient" to Baseline table.
61	BC7	31	2.3 Cat B, Teacher Workroom	B BP/LL	I don't understand this sentence.	Concur. Revised "art" to "at".
62	D30	33	2.3.Cat B - Shared Spaces, Time-out Room	D BP/LL	Door should swing to outside of the room.	Concur. Will add as a Best Practice/Lessons Learned item.
63	BC9	34	2.3 Cat C, Administration	2 Base	Small for Reception and *General Admin* areas.	Concur. Revised to 200-800sf
64	BC9	34	2.3 Cat C, Administration	2 Base	To small *for Principal* .	Concur. Revised to 100-120sf
65	TM7	34	2.3.Cat C Administration	2 Base	Suggest adding "plus equipment support" to Power to account for dedicated circuits for large copiers and other equipment.	Concur. This change has been made.
66	WN33	34	2.3.Cat B Timeout	2 Base	Propose rewording to read: "Ceiling: vandal and impact resistant hard ceiling.	Accepted.
67	TM8	36	2.3.Cat C Student Commons	BB/LL	Add new. "Larger K-12 schools may consider an additional smaller Commons for secondary grade student use. Space can be for informal student gathering and also breakout space for guided learning."	Accepted.
68	D31	37	2.3.Cat B - Auditorium (& Stage)	A BP/LL	Add locate drinking fountain station outside of auditorium?	Partially concur. Added a BP/LL item similar to A for Multipurpose to allow access to restrooms/fountains.
69	WN3	37	Part 2.3 Category C	Shared Spaces, Auditorium (& Stage)	Premium 16: Unclear why balconies are Premium. In a multi-story building balconies can be a vert efficient use of seating space.	Thank you for your comment. Will leave as Premium for initial edition on the premise few Auditorium spaces will be large enough to warrant balcony/mezzanine seating.
70	D32	41	2.3.Cat B - Weight Room	C BP/LL	Add. Consider higher ceiling 10ft minimum	Partially concur. A Provisional item for 10ft ceilings was added. Also removed pendent lighting under Baseline.

Cmt ID	nd. No.	Page	Section	Item No.	Review Comments	DEED Review Response
71	D33	42	2.3.Cat B - Nurse	2 Base	Equipment/Furnishings: Would this space need cots for students, refrigerator for medication, ice makers for medical needs, and lockable cabinets for storage of medication?	Partially accepted. Added refrigerator and ice maker as Equipment; remaining items are FF&E.
72	D34	42	2.3.Cat B - Nurse	2 Base	Planning Factors: Include a shower space (ADA)?	No change. Insufficient use for this dedicated feature; sharing with another space may work.
73	TM9	42	2.3.Cat C Nurse	1 Base, 2 Base	Suggest relooking at identifying any Nurse space as Baseline. Many rural schools have no ability staff a nurse suggesting Baseline should be "None." and all entries would be Provisional.	No change. Will leave in the standard format of allowing a Baseline for Nurse space.
74	D36	43	2.3.Cat B - Kitchen/Food Services	2 Base	Specialties: Remove length of tack board and white board.	Concur. This change has been made.
75	D35	43	2.3.Cat B - Nurse	BP/LL	Provide a door from the corridor to the nurse for students to have access to the nurse without going through the admin area.	Accepted. Added as BP/LL.
76	BC10	44	2.3 Cat C, Student Store	1 Base	This is desired in all rural K-12 schools.	Thank you for your comment. Inclusion is subject to available space.
77	D37	45	2.3.Cat B - Student Store	2 Base	Equipment/Furnishings: Why is FF&E crossed out for student store?	Concur. This change has been made.
78	BC11	46	2.3 Cat. D, Circulation	2 Base	This will be tight *(planning factors)* with small population schools.	Thank you for your comment. The range is intended to address this but may need to be adjusted if warranted.
79	D38	47	2.3.Cat D - Circulation, Corridors/ Vestibules/ Entryways & Stairs/ Elevators	BP/LL	Add - Water bottle filling station in common area. Possibly two (2), one near gym and other near central point of building.	Partially concur. Added water bottle filling station(s) to Baseline 2, Plumbing.
80	D39	47	2.3.Cat D - Mechanical/Electrical	2 Base	Finishes: Add "waterproof" at the end of the line for floor.	Partially accepted. Added as a BP/LL item.
81	D41	47	2.3.Cat D - Mechanical/Electrical	2 Base	Plumbing: Floor drain in mechanical room, not electrical room.	Concur. Added a note to Plumbing.
82	D40	47	2.3.Cat D - Mechanical/Electrical	Provisional	Add - Consider providing a fireproof cabinet for O&Ms and as-builts.	No change. This would be part of FF&E.
83	TM10	47	2.3.Cat D Utilities/Maintenance	2 Base	Consider adding "epoxy on wood underlayment" at Finishes, Floor.	Concur. This change has been made.

Cmt ID	nd. No.	Page	Section	Item No.	Review Comments	DEED Review Response
84	D42	48	2.3.Cat D - Mechanical/Electrical	BP/LL	Provide Double doors or min. 4ft width single door for boiler room with an outdoor access.	Partially accepted. Added a note to consider material and equipment access.
85	D43	48	2.3.Cat D - Mechanical/Electrical	BP/LL	Add - For 2nd level install a double door with exterior access, or other large area like the gym.	Partially accepted. Added a note to consider material and equipment access.
86	D44	48	2.3.Cat D - Supply Storage & Receiving Areas	2 Base	Doors: Should this include both exterior and interior assemblies?	Concur. This change has been made.
87	D45	48	2.3.Cat D - Supply Storage & Receiving Areas	2 Base	Doors: Oversized double door to meet these dimensions?	No change. Such doors would be allowed.
88	D46	48	2.3.Cat D - Supply Storage & Receiving Areas	2 Base	Doors: Should the exterior personnel doors have a narrow lite instead of half-lite?	Thank you for your question. Accepted.
89	D48	49	2.3.Cat D - Custodial	2 Base	Ventilation/Exhaust: Add "DDC" before controls.	No change. Do not recommend having custodial closet exhaust controlled by DDC. Should be on stand-alone switch.
90	D49	49	2.3.Cat D - Custodial	BP/LL	Add - Consider a minimum of one (1) custodial room for each level near common restrooms.	Accepted.
91	D47	49	2.3.Cat D - Supply Storage & Receiving Areas	BP/LL	Add - Covered entry to keep snow from blocking access.	Accepted. (Also covered generally in Safety & Security Building Design).
92	WN31	49	2.3.Cat D Custodial	2 Base	Shouldn't custodial closets be under negative pressure for Ventilation/Exhaust?	Concur. Text will be edited to read, ". . . continuous negative pressure."
93	D50	50	2.3.Cat D - Other Building Support (Telecom)	2 Base	Doors: Appears card access should be in provisional.	No change. Electronic access is designated as Baseline for several spaces including this one. Under 0943, Access Control is listed under Baseline with a note that "if a system is used..." to guide the use of it when included as a baseline system.
94	C6	52	2.4.A Integrative Design Process		A more comprehensive integrative design would include user group and local engagement - including educators, facility maintenance, community members familiar with local climate and building successes and failures.	Thank you for your comment. These user groups and stakeholders should be encountered in the design review process.

Cmt ID	nd. No.	Page	Section	Item No.	Review Comments	DEED Review Response
95	C7	52	2.4.B Human Health, Comfort		Human Health and Comfort need baseline, provisional and premium detail to be consistent with the majority of the document. Indoor air quality, daylighting, acoustical comfort, views to the outdoors etc. all have measurable properties and research-based baselines for adequate student environments for high performing schools.	Thank you for your comment. Will reserve this opportunity to a future edition of the publication.
96	TM1	52	2.4 High Performance Facilities	Para 2	These categories are from the Maine document and our original structure for this section. They need to be updated or removed.	Concur. Added Resiliency and removed Integrative Design. IDP is a process not a high-performance principle.
97	TM11	52	2.4.A Integrative Design Process		Correct title to "Integrated" and collect applicable paragraphs from 2.4 Sections.	Accepted
98	D51	53	2.4.C. Demand Reduction	2 Base	Reword first sentence to include "need to", example Zone the HVAC system and security doors such that the rest of the facilities does not "need to" be operated or be occupied during after hour public use.	Concur. Sentence has been reworded.
99	D52	53	2.4.C. Demand Reduction	3 Prov	first sentence: Classrooms are difficult due to the large wall diffusers that get covered.	Thank you for your comment. Added as a BP/LL.
100	WN4	53	2.4.C. Demand Reduction	2 Base	A. and B. should be broken out of the paragraph. Separated these two items as "a." and b."	Partially accepted. Revised and separated.
101	TM12	53	2.4.B Human Health & Comfort	Para 2	Consider adding additional benefits based on the Maine document.	Accepted. Edits made.
102	TM13	53	2.4.C Demand Reduction	Para 1	Consider adding a reference to ASHRAE 90.1 and the DEED process. Need footnote?	Concur. This change has been made.
103	D53	55	2.4.F DEED High Performance Stds	12 Prov	NOTE: try to minimize views to distractions, such as the playground	Thank you for your comment. No changes.
104	WN5	55	2.4.F DEED High Performance Stds	7 Prov	Is 65% "early in the design"?	Thank you for your question. Removed 65%.
105	C8	56	2.4.F DEED High Performance Stds	16 Prem	If long term cost efficiency is desired, why is re-commissioning two years after the school is built a premium? Wouldn't it be in the State's interest to make sure Schools are performing at the level intended?	Thank you for your question. Re-commissioning/Retro-commissioning is an Operating Budget expense, not Capital.
106	D54	56	2.4.F DEED High Performance Stds	14 Prov	Add - "and CO2" to the end of the sentence.	Accepted.
107	WN6	58	3.1.B Design Philosophy		No direction to Site Selection and Evaluation Criteria Handbook shown. Added web site address for publication.	Accepted. Thank you for your comment.

Cmt ID	nd. No.	Page	Section	Item No.	Review Comments	DEED Review Response
108	D55	59	3.0131 Vehicular Surfaces	14 Prem	Consider rewording the sentence to read. "Additional parking and locally mandated parking over and above the standards."	No change. Item refers to standards listed in Baseline 2.
109	WN7	59	3.132 Pedestrian Surfaces	3 Base	Is "allowable surfacing" too vague?	No change. Surfaces such as asphalt, etc. are further defined elsewhere.
110	D57	61	3.0135 Landscaping & Irrigation	5 Base	Refer the similar comment on page 10	No change. This is a building maintenance provisions where the other is a security provision.
111	WN8	61	3.134 Site Walls	4 Prov	Does not begin with "consider" and reads like a mandate. Is this Provisional or Baseline?	Thank you for your question. Item removed for consideration by AHJ.
112	WN9	61	3.135 Landscaping & Irrigation	4 Base	The use of "caliper" is questionable. The caliper is a device that measures the diameter of the tree, it is not the measurement. Changed "caliper" to "diameter".	No change; believe this is the appropriate term for tree size measurement.
113	D56	62	3.0135 Landscaping & Irrigation	Best Practice/Lessons Learned	Add - Vehicle access gates should have an extra post with a way to secure when open for safety. Include hazard tape, or other highly visible, reflective finish.	Thank you for your comment. Added as a BP/LL.
114	D58	62	3.0137 Site Furnishings & Equipment	1 Base	Consider adding "bear-proof" to exterior trash receptacles.	Accepted as, "animal proof".
115	TM15	65	3.0151 Water Systems	All	The document need additional development of Baseline, Provisional, and Premium items to account for locations where community water supply is not available.	Concur. This change has been made.
116	TM16	66	3.0152 Sanitary Sewer	All	The document need additional development of Baseline, Provisional, and Premium items to account for locations where community sewer collection and treatment is not available.	Concur. Additions made.
117	TM17	67	3.0153 Storm Water	1 Prem	Remove non-applicable premium item for fencing.	Concur. This change has been made.
118	D59	69	3.0163 Lighting & Equipment	Prov (new)	Add - Lighting for rink on a 1-2 hour timer that is accessible by public and programmed to not be operable after 11pm - 6/7 am.	No change. Ice rinks are Premium (ref. 0139, item 5)
119	D60	69	3.0163 Lighting & Equipment	Prov (new)	Add- Include additional empty raceways to light poles or electrical boxes on site for future use.	No change. Ref Baseline 1. A similar provision is provided at 0138 Provisional 11.
120	BC12	72	3.02.C Design Criteria	1 Criteria	Do we have to provide two complete schematic design options for all schools over 40,000 GSF?	Thank you for your question. Item is removed. Design Ratio analysis did not support a FPA:GSF criteria.
121	BC13	72	3.02.C Design Criteria	3 Criteria	*Highlighted as a concern; no specific comment.*	Thank you for your concern. Item revised to, ". . . may be required at the department's discretion."

Cmt ID	nd. No.	Page	Section	Item No.	Review Comments	DEED Review Response
122	WN10	73	2.211 Continuous and Column Footings	4 Base	The phrase "...require site selection justification and DEED approval..." implies to me that this should be a Premium item rather than Baseline.	Concur. Re-written as a Premium item.
123	C9	75	3.0241 Spec. Foundation Piling	1 Base	I am not a structural engineer, but it seems odd the state would specify a preferred H-pile type without site specific geotechnical information, current pricing (steel prices are not consistent even month to month for different products), or a structural engineer recommendation for that specific project. This example supports the overall concern that the standards may be too detailed and lead to less efficient design outcomes.	Thank you for your comment. When pile foundations are required, H-pile have been demonstrated as the most cost-effective. Pipe piles are Provisional but require LCCA. Rest assured we are always looking for the most cost effective solution.
124	BC14	76	3.0241 Piling & Pile Cap	4 Prov	Would the design team always be required to submit cost analysis on this selection?	Thank you for your question. Yes, use of driven pipe piles will always require an evaluation over H-pile.
125	WN11	76	3.0241 Piling & Pile Cap	6 Prem	"...exceeding 40pounds per footprint area..." Is this a total of 40 pounds per the entire footprint area or just a measurable portion?	Thank you for your question. This is the estimated weight of the piling element in the foundation only.
126	BC15	77	3.0244 Arctic Foundation System	6 Prem	If active refrigeration is required due to soil conditions and that can be documented by geotechnical report (i.e. marginal permafrost) would a LCCA be required?	Thank you for your question. If active refrigeration is required, it's generally time to look for another site. However, among available options (sites, foundations, etc.) an active system could be approved if an LCCA demonstrated savings greater than 8%.
127	TM18	80	3.0311 Lower & Main Floors	1 Base	Clarify when cost analysis is needed when moving from concrete slabs to framed floor systems.	Concur. This change has been made.
128	BC16	81	3.0321 Pitched Roofs	5 Base	"in the capacity of metal deck may wood structural panel or wood", this is confusing.	Concur. Revised to ". . . may be wood . . "
129	WN12	82	3.0321 Pitched Roofs	5 Base	This sentence does not make sense to me. Unable to determine intent.	Concur. Revised to ". . . may be wood . . "
130	BC17	83	3.0331 Stairs	7 Prem	This doesn't make sense. A stair must be at least the minimum required by codes. Do you mean 110% of minimum? We previously commented on this and you thought it was reasonably clear.	Concur. This change has been made.
131	BC18	83	3.0332 Stair Railings	3 Base, 8 Prem	*Don't you mean 110% of minimum?*	Concur. This change has been made.
132	BC19	84	3.0333 Ladders & Steps	4 Base	*Don't you mean 110% of minimum?*	Concur. This change has been made.
133	WN13	84	3.0331 Stair Structure	3 Base,7 Prov	Wording does not seem to match intent. Replaced "of" with "more than" for clarity.	Concur. A change has been made.
134	WN14	84	3.0332 Stair Railings	3 Base	Wording does not seem to match intent. Replaced "of" with "more than" for clarity.	Concur. A change has been made.

Cmt ID	nd. No.	Page	Section	Item No.	Review Comments	DEED Review Response
135	WN15	85	3.0333 Ladders & Steps	8 Prem	Wording does not seem to match intent. Replaced "of" with "more than" for clarity.	Concur. A change has been made.
136	D61	87	3.0411 Exterior Walls	5 Base	These R-values are base on the 70 F degrees are these calculations a good fit arctic/subarctic Alaskan environment?	No change. Data is representative.
137	BC20	87	3.0411 Exterior Walls	4b Base	"In rural locations overall wall system may be more expensive as more layers of material are used in total system." Why are more layers used?	Thank you for your question. The parenthetical statement deals with metal wall panels vs insulated metal wall panels.
138	C10	88	3.0411 Exterior Walls	19 Prov	Provisional: Avoid materials that require paints or sealers to prevent water intrusion. This is vague and confusing. Paints and sealers are necessary for many materials and exterior envelope systems. Why would it be sometimes acceptable to avoid something? Is the intent to encourage pre-finished siding types that do not require regular maintenance?	Thank you for your questions. Reworded to "Consider specifying materials that do not require regular application of paint or sealers to prevent water intrusion."
139	D62	90	3.0412 Facias & Soffits	Baseline	Consider adding - Insulation or Spray foam where required for heated space.	Concur. This change has been made.
140	BC21	90	3.0421 Windows	2 Base	What type of windows are approved for baseline? PVC windows are used throughout rural projects.	Thank you for your question. Vinyl (PVC) and vinyl-clad wood are Baseline. Fiberglass and aluminum clad are Provisional subject to LCCA.
141	BC22	91	3.0421 Windows	9 Base	What about sliders? Are those allowed?	Baseline does not establish a minimum. Sliders, while not advisable, could be used.
142	TM19	92	3.0421 Windows	17 Prem	Consider removing additional bullet resistant glass analysis.	Concur. This change has been made.
143	D64	93	3.0611 Fixed Partitions	5 Base	What does Grade 5 mean for the exterior door hardware?	Revised to ANSI Grade 1 hardware.
144	D63	95	3.0421 Windows	6 Base	Consider removing "6'" and spell out to 6 feet.	Concur. This change has been made.
145	TM20	95	3.0432 Special Doors	6 Prem	Consider removing additional bullet resistant glass analysis.	Concur. This change has been made.
146	TM21	96	3.0443 Other Exterior Accessories	1 Base, 2 Prov, 3 Prem	Need to add a provision for building-mounted school name signs.	Concur. This change has been made.
147	D66	104	3.0612 Soffit & Ceilings	5 Base	Item 5 is blank.	Concur. This change has been made.
148	WN16	104	3.0611 Fixed Partitions	4f Base	No CF or LCCA shown for this item. Was it omitted in error?	Thank you for your question. No CF/LCCA needed at this time.
149	WN17	105	3.0612 Soffit & Ceilings	1d Base	No CF or LCCA shown for this item. Was it omitted in error?	Thank you for your question. No CF/LCCA needed at this time.

Cmt ID	nd. No.	Page	Section	Item No.	Review Comments	DEED Review Response
150	WN32	106	3.0623 Glazed Partitions	3 Prem	Should this indicate whether the dimension is width or height?	Thank you for your question. Revise to add, " . . . in more than one dimension."
151	D65	108	3.0431 Personnel Doors	Prov (new)	Add - Consider using corner guard protection.	No change. Not aware of this option for personnel doors.
152	D67	109	3.0651 Floor Finishes	14 Prem	Why would wax-fee resilient floor be premium if it reduces future costs for maintenance?	Thank you for your question. Removed.
153	D68	109	3.0651 Floor Finishes	BP/LL	Consider the use of ice melt when selecting flooring materials in high traffic areas. Extending the walk off mat length helps reduce the amount of ice melt in other areas of the building.	Accepted.
154	D69	111	3.0661 Interior Specialties	2 Base	Adjust to read. Student lockers shall be provided as required by the programming documents and should be steel construction with sloped top and closed base; lock requirements to be selected by the school district.	Concur. Added "district" to the end of the first sentence.
155	D71	112	3.0661 Interior Specialties	12 Prem	Revise to read. Stainless steel corner guards in non-high traffic areas. To align with Provisional item number 11.	Accepted.
156	D70	112	3.0661 Interior Specialties	12 Prov	Consistent wording either whiteboards or markerboards.	Edit incorporated to whiteboards.
157	D72	112	3.0661 Interior Specialties	23 Prem	Seems to contradict item 9 under Provisional.	No change. No contradiction. Premium is "suspended".
158	BC24	112	3.0661 Interior Specialties	19 Prem	These have the longest life cycle and for 20+ year buildings, should consider provisional or baseline.	Partially accepted.
159	D73	113	3.0662 Casework & Millwork	1c Base	Replace head lice to parasites to include others such as bed bugs.	Concur. Added "…and other parasites" to the end of the item.
160	D74	113	3.0662 Casework & Millwork	Provi (new)	Add- Consider adding item include administration area reception desk to align with page 34 Provisional items.	Accepted.
161	D75	117	3.0721 Elevators & Lifts	4 Prov	Add space between shall and have.	Concur. This change has been made.
162	D76	117	3.0721 Elevators & Lifts	5 Prov	68 inches seems too low, consider lift that can set height according to user's requirements.	Thank you for your question. This is a standard height ad would require a 12ft ceiling height.
163	WN18	118	3.0721 Elevators & Lifts	11 Prem	3,000 pounds seems to be insufficient for an average vehicle, if this is meant for auto shop type vehicle lifts. Revise weight limit?	Thank you for your question. Capacity is revised to 9,000lb.

Cmt ID	nd. No.	Page	Section	Item No.	Review Comments	DEED Review Response
164	D77	120	3.08 Mechanical C. Design Criteria & Ratios, Criteria	4 Bullet	How can we exceed maximum? this sentence does not make sense.	Concur. Removed, "or greater."
165	BC23	120	3.0652 Wall Finishes	4 Prov	Why just FRP, there are other cost effective types of paneling?	Thank you for your question. The standards to not list every possible option.
166	E1	123	3.0813 Plumbing Equip	2 Base	We suggest adding additional requirements for addressing Legionella pneumophila, the causative agent linked to Legionnaires' disease. The Construction Standards addresses one aspect of Legionella, as described on page 23, Section 0814 Plumbing Equipment, Baseline 2., which states to "store domestic hot water minimum 140°F to prevent Legionella growth."	No change. See response to comment 167.
167	E2	123	3.0813 Plumbing Equip	Base (new)	However, to reduce the risk of Legionella the issue of water stagnation should additionally be addressed through the implementation of a water management program [1]. Water management programs identify hazardous areas, fixtures, or conditions within a building water system and outlines the steps required to minimize the growth and transmission of waterborne pathogens, like L. pneumophila. A water management plan incorporates the prevention of Legionnaires' disease by identifying areas of risk in a building water system and by including monitoring, identifying, and controlling the bacteria's presence. Multiple entities provide guidance and/or legislation for water management plans and IDEXX encourages DEED to consider adding the implementation of a water management plan to the Construction Standards as a way to better protect public health against Legionnaires' disease.	No Change. As stated in the Standards document in Part 1 Purpose and Application, item 1. Background, paragraph 3, "These Standards are not a building code. Alaska's adopted statewide building code requirements for schools are already well developed and are enforced by the appropriate authority having jurisdiction (AHJ)." Control and mitigation of pathogens such as Legionellosis are addressed by the codes and standards enforced by the State of Alaska, and good design practices. It is the responsibility of the designers to apply designs as appropriate to address these issues as required by the prevailing codes.
168	D78	123	3.0813 Plumbing Equipment	2 Base	The sentence is incomplete and can we expand this for tempering valve? 110° at hand wash sinks/ showers. 120° kitchen for sanitation.	No change. The sentence is complete as written. Maximum lavatory temperatures are indicated in the plumbing code, and kitchen fixture hot water temperatures in the Alaska Food Code.
169	WN20	123	3.0811 Plumbing	23 Prov	Does the second sentence belong with this item or should it be a separate? Perhaps create an additional Provisional item here to read: "Consider avoiding the use of refrigeration on drinking fountains." or perhaps make this a Premium item.	Concur. Refrigerated DF moved to Premium with an LCCA provision.
170	WN21	124	3.0813 Plumbing Equip	2 Base	The word "or." at the end of the item seems superfluous. Was this intentional?	Corrected.
171	D79	127	3.0824 Ventilation Distribution systems	10 Prov	Gyms, MPR, Libraries, music room's this should be a standard practice especially in new construction to provide displacement systems. I would recommend removing the word "Consider" here.	No change.

Cmt ID	nd. No.	Page	Section	Item No.	Review Comments	DEED Review Response
172	WN22	134	3.0852 Specialty Exhaust	2 Prov	"HEPA" only used twice in the document. Spelled out "high efficiency particulate air [filter]" here and also on page 24.	Incorporated an acronym.
173	WN23	134	3.0854 Other Special Mech	2 Base, 3 Base	Should these items refer to the Swimming Pool Guide?	Swimming Pool Guide does not address ventilation or other mechanical systems, so is not a relevant reference for this section.
174	WN24	137	3.0911 Main Distribution	7 Prov	Should "UL" precede "listed" in the item?	No, this is not a UL item, this is for equipment that has been tested by the manufacturers to be series-rated.
175	TM22	137	3.0912 Panels & MCC	4 Base, 7 Prem	Consider removing baseline note on spare breakers and creating a limit at Premium.	Accepted.
176	F1	138	3.092 Lighting	17 (new)	Add Baseline: Fixtures shall conform to IEEE 1789 flicker recommendations. This is particularly important since many LED lights do not meet this, particularly the lower cost ones. With school kids being a captive audience, and the amount of darkness that we have, and imperceptible flicker's effects, probably best to follow IEEE 1789's recommended practices.	Considered, no modification recommended at this time. While this is a reasonable request, in practice it would be hard to enforce unless manufacturers are testing and certifying products to this specific standard which does not appear to be the case at this time. Designers are free to include compliance with standards such as these in their product selections.
177	D80	149	3.1017 Art Equipment	2 Prov	What type of kilns are considered are these still gas-fired?	Concur. Added "electric or" between "two" and "gas-fired".
178	WN26	142-143	0943 Security Systems	Provisional	Several Provisional items (nos. 5, 6, 8, 9, 14, 17, 18, 21, 22, and 23) either do not begin with "consider" or do not have the word "consider" in the item.	Accepted.
179	SR1	66	0133 Elevated Decks & ramps	Provisional 4.	Provide handrails and guardrails for elevated decks when required by code. Shouldn't this be under baseline?	Thank you for your question. Moved to Baseline.
180	WN27		3.011 Food Service & Kitchen Equip	Baseline 1 and 2, Provisional 4	Per IMC 507.2.1 and 507.2.2, Type 1 hoods are for any grease or smoke producing appliances, while Type 2 hoods are for appliances that produce heat and moisture, but not grease and smoke.	Changed Baseline 2 to Type 1 hood and changed Provisional 4 to Type 2 hood.

Alaska School Design & Construction Standards

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Thanks to the Bond Reimbursement and Grant Review Committee members and members of the public who reviewed the publication in its initial drafts and final form.

Table of Contents

Acronyms

The following acronyms are used ~~throughout~~ within this publication:

AAC	Alaska Administrative Code (regulations)
ABS	acrylonitrile-butadiene-styrene (pipe)
ADM	average daily membership (as defined in AS 14.17.990)
AFF	above finished floor
AHJ	agency having jurisdiction
AS	Alaska Statute
A/V	audio/video
AWW	all weather wood
BAS	building automation system
BRGR	Bond Reimbursement and Grant Review Committee
CCTV	closed circuit television
CF	cost factor
CIP	capital improvement program or project
CMU	concrete masonry unit
CY	cubic yard
DDC	direct digital control
DEED	Department of Education & Early Development
ECM	electrically commutated motors
FF&E	furniture, fixtures & equipment
FPA	footprint area
FPSF	frost protected shallow foundation
FRP	fiberglass reinforced plastic
FT or ft	foot
GA or ga	gauge
GFCI	ground fault circuit interrupter
GLB	glue laminated beam/timber; glulam
GPF	gallons per flush
GPM or gpm	gallons per minute
GSF or gsf	gross square footage
GWB	gypsum wall board
HDPE	high-density polyethylene (pipe)
HDMI	high-definition multimedia interface
HEPA	high efficiency particulate air (filter)
HP or hp	horsepower
HSS	hollow structural shapes or sections
HVAC	heating, ventilation, and air conditioning
IMC	intermediate metal conduit
IT	information technology, computer hardware
LBS or lbs	pounds
LAN	local area network
LCCA	life-cycle cost analysis
LCD	liquid crystal display
LED	light emitting diode
LF or lf	linear foot
MAU	make-up air units
MBR	membrane bioreactor (wastewater treatment processes)

MERV	minimum efficiency reporting values (air filter standard)
MIL or mil	thousandths of an inch (thickness)
mm	millimeter
MPR	multi-purpose room
O&M	operations & maintenance
OSB	oriented strand board (engineered wood)
OT/PT	occupational therapy/physical therapy
PRP	potentially responsible party
PSI or psi	pounds per square inch
PVC	polyvinyl chloride (pipe)
SF or sf	square foot/feet
SIP	structural insulated panels
STC	sound transmission class
TARR	texture appearance retention rating
UPS	uninterruptible power supply
V or v	volt
VFD	variable frequency drives
VOC	volatile organic compounds
VRF	variable refrigerator flow
WAN	wide area network

The following ~~standards and~~ organization abbreviations and standards are used ~~throughout~~ within this publication:

AASL	American Association of School Librarians
ADA	Americans with Disabilities~~y~~ Act
ANSI	American National Standards Institute
ANSI-S12.60-2010	Acoustical Performance Criteria, Design Requirements, and Guidelines for Schools Part I
ASHRAE	American Society of Heating, Refrigerating, and Air-Conditioning Engineers
ASHRAE 55	Thermal Comfort in Buildings (latest edition)
ASHRAE 90.1	Energy Standard for Buildings Except Low-Rise Residential Buildings
ASSE	American Society of Sanitary Engineering
ASTM	American Society of Testing Materials
AWI	Architectural Woodwork Institute
BEES	Building Energy Efficiency Standards; adopted by Alaska Housing Finance Authority as Alaska-specific IECC
CPTED	Crime Prevention Through Environmental Design
CHPS	Collaborative for High Performance Schools
IBC	International Building Code
IECC	International Energy ~~Efficiency~~ Conservation Code
IES	Illuminating Energy Society of North America
LEED	Leadership in Energy and Environmental Design certification, through United States Green Building Council
NEC	National Electrical Code

NFPA	National Fire Protection Association
NFRC	National Fenestration Rating Council
OSHA	Occupational Safety and Health Administration
SMACNA	Sheet Metal and Air Conditioning Contractors' National Association
UL	Underwriter's Laboratories
UL-142	fuel tanks standard
UL 752 Ballistic Rating	bullet-resisting equipment standard
USGBC	United States Green Building Council
US EPA	United States Environmental Protection Agency
WELL	International WELL Being Institute certification

Part. 1. PURPOSE & APPLICATION

Overview

Alaska statutes provide for state aid through debt reimbursement and grants under AS 14.11. This aid is for construction, rehabilitation, and improvement of schools and education-related facilities. The Alaska Department of Education and Early Development (DEED) has the responsibility to execute and oversee such projects when awarded or approved. Design documents for those projects are required to be submitted for approval by the department. This document was developed to assist the parties who are, or will be, responsible for the design of capital improvement projects that include state aid.

These Standards achieve two primary objectives. They fulfill a statutory mandate to provide cost-effective construction standards and they establish consistency for state aid. The focus will always be cost effectiveness from a state perspective. The Standards apply to all new school construction and new additions to existing buildings. Renovation to existing facilities will adhere to the Standards, whenever possible, as approved by DEED.

Background

In 1993, the Alaska legislature created the Bond Reimbursement and Grant Review Committee under AS 14.11.014 and identified the committee's purpose. Among its many tasks, the committee was charged, through DEED, with the development of criteria intended to achieve cost-effective school construction in the State of Alaska. These Standards are those criteria and are the result of decades of work by the committee. They also set the stage for continued work toward ensuring cost-effective school construction into the future.

Regarding consistency, powers granted to DEED provide broad authority for the state to revise a project's scope and budget if the costs are excessive, and to reject projects not in the state's best interests. These Standards have been developed to make these determinations more transparent; to provide consistent, clear information for school districts and design professionals, and to establish a uniform level of quality and performance for all of Alaska's public-school facilities.

The Standards also provide a framework for research, "best practices," accepted procedures, "lessons learned," statutory and regulatory requirements, and for inclusion of the experience of students and educators across the State of Alaska. The best of what is currently known and available in these areas is included; future knowledge and understanding will be incorporated through a vetted public process.

It should be acknowledged that the Standards are also very DEED-centric in fulfilling the two objectives stated above. These Standards are not a building code. Alaska's adopted statewide building code requirements for schools are already well developed and are enforced by the

appropriate authority having jurisdiction (AHJ).[1] Neither are these Standards district-level facilities manuals. They do not, for example, establish a preference for a side-coiling grille versus an upward acting grille for security or access separation. These Standards fit between adopted building codes and local preferences.

School construction in Alaska encompasses a wide range of climates, differences in school sizes, and the logistics of building in remote areas with limited access to labor and materials. Building system and component types, quantities, and quality vary widely across school projects with state aid. Where applicable, the Standards are tailored to address this wide range of conditions.

The Standards recognize the need to consider the long-term operations and maintenance of a school facility rather than focus solely on initial construction cost. Therefore, these Standards will not only consider the initial cost of construction but also operations and maintenance expenses, by looking at design and construction decisions on a life cycle basis.

It is evident that there is an extensive need for new and renovated school facilities. Many of the older schools in Alaska do not meet the program needs of today's complex learning environments. Older schools tend to be costly to maintain, energy inefficient, and in some cases, non-code compliant. There are also many safety issues within and outside of older school buildings. With a deep financial involvement by the State of Alaska, the Department of Education and Early Development has a responsibility to assure that projects meet established criteria for cost effectiveness including durability, economy, and quality.

One of the major objectives of the State is to address as many projects as possible within the limited financial resources at both the State and local levels. To this end the State wants to avoid unnecessarily expensive designs, inappropriate assemblies, and products that carry premium costs. The Standards are intended as a reference point for architects, engineers, and other design professionals, along with school districts, to develop cost-effective solutions that meet the needs of individual school communities. The information is provided to allow the planning, design, and construction process to proceed most efficiently—without undo restriction on the design of facilities—focusing efforts on the creation of the best possible educational environments for each project.

[1] For a list of building codes applicable to school facilities, reference 4 AAC 31.014(a).

Authority

AS 14.11.013. Department review of grant applications.

(a) With regard to projects for which grants are requested under AS 14.11.011, the department shall …

(5) consider the regionally based model school construction standards developed under AS 14.11.017(d).

AS 14.11.014. Bond reimbursement and grant review committee.

(b) The committee shall

(3) develop criteria for construction of schools in the state; criteria developed under this paragraph must include requirements intended to achieve cost-effective school construction;

AS 14.11.017. Grant conditions.

(a) The department shall require in the grant agreement that a municipality that is a school district or a regional educational attendance area

(1) agree to construction of a facility of appropriate size and use that meets criteria adopted by the department if the grant is for school construction; …

(d) The department shall develop and periodically update regionally based model school construction standards that describe acceptable building systems and anticipated costs and establish school design ratios to achieve efficient and cost-effective school construction. In developing the standards, the department shall consider the standards and criteria developed under AS 14.11.014(b).

Document Organization

These Standards are intended to be used in conjunction with other school planning guidelines developed by DEED, including those for alternative project delivery, educational specifications, school condition surveys, and site selection. When available, the Standards may also incorporate design ratios, the purpose of which will be to measure the efficiency of a school design as it relates to cost effectiveness. The Standards do not include all possible building components and materials used in school construction. They reflect the department's belief that good design is occurring every day based on the compendium of knowledge present in Alaska's design firms and school districts. Instead, they are to provide both general guidance to the design professional in key areas of concern, and specific guidance on selected design elements and materials that DEED has identified, based on experience from prior projects.

This document is organized into three main parts:

Part 1 – **Purpose & Application** is an introduction to the Standards, their background, the intended purpose, and implementation.

Part 2 – **Design Principles** deals with overall planning and design principles for site and building design, especially as they relate to safety, security, and sustainability. The subsection, *School Buildings*, provides guidance organized by types of functional spaces.

Part 3 – **System Standards** is organized by a DEED-specific elemental cost structure[2] with specific material or system selections, design criteria, and guidance.

Within these main parts, the Standards information is further grouped or identified by the by the following:

Levels of Implementation
In Part 2 and Part 3, the Standards are grouped into categories with the following definitions:

Baseline: These are design and construction elements that are accepted practice by DEED. Not all of these elements are intended to be incorporated into any one project. Applicability will vary based on design intent, budget, region, climate, and school size/program.

Provisional: These elements are improvements, upgrades, and educational program-related enhancements to Baseline elements. These are also accepted practice by DEED, subject to applicability where noted.

Premium: These elements are considered substantial upgrades to the Baseline and Provisional designations. They can be included in a project but in most cases

[2] See DEED Standard Construction Cost Estimate Format. https://education.alaska.gov/facilities/facilitiescostformat

will not qualify for DEED funding. Inclusion of Premium elements in a project requires DEED review.

Best Practice/Lessons Learned
In addition to the Levels of Implementation, a section is provided for considerations learned based on department and stakeholder involvement in projects in Alaska. Some items may be general in nature, while others may be more region-specific.

Cost Factor and Life Cycle Cost Analysis Index
Selected design features and materials described in Part 2 Design Principles and Part 3 System Standards, have been designated with indicators of CF (Cost Factor) and LCCA (Life Cycle Cost Analysis). The indicators are followed by a numerical scale of 1 through 5 that conform to the following levels:

Designation	Additional Cost	Notes
CF-1	Less than 2%	
CF-2	2% to <5%	
CF-3	5% to <8%	
CF-4	8% to < 12%	
CF-5	12% to 15%	

Designation	Cost Savings	Notes
LCCA-1	0% to 2%	
LCCA-2	2% to <5%	
LCCA-3	5% to <8%	
LCCA-4	8% to <12%	
LCCA-5	12% to 15%	

For CF, a factor of 1 is the least costly option, 5 is the most expensive. For LCCA, 1 has the least life cycle to cost benefit, 5 has the most benefit.

Prerequisites

[This placeholder section title is for possible DEED-specific content developed around "prerequisites" on how the state might implement this document.]

Flexibility and Innovation

DEED recognizes that there will be necessary modifications to this document as new technologies and products enter the construction market. Design professionals and school district personnel are encouraged to discuss new approaches, technologies, and materials with DEED officials. Many design decisions should be based on a "life-cycle analysis" that considers energy use, first cost, operational cost, equipment life, and replacement cost. In addition, consideration should be given to materials that can be recycled and are not hazardous to the environment.

DEED understands that school facilities will differ with each school district's educational program and internal organization. The design of the building will also be influenced by the school site, region, climate, and other external factors. A one-design-fits-all approach is not advocated; however, these Standards do attempt to address cost-effectiveness, quality considerations, and design efficiency. To allow for appropriate flexibility and innovation, as discussed above, the Standards set out elements as Baseline, Provisional, or Premium. Recipients of state-aid that wish to incorporate elements that exceed these Standards (indicated as Premium) shall do so with non-state funds unless a variance is obtained from DEED.

DEED has a commitment to the development of quality educational spaces that will meet the educational needs of students in Alaska schools. Spaces and buildings should be flexible so that present and future programs can be housed appropriately to meet the needs of an ever-changing public-school curriculum. These Standards will be used by DEED when reviewing school capital projects approved for state-aid.

DEED encourages an integrated planning and design process that combines the Recipient's project requirements with these Standards to provide the design team with greater clarity as to the needs of both. The process of qualifying for state-aid for school capital projects as established in AS 14.11 provides all the necessary steps for close collaboration between the recipient district or city/borough regarding the scope of a project. From the initial application and evaluation process through the design iterations, the importance of maintaining collaboration and DEED oversight throughout is critical. A cooperative approach will ensure a smooth process.

Part 2. DESIGN PRINCIPLES

1. REGIONALLY BASED DESIGN

School construction in Alaska encompasses a wide range of climates and must respond to the challenging logistics of building in remote areas with limited construction seasons. Design principles must be adapted based on climate and geographic region. The climates zones illustrated below will be used as a baseline to identify and evaluate appropriate design strategies when the application of these Standards intersects with building operations. It remains the responsibility of design and facility professionals to understand any micro-climate or site-specific conditions that may impact the application of the Standards on a project-by-project basis.

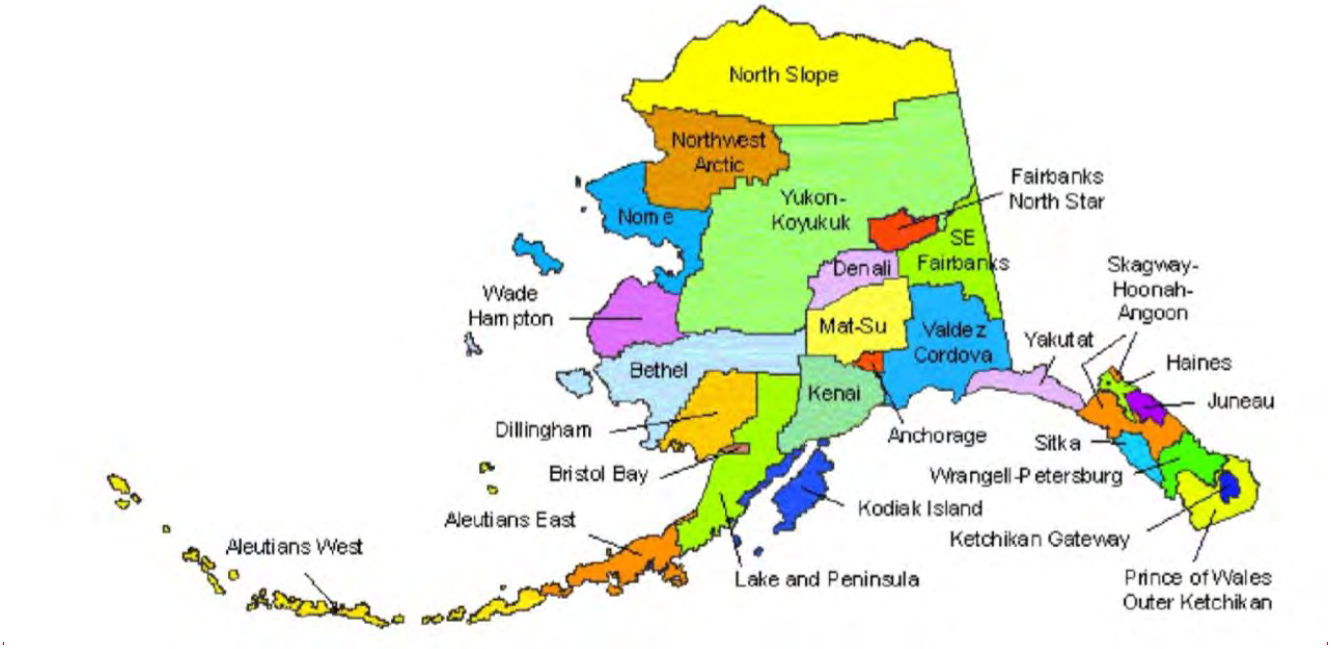

Table A301 Alaska Census Areas

Zone 6	Zone 7	Zone 8	Zone 9
Juneau	Aleutians East	Bethel	North Slope
Ketchikan Gateway	Aleutians West	Denali	
Prince of Wales	Anchorage	Kusilvak ~~(Wade Hampton)~~	
Sitka	Bristol Bay	Fairbanks North Star	
Skagway-Hoonah-Angoon	Dillingham	Nome	
Wrangell-Petersburg	Kenai Peninsula	Northwest Arctic	
Yakutat	Kodiak Island	Southeast Fairbanks	
Haines	Lake & Peninsula	Yukon-Koyukuk	
	Matanuska-Susitna		
	Valdez-Cordova		

The four identified zones have been chosen to align with existing zones established by the Alaska Housing Finance Corporation's Commercial and Residential Building Energy Efficiency Standards (BEES) in their Alaska-specific amendments to the International Energy ~~Efficiency~~ Conservation Code (IECC).

Consideration of geographic regions in the application of the Standards relate primarily to initial construction costs. The department has established an analytical model for the evaluation of geographic cost variations across Alaska, as it relates to school facilities, and publishes the results of that analysis as part of the *Program Demand Cost Model for Alaskan Schools*.[3] The geographic cost

[3] See DEED Program Demand Cost Model. https://education.alaska.gov/facilities/facilitiescip#CostModel

factors identified in that DEED publication may be used as a baseline to identify and evaluate appropriate design strategies in the application of these Standards for construction costs-on both a first-cost and life-cycle basis. As with climate zones, it remains the responsibility of design and facility professionals to understand any local variations and site-specific conditions related to construction that may impact the application of the Standards on each project.

2. SITE & INFRASTRUCTURE

A. Building Location & Orientation

The State must be involved in reviewing site selection, education specifications (i.e., programming), and design. Selected sites should be affordable, easily developed, and close to commercial-grade utilities wherever possible. In addition to the following, the current edition of the department's *Site Selection Criteria and Evaluation Handbook*[4] provides guidance and tools to assist school planners in the site selection process.

Baseline:

1. Select the building site to minimize environmental impact and encourage a simple, straightforward construction process.
2. Orient the main entrance to face primarily south. Avoid entrances facing north.
3. Evaluate prevailing wind direction and wind speeds. Provide measures such as wing walls or rails to prevent wind from catching doors and causing damage.
4. Orient the building design to maximize natural daylighting in classrooms and other occupied spaces.
5. Keep building ventilation intakes away from vehicle exhaust and other sources of air pollution. Consider the site's prevailing winds when locating intake and exhaust equipment.

Provisional:

6. Consider building and entry orientations other than provided for in Baseline when competing factors such as prevailing wind or length of entry drives govern as supported in an LCCA.
7. Consider orienting the longer axis of the building East-West when in a location or site where solar impact from a southern exposure can be maximized.

Premium:

8. Building pads/sites with slopes in excess of 10 percent.

Best Practice/Lessons Learned

A. Sites requiring extensive earthwork, long driveways, or environmental challenges should be avoided.
B. It can be difficult to secure permits for school access drives located on major roadways with high speeds or heavy traffic. Mitigations such as turn lanes or signaling may be required that are not covered by department funding.

[4] *Site Selection Criteria and Evaluation Handbook*. 2019. https://education.alaska.gov/facilities/publications/SiteSelection.pdf

B. Safety & Security Site Design

Tragedies at schools around the country have reinforced the need for designs to keep students and staff safe in our public schools. School safety experts and educational facility planners have been working together to develop recommendations that cover the outside and inside of school buildings. DEED encourages school districts to consider student safety as one of the most important criteria when designing or renovating schools.

Baseline:

1. Make the main entrance easily identifiable from the street, primary parking area, or main access route.
2. In settings where the school building is at or near grade, provide main entrances with discrete physical barriers such as steel bollards/staples, boulders, planters, or other physical barriers, as applicable, to prevent vehicles from being driven into the school. Select final solution based on cost-effectiveness.
3. Maintain clear and unobstructed sight lines for security and safety.
4. Obtain preliminary approvals from the Department of Transportation & Public Facilities (driveways), the Army Corp of Engineers (wetlands), and other appropriate agencies before site approval.
5. In school settings where emergency services are available, provide emergency vehicle access to all areas of the site, including playgrounds and fields.
6. In school settings where bus service is available, separate bus loop and parent drop-off areas and install fencing or guardrails to limit pedestrian circulation to designated crosswalks and sidewalks.
7. Provide safe access for pedestrian and bicycle circulation from site entrances to the main building entrance ~~and consider keeping~~ ; separate or segregate pedestrian pathways, sidewalks and/or boardwalks from ~~automobiles~~vehicular traffic with markings or barriers as needed.
8. Locate play areas away from vehicle circulation and parking areas. Provide accessible pedestrian pathways to playgrounds and athletic fields that avoid vehicular traffic.
9. Provide chain link fencing at the perimeter of playgrounds as required for site control.
10. Avoid sidewalks that link to high-speed roads and highways.
11. Provide clear vehicular circulation patterns and signage. Provide stop signs and speed tables.
12. Provide lighting at all travel ways, parking areas, and building perimeter.
13. Keep flammable and combustible fuels away from buildings except as permitted by code. Store heating fuel in above-ground, double wall tanks protected with fencing, berms, or bollards. Small heating fuel day tanks or propane tanks serving kitchen or science room equipment may be located above ground as permitted by code.
14. Separate service vehicles from bus and parent drop-off areas.
15. Keep perennial bushes and trees a minimum of 20 feet away from each side of major entrance/exit doors. Use CPTED principles.
16. Elevate or bury electric and telephone services to reduce susceptibility to vandalism.
17. Provide adequate lighting for the main entrance sidewalk and parking lot to discourage loitering and vandalism.
18. Provide appropriate site security gates at fire lanes to prevent non-authorized vehicles from driving around the sides or back of the school.

19. Provide exterior public address systems that can be heard in the parking lot, bus loop, and playgrounds.

Provisional:

20. Consider providing clear visual access to the main entry exterior from school administration spaces for passive observation.
21. Consider developing/designating emergency staging areas on-site.
22. Consider providing a secondary access to the site for emergency vehicles.
23. Consider how an emergency evacuation will be conducted. Consider bus loading areas and/or staging areas.
24. Consider using electric kitchen equipment and small burners with fuel canisters in science programs in lieu of piped propane or natural gas systems.

Premium:

25. Locally required (i.e., municipality, borough) off-site improvements including off site-staging and assembly areas.
26. Concrete sidewalks further than 100 ft from the main entrance.
27. Perimeter fencing at site boundaries/property lines except as incorporated at playgrounds and sports fields.

Best Practice/Lessons Learned

A. For increased security, consider using individual fuel canisters at science workstations in lieu of external tanks and/or piped gas(es).

C. High-Performance Site Principles

Baseline:

1. Site buildings to maximize daylighting (locating the school on an East-West axis).
2. Choose native and adaptive plants that do not need permanent irrigation systems.
3. Conduct a Phase I Environmental Assessment (and Phase II, if necessary, based on Phase I) to identify hazardous materials. Conduct required mediation on-site.
4. Control erosion and sedimentation during construction.

Provisional:

5. Consider opportunities to reduce light trespass onto adjacent sites and improve nighttime visibility by reducing up-lighting, reducing maximum lumens of fixtures above horizontal, and locating luminaires well inside the project site boundary.
6. Consider opportunities to reduce impervious surfaces on-site, reduce quantity and improve quality of stormwater runoff. Practice low-impact rainwater management strategies.
7. Consider alternatives to piped stormwater systems to include bioswales, pervious pavements, and retention basins.
8. Consider maximizing snow storage on-site where possible; be aware of the impacts of on-site drainage, security site lines, and visual observation.
9. Consider installation of school vegetable gardens when in support of established educational curriculum.

Premium:

10. Green roofs.

Best Practice/Lessons Learned

A. (Reserved)

3. SCHOOL BUILDINGS

Every school plan should be a reflection of the Space Allocation Guidelines found in Alaska Administrative Code (4 AAC 31.020), as well as the school district's educational specifications and pedagogy. The opportunity to design new or redesign existing school buildings is often a once-in-a-lifetime experience for teachers, school boards, and the local community. Serious consideration should be given to a comprehensive educational visioning process that reviews current state-of-the-art thinking and considers which educational strategies are most appropriate for the school's age group and local community values. Learning spaces should support traditional as well as expeditionary and "virtual" learning experiences. The following general planning principles apply to all school facility design:

A. General Planning Principles

Baseline:

1. Design interior wall layouts to be simple and straightforward.
2. Zone the building to accommodate public and after-hours use.
3. Zone the building for lockdowns that allow different sections of the building to be securely isolated.
4. Design the floor plan to carefully separate quiet, academic areas from noisy, high activity functions.
5. Design classrooms to conform to best practices for acoustic isolation and separation as defined by ANSI-S12.60.
6. Organize functional layouts to support small-group and large-group activities.
7. Designs should emphasize multi-functioning rooms to maximize daily use and minimize underutilized spaces.
8. Design the floor plan to optimize multi-functioning spaces such as cafeterias, commons, gymnasiums, and exploratory labs.
9. Arrange school such that public restrooms are accessible to after-hour spaces without gaining access to the rest of the school (Reference *0831 Control Systems* for additional standards).
10. At the Concept Design or Schematic Design phase, school designs for projects with greater than 30 percent new space must demonstrate the ability to be expanded to accommodate a ~~15~~ 30 percent increase in student population.
11. Provide acoustical and smoke separation by designing classroom walls to extend to the underside of the structural deck whenever possible and when required by codes.

Provisional:

12. Consider single or double intercommunicating doors between classrooms.

13. Consider designing schools to be as flexible as possible to accommodate future learning styles and technology.
14. Consider flexible breakout and small-group rooms with white~~marker~~ boards, tackable surfaces, and configurable FF&E.

Premium:

15. Complex floor patterns involving curves, cuts, and intricate details. CF-~~3~~2.
16. Wood floors (except where allowed for gymnasiums), ~~or~~ natural stone floors, or terrazzo.
17. Elaborate, expensive, curved, or complex walls, ceilings, windows, and arches.
18. Designs with more than one elevator.
19. Stairways not required by code for egress.
20. Elaborate, monumental stairs, regardless of location or code compliance.
21. Interior channel glass wall systems or glass block walls.
22. Complex ceilings with multiple levels and decorative soffits. CF-~~3~~2.
23. Operable partitions or ~~large~~ full-height sliding doors.

Best Practice/Lessons Learned

A. (Reserved)

B. Safety & Security Building Design

Baseline:

1. Design the building so it can be locked down into separate security zones, preferably at internal firewalls requiring rated steel fire doors.
2. Design the building to reduce nooks and areas where visibility is reduced or compromised.
3. Provide a single point of entry for all visitors that is easily identifiable from the main approach to the school. When called for by school district policy, visitors shall enter through a secure vestibule at the main building entrance. This arrangement may not be practical to accommodate in a renovation or necessary in a very small school.
4. Safety and Security at Main Office:
    a. Locate the main office door adjacent to the security vestibule lobby so office personnel can maintain visual supervision while visitors come in to sign the visitor log.
    b. Provide an accessible electronic security panic button in the office that can send a signal to police or emergency responders when a crisis is developing at the school.
    c. Provide a minimum of two locations for interior intercom and exterior public address system. The second location should be designated as a “safe room.”
    d. Design main offices with a second means of exit, either directly outdoors or into a more remote hallway.
    e. Provide security cameras at the main entrance and other remote locations around the school. Video systems should be capable of being reviewed for live on-demand broadcasting as well as a minimum thirty-day archival library system.
    f. Design the main office so it has easy supervision of the security vestibule, the main entrance lobby, and one or more main corridors leading into the “heart” of the school.
5. Provide a minimum of two means of exit out of any gymnasium, cafeteria, or library if the number of occupants is above 50.

6. Provide locked, secure chemical storage areas that are not accessible to students or visitors.
7. Install exterior rain canopies at the main entrance and exterior doors that are expected to have high usage.
8. Minimize the number of exterior doors that need to be supervised or checked for security and safety purposes.
9. Provide exterior doors convenient to playgrounds and playfields that can be quickly unlocked by access control in cases requiring "reverse evacuation."

Provisional:

10. Consider putting fire doors on electric hold opens and having them tied into the emergency security notification system that allows the main office to release fire doors for lockdown.

Premium:

11. (Reserved)

Best Practice/Lessons Learned

A. (Reserved)

C. Safety & Security at Building Entries

Baseline:

1. Design all exits and entrances so the building can be securely locked down after the start of school if necessary.
2. Design all major entrances and exits with vestibules if they are likely to be used during school hours.
3. In a secure vestibule arrangement, the interior bank of doors of the vestibule should be equipped with an electronic strike (or equivalent electrical release) that allows the door to be unlocked electronically by main office personnel after visitors have been approved for entrance.
4. Provide video cameras in the ceiling of the secure vestibule and directly inside of the vestibule doors so that visitors can be reviewed later on video loops.
5. Provide a secure door at the service entrance with access control and a means of identifying visitors without opening the door.
6. Provide electronic access control systems for staff at the main entrance and at least one other staff entrance.
7. Design entrance doors to be controllable from a remote location, preferably at the administrative office, with a direct view and oversight of the main entrance security vestibule.
8. Provide ~~laminated~~ security glass at remote exterior doors or sidelites.
9. Provide steel frame doors with no glass vision panels at remote, unsupervised doors.
10. In buildings that are at or near grade, protect all front entrances and other entrances with more than a single leaf door and used on a regular basis throughout the school day with concrete-filled steel bollards or other appropriate, rugged obstructions.

Provisional:

11. (Reserved)

Premium:

12. Pivot hinges, sliders, or revolving doors.
13. Electric door openers other than those at the minimum number of entries required to be accessible.

Best Practice/Lessons Learned

A. (Reserved)

D. Safety & Security at Classrooms

Baseline:

1. Provide commercial-grade hardware and locksets on all doors.
2. Provide hardware at classroom doors that allows the door to be quickly locked by the teacher from the inside.
3. Provide a phone and/or two-way intercom system in every classroom.

Provisional:

4. Consider vision panels with security glass in classroom doors.

Premium:

5. Security cameras within classrooms.

Best Practice/Lessons Learned

A. Provide a minimum of one National Fire Protection Assoc. (NFPA) approved escape window in every classroom, where necessary.

Category A – Instructional or Resource

General Use Classrooms

Baseline:

1. Provide space and amenities for instruction and learning associated with grade levels in support of adopted curriculum and a variety of teaching/learning styles in all or some of the following areas: instructor-led learning, individual, team and project-based learning, small group activities, computer-based learning/research, instructional storage, and personal storage.
2. Provide from among the following features for this educational space:

System	Features
Planning Factors	**Elementary General Classrooms**: 800 – 1,250; minimum 550sf **Secondary General Classrooms**: 650 – 1,000; minimum 550sf
Spatial Elements	Ceilings: 9ft +/-, traditional rectangular or 'fat L' configuration
Finishes	Floor: resilient sheet/tile at project and entry/exit areas (where used), carpet at teacher and student stations. Ceiling: acoustic tile Walls: GWB with paint

System	Features
Doors	Interior for code compliance; hardware, see *Safety & Security at Classrooms*
Windows	Sills at approx. 42in or lower for visual connection to exterior; one operable unit minimum
Specialties	36in base cabinets w/laminate counter (adjust where needed for accessibility), 42in wall cabinets, teacher wardrobe, whiteboard, tackboard, window coverings (glare control)
Plumbing	None required; see Provisional below
Heating/Cooling	As calculated for code compliance
Ventilation/Exhaust	As calculated for code compliance
Lighting	Pendant or drop-in indirect, banked controls plus dimming
Power	110v duplex for code compliance, 110v quadplex at each data port
Special Systems	Phone/intercom, synchronized clock, interactive display, wireless internet, duplex data ports (approx. 1 per 4 students + teaching station)
Equipment/Furnishings	None required (FF&E not covered in these Standards)

Provisional:

3. Consider ceiling heights not to exceed 10ft in classrooms serving any grades 9-12.

~~3.~~4. Consider double leaf door openings between classrooms.

~~4.~~5. Consider classroom cubbies for coats, hats, and boots in grades Pre-K–2; extend through grade 6 where space for corridor lockers is limited.

~~5.~~6. Consider toilets in the classrooms for grades Pre-K, Kindergarten, and K-1 combined classrooms. Add seamless resilient flooring with integral coved base or ceramic tile flooring/base and FRP wainscoting to a height of 48" in wet areas to *Finishes*.

~~6.~~7. Consider using soffit framing and GWB where needed at ceilings to conceal building services systems (ref. *0612 Soffits & Ceilings*).

~~7.~~8. Consider infrared touchless fixtures in classroom toilet rooms.

~~8.~~9. Consider sinks in the classroom serving grades Pre-K–5; extend to grade 6 in schools serving grades K-6. Add paper towel and soap dispenser to *Specialties*.

~~9.~~10. Consider solid-surface polymer counter tops where sinks are installed.

~~10.~~11. Consider providing one whiteboard with multiple sliding panels per classroom (8ft typical); especially at upper-level math/science.

~~11.~~12. Consider paperless gypsum board or water-resistant materials for wet walls.

~~12.~~13. Consider instructional voice amplification system.

~~13.~~14. Consider specifying 'blackout' shades versus glare control where needed to support the instructional program.

Premium:

~~14.~~15. Sinks in general use classrooms beyond grade 6.

~~15.~~16. Operable wall systems or ~~large~~ full-height sliding doors.

~~16.~~17. Curved walls.

~~17.~~18. Architectural woodwork such as picture rails, wainscoting, crown moldings, or paneling.

~~18.~~19. Decorative ceiling systems such as metal or wood slat ceilings.

~~19.~~20. Decorative lighting.

~~20.~~21. Ceramic tile walls in a toilet room located inside a classroom.

Best Practice/Lessons Learned

A. Design all classroom doors to be easily lockable from the inside by the teacher but to allow egress from the classroom at any time.
B. Specify laminate counter tops with postformed front edge for durability. Use field-installed backsplash for efficient transportation.
C. Confirm carpet for classroom floors with building owner/maintenance staff, specifically in remote areas where paved pedestrian surfaces are not common thus increasing the amount of dirt on footwear.
D. Consider that 3mm PVC edge fares better long-term than post-formed edge and is less expensive and easier to install if you have L- or U-shaped counter arrangements.
E. Specify extended rims for classroom sinks with bubblers.
F. Provide waterproof finishes at 'in-classroom' coat and boot storage.
G. Consider appropriate fixture location and light levels on vertical surfaces used for instruction (whiteboards, screens, televisions, etc.).

Specialized Instruction

Special Education

Baseline:

1. Provide space and amenities for instruction and learning for students with special needs as identified in an individual education plan (IEP) for all grade levels in support of adopted curriculum and a variety of education delivery in all or some of the following areas: group activity, motor skills, center-based activities, project-based, etc. Include core curriculum life skills, occupational/physical therapy. Provide instructional storage, personal storage, and health/hygiene support.
2. Provide from among the following features for this educational space:

System	Features
Planning Factors	Provided dedicated space where student population exceeds 50; typical 700 – 1,000sf; minimum 600sf + 200 – 400sf support space
Spatial Elements	Ceilings: 9ft +/-, traditional rectangular or 'fat L' configuration
Finishes	Floor: resilient sheet/tile at project and entry/exit areas (where used), carpet at teacher and student stations, seamless resilient or ceramic tile at toilet room Ceiling: acoustic tile. Walls: GWB paint, FRP at OT/PT to 48in
Doors	Interior for code compliance; hardware, see *Safety & Security at Classrooms*

System	Features
Windows	Sills at approx. 42in or lower for visual connection to exterior; one tilt/turn operable unit minimum
Specialties	36in base cabinets w/laminate counter, 42in wall cabinets, teacher wardrobe, whiteboard, tackboard, window coverings (full, room darkening)
Plumbing	Stainless steel double sink w/lever mixing valve; toilet room with water closet and lavatory
Heating/Cooling	As calculated for code compliance
Ventilation/Exhaust	As calculated for code compliance; see also Provisional
Lighting	Pendant or drop-in indirect, banked controls plus dimming
Power	110v duplex for code compliance, 110v quadplex at each data port
Special Systems	Phone/intercom, synchronized clock, interactive display, projector, duplex data ports (approx. 1 per 4 students + teaching station)
Equipment/Furnishings	Structure-mounted OT/PT items such as swings and tables; undercounter refrigerator; wall-mounted equipment rack(s)

Provisional:

3. Consider instructional kitchen with range, refrigerator, microwave/hood, dishwasher (all residential) for life skills programs serving grades 6-12; add approx. 150sf to listed planning factors.
4. Consider solid-surface polymer counter tops where sinks are installed.
5. Consider color temperature adjustable and dimmable lighting in special needs classrooms and behavioral settings.
6. Consider accessible restroom where program requires. Add to Finishes: seamless resilient or ceramic tile flooring and ceramic tile to a wainscoting height of 48in in wet areas.
7. Consider accessible shower where program requires.
8. Consider en-suite washer and dryer for larger programs; shared washer/dryer with other programs (e.g., Gymnasium, Food Service, etc.) in smaller schools.
9. Consider quiet or timeout spaces that are hygienic, vandal proof, and code compliant.

Premium:

10. Instructional kitchens in schools serving only grades K-5.

Best Practice/Lessons Learned

A. Integrate special needs spaces within the larger school population.
B. For life skills programs in small student populations, consider multi-function use of kitchen/kitchenette provided in support of other programs.
C. Consider OT/PT space adjacent to or inside of other multi-functioning spaces to maximize efficiency.
D. Provide appropriate structural support for special swings or hanging equipment in OT/PT spaces; may require increased ceiling height above Baseline.
E. Locate on entry level; consider easy access from accessible parking spaces.

Art

Baseline:

1. Provide space and amenities for dedicated visual arts instruction, cultural education, and learning in all or some of the following areas: multi-media drawing/painting, multi-media sculpture/fabrication including wood, plastics, fabrics, digital 2D and 3D art including printing. Support includes instructional storage, devices, and equipment.
2. Provide from among the following features for this educational space:

System	Features
Planning Factors	Dedicated space where K-6 student population exceeds 300, or 7-12 student population exceeds 200; typical 900 – 1,500sf including support spaces; separate kiln room typical 80sf (see Premium for ceramics)
Spatial Elements	Ceilings – 10ft +/-, traditional rectangular configuration
Finishes	Floor: polished concrete or 'seamless' resilient Ceiling: acoustic tile Walls: GWB with paint
Doors	Interior for code compliance; hardware, see *Safety & Security at Classrooms*
Windows	Optional
Specialties	36in base cabinets w/stainless steel counter, storage base cabinets to 52in, wall cabinets, teacher wardrobe, whiteboard, tackboard, window coverings (glare control)
Plumbing	Utility sinks (3) w/hot and cold valves, cleanable drain traps and solids interceptor
Heating/Cooling	As calculated for code compliance
Ventilation/Exhaust	As calculated for code compliance; provide negative pressure where required by products used; exhaust at kiln room (see Premium for ceramics)
Lighting	Pendant or drop-in indirect, three-bank controls plus dimming; utility track lighting at display walls
Power	110v duplex for code compliance, 110v quadplex at each data port; GFCI outlets; floor or retractable ceiling at large project area
Special Systems	Phone/intercom, synchronized clock, projector, retractable screen, duplex data ports (1 per 6 students + teaching station)
Equipment/Furnishings	Display case(s)

Provisional:

3. Consider separate instructional storage area for large programs.
4. Consider exposed structure at ceilings; provide suspension grid for display.
5. Consider floor drains with cleanable solids traps and trap primers.
6. Consider multiple station student cleanup sinks.

7. Consider instructional voice amplification system.
8. Consider specifying 'blackout' shades versus glare control where needed to support the instructional program.

Premium:

9. Ceramics/pottery equipment in schools serving students below grade 9, or grades 6-8 with school capacity below 500 students.
10. Stone or epoxy counter tops.
11. Wood cabinetry or architectural millwork.
12. Decorative or special track lighting.
13. Decorative flooring, ceramic tile, or epoxy coatings.

Best Practice/Lessons Learned

A. Provide acoustical absorption panels in exposed ceilings as needed.
B. Orienting display cases to corridors adjacent to Art rooms is beneficial to increase exposure.
C. Consider appropriate fixture location and light levels on vertical surfaces used for instruction (whiteboards, screens, televisions, etc.).
D. Consider the use of marine edge and drain board, especially for ceramic programs.

Science

Baseline:

1. Provide space and amenities for dedicated science instruction and learning in all or some of the following areas: physical and life sciences. Support includes instructional storage, devices, and equipment.
2. Provide from among the following features for this educational space:

System	Features
Planning Factors	Provide dedicated space where grade 7-12 student population exceeds 50; typical 900 – 1,200sf including support spaces such as prep rooms
Spatial Elements	Ceilings: 9ft +/-, rectangular configuration
Finishes	Floor: polished concrete or seamless resilient. Ceiling: acoustic tile. Walls: GWB w/paint
Doors	Interior for code compliance; hardware, see *Safety & Security at Classrooms*
Windows	Optional
Specialties	Base cabinet lab stations w/resin work surface, wall cabinets (lockable), teacher demonstration center, teacher wardrobe, whiteboard, tackboard, window coverings (as needed)
Plumbing	Sinks integrated in lab stations w/cold water, deep clean-up sink w/hot and cold, portable eye wash, see Provisional below
Heating/Cooling	As calculated for code compliance

System	Features
Ventilation/Exhaust	As calculated for code compliance; exhaust air not recirculated; direct exhaust at demonstration, negative pressure
Lighting	Pendant or drop-in indirect, three-bank controls plus dimming
Power	110v duplex for code compliance, 110v quadplex at each data port
Special Systems	Phone/intercom, synchronized clock, interactive display, projector, duplex data ports at lab stations.
Equipment/Furnishings	Chemical storage cabinets

Provisional:

3. Consider ceiling heights not to exceed 10ft in classrooms serving any grades 9-12.

~~3.~~4. Consider deluge showers with floor drains for programs serving grades 10-12.

~~4.~~5. Consider plumbed eye wash stations with floor drain.

~~5.~~6. Consider fume hoods, acid neutralization tanks, and acid-resistant plumbing, where needed, in chemistry labs.

~~6.~~7. Consider including gas piped to chemistry fume hoods.

~~7.~~8. Consider instructional voice amplification system.

~~8.~~9. Consider using bottled propane rather than plumbing gas to stations.

~~9.~~10. Consider providing movable lab tables in place of built-in stations.

~~10.~~11. Consider chemical resistant counter tops in chemistry labs.

~~11.~~12. Consider the use of movable counter height lab tables.

~~12.~~13. Consider the use of hot plates for chemistry labs in place of gas.

Premium:

~~13.~~14. Compressed air systems.

~~14.~~15. Gas at rooms other than chemistry.

~~15.~~16. Fume hoods at rooms other than chemistry.

Best Practice/Lessons Learned

A. Design to maximize shared amenities such as fume hoods, prep rooms, and storage.
B. Consider separate acid, flammables, and general chemical storage cabinets, lockable, to provide better inventory control and safety.

Bi-Cultural/Bilingual & Consumer Education

Baseline:

1. Provide space and amenities for project-based learning associated with cultural and traditional language heritage when supported with intentional curriculum in all or some of the following areas: food processing and preparation, construction and use of traditional art/artifacts and apparel, oral and visual presentation both live and electronic.
2. Provide from among the following features for this educational space:

System	Features
Planning Factor	Provide dedicated space where 7-12 student population exceeds 30; typical 900 – 1,200sf including support spaces

System	Features
Spatial Elements	Ceilings: ~~9ft~~ 10ft +/-, rectangular, typical 900 – 1,200sf including support spaces
Finishes	Floor: resilient sheet/tile Ceiling: acoustic tile Walls: GWB with paint
Doors	Interior for code compliance; hardware, see *Safety & Security at Classrooms*; see Provisional for exterior door
Windows	Sills at approx. 42in or lower for visual connection to exterior; one operable unit minimum
Specialties	3~~4~~6in base cabinets w/laminate counter, solid surface counter at sink, 42in wall cabinets, teacher wardrobe, whiteboard, tackboard, window coverings (glare control); paper towel dispenser, soap dispenser
Plumbing	Stainless steel double sink w/lever mixing valve
Heating/Cooling	As calculated for code compliance
Ventilation/Exhaust	Range hood at cooking surfaces
Lighting	Drop-in indirect, two-bank controls
Power	110v duplex for code compliance, 110v quadplex at each data port, as required for appliances
Special Systems	Phone/intercom, synchronized clock, interactive display, projector, duplex data ports (approx. 1 per 4 students + teaching station)
Equipment/Furnishings	Range, Refrigerator, Microwave/hood, Dishwasher (all residential)

Provisional:

3. Consider an exterior door for biologic products and/or for the purpose of afterhours/ community use (control other interior access as needed).
4. Consider solid-surface polymer counter tops where sinks are installed.
5. Consider dedicated room exhaust for odor control.
6. Consider solids interceptor on waste pipe and accessible cleanout on waste riser.
7. Consider locking hardware on one or more cabinets if valuables will be stored.
8. Consider elements for display of 2D and 3D projects.
9. Consider task lighting, recessed or surface mount, in support of specific curricular and room use needs.
10. Consider instructional voice amplification system.
11. Consider walk-off flooring for classrooms with exterior doors.
~~11.~~12. Consider specifying 'blackout' shades versus glare control where needed to support the instructional program.

Premium:

~~12.~~13. Commercial appliances.
~~13.~~14. Laundry appliances.
~~14.~~15. Oversize or non-standard doors.

Best Practice/Lessons Learned

A. Design door configurations to allow for the easy movement of large instructional items.
B. Design room enclosure (walls, floors, ceilings) and ductwork to reduce sound transfer to adjacent spaces.

Computer/Technology Lab (Reserved)

Music/Drama

Baseline:

1. Provide space and amenities for dedicated music instruction and learning in all or some of the following areas: choral/singing, instruments, music appreciation, ~~drama~~drama, and dance instruction. Support includes instructional storage, devices, and equipment.
2. Provide from among the following features for this educational space:

System	Features
Planning Factors	Dedicated space where K-6 student population exceeds 300, or 7-12 student population exceeds 200; typical 800 – 1,200sf including en-suite office/storage room; provide acoustical isolation
Spatial Elements	Ceilings: 12ft +/-, rectangular configuration
Finishes	Floor: rubber sheet/tile for ambient noise control Ceiling: acoustic tile Walls: GWB w/paint; may incorporate sound absorptive materials
Doors	Interior for code compliance; hardware, see *Safety & Security at Classrooms*
Windows	Optional at K-6 space; none typical at 7-12 space
Specialties	Lockers/cabinets (lockable) for instrument storage, wall cabinets, sheet music, teacher wardrobe, whiteboard (2), window coverings (glare control)
Plumbing	None required; see *Provisional* below
Heating/Cooling	As calculated for code compliance
Ventilation/Exhaust	As calculated for code compliance
Lighting	Pendant or drop-in indirect, three-bank controls plus dimming
Power	110v duplex for code compliance, 110v quadplex at each data port
Special Systems	Phone/intercom, synchronized clock.
Equipment/Furnishings	None required

Provisional:

3. Consider separate office/instructional storage area for large programs. Fit this space with additional *Specialties* to include: open wall shelving, work counter for instrument repair, upper and lower cabinetry for storage of materials and resources, lockable wardrobe storage, and tackboard.
4. Consider acoustical tuning in programs serving grades 9-12.

5. Consider dedicated practice rooms in programs serving grades 9-12. Provide security glass in doors.
6. Consider acoustic vestibules at doorways where sound isolation cannot be resolved by adjacency or construction features.
7. Consider instructional voice amplification system.
8. Consider providing portable bandshells as FF&E.
9. Consider specifying 'blackout' shades versus glare control where needed to support the instructional program.
10. Consider ~~P~~prefabricated practice rooms. CF-2, LCCA-2

Premium:

11. Sloped or tiered floors in programs below grade 6; where provided must meet ADA provisions.
12. Natural hardwood paneling or woodwork used as acoustical baffles and reverberation panels.
13. Specialty flooring.
14. Television or acoustical recording studios or services.

Best Practice/Lessons Learned

A. Consider adjacency to Gymnasium, Auditorium (& Stage), and Multipurpose Room; access to stage and performance areas.
B. Design door configurations to allow for the easy movement of pianos, drums, and other large instruments.
C. Design walls, ~~and~~ floors, and ventilation systems to prevent noise through ~~ceilings~~ these or related structural elements.

Career & Technical Education

Baseline:

1. Provide space and amenities for dedicated career and technical education in all or some of the following area: wood, metal and plastics fabrication, general construction, small engine repair. Space should also provide for lectures, demonstration, discussion with presentation capability. Support includes instructional storage, devices, and equipment.
2. Provide from among the following features for this educational space:

System	Features
Planning Factors	Provide dedicated space where 6-12 student population exceeds 30; typical 900 – 1,200sf including support spaces
Spatial Elements	Ceilings: 10ft +/-, traditional rectangular configuration
Finishes	Floor: sealed concrete, protected wood Ceiling: acoustic tile Walls: GWB with protective material (plywood, steel sheet, FRP, etc. to 8ft), paint above
Doors	Interior for code compliance; hardware, see *Safety & Security at Classrooms*
Windows	Optional; sill height approx. 60in minimum to maximize wall storage

System	Features
Specialties	72in locker cabinets, lockable tool cabinet(s), teacher wardrobe, whiteboard, tackboard
Plumbing	Utility sink (1) w/hot and cold valves, cleanable solids drain traps; see Premium below
Heating/Cooling	As calculated for code compliance
Ventilation/Exhaust	As calculated for code compliance; provide negative pressure; (welding exhaust see Provisional)
Lighting	Pendant or drop-in indirect, three-bank controls plus dimming; utility track lighting at display walls
Power	110v duplex for code compliance, 220v power for equipment; GFCI outlets; emergency shunts on tool circuits
Special Systems	Phone/intercom, synchronized clock, projector, retractable screen, duplex data ports (1 per 6 students + teaching station)
Equipment/Furnishings	Floor mounted wood/plastic working, metal working tools by instructional program; dust and exhaust system (see Provisional)

Provisional:

3. Consider separate instructional storage area for large programs.
4. Consider separate, secure area for tool storage.
5. Consider floor or retractable ceiling power at large project areas.
6. Consider exposed structure at ceilings.
7. Consider plate steel protection with traction enhancement over plywood at floors. ~~LCCA~~CF-4
8. Consider insulated overhead door to exterior for large item entry/exit.
9. Consider covered, secure exterior storage for large materials not sensitive to exposure.
10. Consider multiple station student cleanup sink.
11. Consider centralized dust collection system to exterior tank for large programs.
12. Consider centralized welding exhaust system to exterior for large programs.

Premium:

13. Distributed compressed air systems.
14. Centralized welding exhaust systems for curriculum requiring less than three welding booths.

Best Practice/Lessons Learned

A. Often designed as 'maker space' for grades 6-8 with powered hand tools only.
B. In some cases, a double leaf door with removable center mullion has been used in lieu of an overhead door.
C. Portable HEPA filter units purchased as FF&E have been effective for welding shops to support activities outside of hooded areas.
D. To enhance energy efficiency, specify a recirculating dust collection system to reduce make-up air requirements.

Assembly Spaces

Library /Media Center

Baseline:

1. Provide space and amenities which support the following uses: collections (i.e., stacks), computer workstations, individual and group seating, staff workspace, meeting/collaboration space, and presentation space.
2. Provide from among the following features for this educational space:

System	Features
Planning Factor	Provide dedicated space where student population exceeds 50; typical 750 – 3,000sf (approx. 5sf/student at large populations) + 100 – 500sf of support space
Spatial Elements	Ceilings: 10ft +/-, vaulted accepted, non-rectilinear room configuration accepted
Finishes	Floor: carpet, resilient sheet/tile at workroom Ceiling: acoustic tile Walls: paint
Doors	Interior for code compliance; hardware, see *Safety & Security at Classrooms*
Windows	Sills at approx. 42in or lower for visual connection to exterior; maximize under allowable energy standards
Specialties	Whiteboard, tackboard, window coverings (full, room darkening) (see Provisional for support spaces)
Plumbing	None required
Heating/Cooling	As calculated for code compliance
Ventilation/Exhaust	As calculated for code compliance; minimize system noise in this space
Lighting	Pendant or drop-in indirect, banked controls plus dimming
Power	110v duplex for code compliance, 110v quadplex at each data port, integral USB ports
Special Systems	Phone/intercom, synchronized clock, interactive display, projector, duplex data ports (approx. 1 per 4 students + teaching station), robust wireless
Equipment/Furnishings	Circulation desk

Provisional:

3. Consider planning and design guidance from the American Association of School Librarians (AASL).
4. Consider distributed versus centralized media for small student populations and adjust classroom sizes accordingly.

5. Consider library office/workroom within or adjacent to the library space. Provide 36in base cabinets w/laminate counter, lockable drawer cabinets and intermittent openings for knee space.
6. Consider a single bowl stainless steel sink in workroom. Add paper towel and soap dispensers to *Specialties*.
7. Consider library storage room to have upper and lower cabinetry, heavy duty shelving, lockable file cabinets, video monitors and other A/V equipment on rolling carts and laptop carts.
8. Consider providing an exterior swing door for connection to supporting exterior spaces or after-hours entrance to support extended use (control other interior access as needed).

Premium:

9. Space required for non-district, municipal/borough-owned library functions.
10. Architectural woodwork such as picture rails, wainscoting, crown moldings, or paneling.
11. Decorative lighting.
12. Custom ceilings, soffits, skylights, or other monumental architectural features.
13. More than one exterior door.

Best Practice/Lessons Learned

A. Design room enclosure (walls, floors, ceilings) and ductwork to reduce sound transfer to adjacent spaces.
B. Design room and furniture layout for easy supervision, avoiding unviewable zones.
C. Place book shelving, full height, at perimeter only; as electronic media increases, this will facilitate multi-function use of space.
D. Review structural design for heavy book loading when present.
E. Provide moveable furniture and equipment for maximum flexibility; use fixed, built-in features sparingly.
F. The preceding standards are based on centralized library and media display/use. This Equipment may not be needed if books and media are distributed throughout a school.

~~Gym~~Gymnasium

Baseline:

1. Provide space and amenities for physical education supported with intentional curriculum in all or some of the following areas: gross motor activity, group play and competition, skill, and knowledge in individual, recreational, and team sports, fitness, dance, etc.
2. Provide from among the following features for this educational space:

<table>
<tr><th>System</th><th>Features</th></tr>
<tr><td>Planning Factor
Notes:
1. Does not include spectator space; at lowest populations spectator space may be unavailable unless combined with Commons or Multipurpose.</td><td>3,500sf (common basketball court size 60ft x 40ft)
<table>
<tr><th>Grade Level(s)</th><th>Student Population</th><th>Notes</th></tr>
<tr><td>K-12</td><td>30 – 55</td><td></td></tr>
<tr><td>K-6</td><td>30 – 400</td><td></td></tr>
<tr><td>7-12</td><td>25-50</td><td></td></tr>
<tr><td>Mixed Grade</td><td>30-55</td><td></td></tr>
</table>
Note: For student populations below 30 (45 if K-6 only) see Multipurpose Room
5,000sf (common basketball court size 74ft x 42ft)
<table>
<tr><th>Grade Level(s)</th><th>Student Population</th><th>Notes</th></tr>
<tr><td>K-12</td><td>55 – 170</td><td></td></tr>
<tr><td>K-6</td><td>400 – 900</td><td></td></tr>
<tr><td>7-12</td><td>50-160</td><td></td></tr>
<tr><td>Mixed Grade</td><td>55-170</td><td></td></tr>
</table>
Note: For K-6 student populations beyond this maximum, possible multiple gymnasium space is acknowledged.
7,500sf (common basketball court size 84ft x 50ft)
<table>
<tr><th>Grade Level(s)</th><th>Student Population</th><th>Notes</th></tr>
<tr><td>K-12</td><td>170 – 330</td><td></td></tr>
<tr><td>K-6</td><td>N/A</td><td></td></tr>
<tr><td>7-12</td><td>160-400</td><td></td></tr>
<tr><td>Mixed Grade</td><td>170-330</td><td></td></tr>
</table>
Note: For student populations beyond these maximums, multiple gymnasium space is acknowledged.</td></tr>
<tr><td>Spatial Elements</td><td>Ceilings: minimum 24ft to structure, vaulted/exposed typical, rectangular configuration</td></tr>
<tr><td>Finishes</td><td>Floor: synthetic sports floor
Ceiling: open to structural deck or GWB with adhered acoustic
Walls: protective material (plywood/OSB, FRP, etc. to 10ft), paint above</td></tr>
<tr><td>Doors</td><td>Interior and exterior for code compliance; hardware, see Safety & Security at Classrooms and Safety & Security Building Design</td></tr>
<tr><td>Windows</td><td>Optional</td></tr>
<tr><td>Specialties</td><td>(see Provisional for support spaces)</td></tr>
<tr><td>Plumbing</td><td>Drinking fountain with water bottle fill station, 1 + ADA</td></tr>
<tr><td>Heating/Cooling</td><td>As calculated for code compliance</td></tr>
</table>

System	Features
Ventilation/Exhaust	As calculated for code compliance
Lighting	High bay fixed or surface mount; provide impact protection
Power	110v duplex for code compliance
Special Systems	Phone/intercom, synchronized clock, LCD projector, retractable screen, robust wireless
Equipment/Furnishings	Basketball backboards/rims, climbing apparatus, bleachers

Provisional:

3. Consider available space within allowable maximum (4 AAC 31.020) for Gymnasium support spaces to include: instructor office(s), spectator/classroom seating, and equipment storage (See Locker Room for other dedicated support space.).
4. Consider multi-layer, cushioned hardwood floor systems for programs serving any grades 6-12.
5. Consider floor markings in support of any sport or activity in the curricular program.
6. Consider school names, mascots, or logos on floor, integrated with court markings.
7. Consider installing damage-resistant light fixtures where susceptible to damage.
8. Consider translucent panels or opaque window glass for glare control where optional windows are not north facing.
9. Consider safety and security cages around fixtures, controls, thermostats, sensors, sprinkler heads, etc. where susceptible to damage.
10. Consider strategies for maintaining appropriate humidity levels for wood flooring.
11. Consider sports net dividers to maximize class use of gymnasiums.
12. Consider wall padding when walls are in close proximity to out-of-bounds court lines.
13. Consider adjustable, retractable basketball backboards/hoops.
14. Consider recessed floor sleeves for volleyball posts.
15. Consider motorized bleachers at height-stacks greater than 8ft.
16. Consider destratification fans for efficiency and comfort.

Premium:

17. Indoor running tracks/mezzanine.
18. Separate, specialized dehumidification systems for wood floors.
19. Glass backboards or automatic electric winch backboards other than two for the main court.
20. More than one electrically operated net/divider system.
21. College or professional grade floor systems.

Best Practice/Lessons Learned

A. Consider gymnasiums as possible multi-functioning and multipurpose spaces. Provide enough sound absorbing material to allow for good voice recognition, and appropriate sound amplification for group presentations.
B. Locate gyms adjacent to or with easy access to exterior playfields and parking lots for public events.
C. Provide public toilet areas near the gymnasiums.

D. Provide for wireless network computer access in the gymnasium and offices.
E. Locate bleachers and gymnasium doors to protect floors from street shoe traffic.
F. Locate door swings, equipment, and other enclosures so they do not become dangerous obstructions to running students playing within the space.
G. Place climbing ropes appropriate distance from walls to account for swinging.
H. Provide afterhours access to gymnasium space (and public restrooms) while restricting access to remainder of the school.
I. Avoid radiant floor systems. They may damage the floor system and cannot react quickly enough to dramatic occupancy changes.
J. Zone heating and ventilation system so that gymnasium and after hour space activities can operate separately from the rest of the school.

Category B – Support Teaching

Shared Spaces

Teacher Workroom/Offices

Baseline:

1. Provide space and amenities for teacher and staff access to centralized instructional resources and equipment. If preparation and/or teacher office/administration is distributed, provide consolidated restroom amenities.
2. Provide from among the following features for this educational space:

System	Features
Planning Factors	Typical 300 – 1,000sf; plus restroom space
Spatial Elements	Ceilings: 8ft +/-, rectangular configuration
Finishes	Floor: resilient sheet/tile at Workroom, carpet, or resilient sheet/tile at Offices Ceiling: acoustic tile Walls: paint
Doors	Interior for code compliance; hardware, see *Safety & Security at Classrooms*
Windows	One tilt/turn operable unit minimum
Specialties	Laminate counter work surface over back-to-back base cabinets, 42in wall cabinets over base cabinets/counter, open shelving and/or cubbies, whiteboard, tackboard, window coverings
Plumbing	None
Heating/Cooling	As calculated for code compliance
Ventilation/Exhaust	As calculated for code compliance
Lighting	Pendant or drop-in indirect, banked controls plus dimming
Power	110v duplex for code compliance, integrated USB ports, dedicated power for appliances
Special Systems	Phone/intercom, synchronized clock
Equipment/Furnishings	Refrigerator, coffee maker (if plumbed), networked printer/copier

Provisional:

1. Consider consolidated unisex toilet in support of distributed office/workrooms. Provide seamless resilient or ceramic tile flooring, and FRP on walls to a wainscoting height of 48in in toilet room, add to *Finishes*.
2. Consider infrared touchless fixtures in toilet room.
3. Consider solid-surface polymer counter tops where sinks are installed.

Premium:

4. Solid-surface counters at other than wet locations.
5. Commercial appliances.

Best Practice/Lessons Learned

A. Specify laminate counter tops with postformed front edge for durability. Use field-installed backsplash for efficient transportation.
B. Zero threshold transitions at room entry is ideal for rolling carts in/out at teacher workroom.

Teacher Breakroom

Baseline:

1. Provide space and amenities for teacher and staff breakroom, food storage and preparation. Provide restroom(s).
2. Provide from among the following features for this educational space:

System	Features
Planning Factors	Typical 200 – 800sf; plus restroom space
Spatial Elements	Ceilings: 8ft +/-, rectangular configuration
Finishes	Floor: carpet, or resilient sheet/tile, sheet/tile at Toilet, Ceiling: acoustic tile Walls: paint
Doors	Interior for code compliance; hardware, see *Safety & Security at Classrooms*
Windows	One tilt/turn operable unit minimum
Specialties	Kitchenette base cabinets and wall cabinets, 'mail slot' casework, whiteboard, tackboard, window coverings; paper towel and soap dispenser
Plumbing	Stainless steel single bowl sink w/lever mixing valve; toilet room with water closet and lavatory
Heating/Cooling	As calculated for code compliance
Ventilation/Exhaust	As calculated for code compliance
Lighting	Pendant or drop-in indirect, banked controls plus dimming
Power	110v duplex for code compliance, integrated USB ports, dedicated power for appliances
Special Systems	Phone/intercom, synchronized clock
Equipment/Furnishings	Refrigerator, coffee maker (if plumbed), networked printer/copier

Provisional:

3. Consider range+hood and dishwasher if used in support of special needs life skills.
4. Consider seamless or ceramic tile flooring and ceramic tile to a wainscoting height of 48in in toilet room, add to *Finishes*.
5. Consider infrared touchless fixtures in toilet room.
6. Consider solid-surface polymer counter tops where sinks are installed.

Premium:

7. Solid-surface counters at other than wet locations.
8. Commercial appliances.

Best Practice/Lessons Learned

A. Specify laminate counter tops with postformed front edge for durability. Use field-installed backsplash for efficient transportation.

Dedicated Spaces

Counseling/Testing

Baseline:

1. Provide space and amenities for student services to include counseling and testing. Services may be itinerant.
2. Provide from among the following features for this educational space:

System	Features
Planning Factors	Typical 100 – 500sf (upper range can provide for small group space); minimum office size 80sf
Spatial Elements	Ceilings: 8ft +/-, rectangular configuration
Finishes	Floor: carpet Ceiling: acoustic tile Walls: paint
Doors	Interior for code compliance; hardware, see *Safety & Security at Classrooms; see Interior Openings* for relites
Windows	Optional
Specialties	Open wall shelving, whiteboard, tackboard, window coverings
Plumbing	None required
Heating/Cooling	As calculated for code compliance
Ventilation/Exhaust	As calculated for code compliance
Lighting	Pendant or drop-in indirect, provide dimming
Power	110v duplex for code compliance; 110v quadplex at each data port
Special Systems	Phone/intercom, synchronized clock; duplex data port (2)
Equipment/Furnishings	Workstation, conference table

Provisional:

3. Consider acoustic separation; walls to achieve STC 50.

Premium:

4. (Reserved)

Best Practice/Lessons Learned

A. Ideal if area is accessible to parents very near main entry.

B. Common to locate adjacent to, but not with, the Administration suite of spaces.

Educational Resource Storage

Baseline:

1. Provide space and amenities for resources to support seasonal curriculum and other multi-use supplies.
2. Provide from among the following features for this educational space:

System	Features
Planning Factors	Typical 100 – 500sf (upper range provide for distributed spaces)
Spatial Elements	Ceilings: 8ft +/-, rectangular configuration
Finishes	Floor: resilient sheet/tile Ceiling: acoustic tile Walls: paint
Doors	Interior for code compliance; hardware, see *Safety & Security at Classrooms*
Windows	None
Specialties	Open wall shelving; reinforced for heavy loads
Plumbing	None required
Heating/Cooling	As calculated for code compliance
Ventilation/Exhaust	As calculated for code compliance
Lighting	Surface mounted or drop-in direct with diffuser
Power	110v duplex for code compliance
Special Systems	None
Equipment/Furnishings	None

Provisional:

3. (Reserved)

Premium:

4. (Reserved)

Best Practice/Lessons Learned

A. Floor loads in this space may be greater than typical administrative space. Review with Structural.
B. High density storage systems can reduce the amount of dedicated square footage.

Quiet Room

Baseline:

1. Provide space and amenities for students to have some quiet time when distressed and/or acting inappropriately.
2. Provide from among the following features for this educational space:

System	Features
Planning Factors	Typical 40 – 80sf (minimum 40sf room size)
Spatial Elements	Ceilings: 8ft +/-, rectangular configuration

System	Features
Finishes	Floor: resilient sheet/tile Ceiling: vandal and impact resistant hard ceiling ~~with vandal and impact resistant~~ Walls: FRP or similar vandal and impact resistant material
Doors	Interior for code compliance; hardware, see *Safety & Security at Classrooms*
Windows	None
Specialties	None
Plumbing	None required
Heating/Cooling	As calculated for code compliance
Ventilation/Exhaust	As calculated for code compliance
Lighting	Surface mounted or drop-in direct with diffuser, vandal resistant
Power	None (for safety)
Special Systems	None
Equipment/Furnishings	None

Provisional:

3. Consider sound absorptive materials as needed.
4. Consider video camera with concealed/hardened mounting for monitoring.

Premium:

5. (Reserved)

Best Practice/Lessons Learned

A. Locate away from public interaction but to have direct supervision.

B. Ensure opposite walls are at least 5ft apart to restrict 'climbing'.

~~B.~~C. Door should typically open out versus into the room.

~~C.~~D. Many schools have moved away from isolated space and have students sit in a quiet area of the admin. office or, in a large school, a counseling area with assigned staff.

Category C – General Support

Administration

Baseline:

1. Provide space and amenities for parent and visitor reception, workspace for administrative staff and volunteers including principals, vice principals, etc., and secure record storage. The administrative area should be located at the main entrance to the school and provide for necessary elements of security and building control. The administrative suite should have the ability to be secured at night from all other users of the building.
2. Provide from among the following features for this general support space:

System	Features
Planning Factors	Reception: 60-80sf typical General Administration: ~~120~~ 200 – ~~400sf~~ 800sf typical, includes storage Principal(s): ~~60-80~~100-120sf typical Secure Storage: 50sf typical
Spatial Elements	Ceilings: 8ft +/-, rectangular configuration
Finishes	Floor: carpet Ceiling: acoustic tile Walls: paint
Doors	Interior for code compliance; hardware, see *Safety & Security at Classrooms*
Windows	One operable unit in each enclosed, occupied space
Specialties	Open wall shelving, whiteboard, tackboard, window coverings
Plumbing	None required
Heating/Cooling	As calculated for code compliance
Ventilation/Exhaust	As calculated for code compliance
Lighting	Pendant or drop-in indirect, provide dimming
Power	110v duplex for code compliance plus equipment support; 110v quadplex at each data port
Special Systems	Phone/intercom head end systems, synchronized clock; electronic main entry access; duplex data port (2)
Equipment/Furnishings	Large capacity copy/print/scan machine

Provisional:

3. Consider built-in reception counter with ADA height section and lockable storage pedestals~~,~~ and waiting area with chair rail.
4. Consider including dedicated conference room.

Premium:

5. (Reserved)

Best Practice/Lessons Learned

A. Personnel should be able to provide electronic access for approved visitors, who should be welcomed through a glass partition between the administrative office security vestibule. Provide an easily accessible area where visitors may wait, sign in, and obtain badges.
B. Consider separation from counseling and testing rooms.

Conference Room (Reserved)

Parent/Community Schools (Reserved)

Dedicated Spaces

Nurse/Clinic

Baseline:

1. Provide space and amenities for student health care to include examination, treatment, and medication. Program area will include administrative space and a dedicated restroom.
2. Provide from among the following features for this educational space:

System	Features
Planning Factors	Provide dedicated space generally as follows: K-6 student population greater than 250 students 7-12 student population greater than 150 students K-12 student population greater than 250 students Administration: 60-80sf typical Infirmary/Treatment: 120 – 400sf typical, includes storage Exam/Rest: 60-80sf typical Isolation room: 50sf typical Restroom: 50 – 100sf typical
Spatial Elements	Ceilings: 8ft +/-, rectangular configuration
Finishes	Floor: resilient with integral cove base Ceiling: acoustic tile Walls: paint
Doors	Interior for code compliance; hardware, see *Safety & Security at Classrooms*
Windows	None
Specialties	Whiteboard, tackboard; exam curtain(s)
Plumbing	Handwash sink; restroom fixtures
Heating/Cooling	As calculated for code compliance
Ventilation/Exhaust	As calculated for code compliance
Lighting	Pendant or drop-in indirect, provide dimming
Power	110v duplex for code compliance; 110v quadplex at each data port
Special Systems	Phone/intercom, synchronized clock; duplex data port (2)
Equipment/Furnishings	~~TBD~~Under-counter refrigerator

Provisional:

3. Consider isolation room(s) in support of sick/contagious students. Ventilate per ASHRAE requirements.
4. Consider providing space to administer the program and create/maintain records.
5. Consider providing an en-suite restroom.
6. Consider a small stand-alone ice maker where needed to support provided services.

Premium:

7. (Reserved)

Best Practice/Lessons Learned

A. Locate Nurse station adjacent to other administration areas.

B. Provide an entry door direct off a corridor to allow access without transiting office areas.

Cafeteria

Baseline:

1. Provide dedicated space and amenities for student dining.
2. Provide from among the following features for this educational space:

System	Features
Planning Factors	Typical 4,000sf minimum; approx. 15sf per student for table seating for one-third of the student population.
Spatial Elements	Ceilings: 12ft +/-; often double-height in two-story schools; rectangular configuration
Finishes	Floor: resilient sheet or other hard surface Ceiling: suspended or adhered acoustic tile, vaulted/exposed typical Walls: protective material (FRP, etc.) 4ft to 8ft, paint above
Doors	Interior for code compliance; hardware, see *Safety & Security at Classrooms*
Windows	Fixed windows in frames, storefronts typical (see *0422 Storefronts*)
Specialties	Acoustic panels, window coverings
Plumbing	None required; drinking fountain common
Heating/Cooling	As calculated for code compliance
Ventilation/Exhaust	As calculated for code compliance
Lighting	Pendant direct/indirect, accent and cove lighting common, provide dimming based on programmed use
Power	110v duplex for code compliance; 110v quadplex at each data port
Special Systems	Phone/intercom, synchronized clock; wireless data
Equipment/Furnishings	Tables with integral seating typical;

Provisional:

3. (Reserved)

Premium:

4. Dedicated space in school facilities serving grades other than 9-12 or in school facilities where one-third of the projected ADM is less than 200 students (see Multipurpose and/or Commons).

Best Practice/Lessons Learned

A. Wall-mounted pocket tables should be reserved for instances where maximum space efficiency is needed. Otherwise, provide wheeled tables and a table storage room.

Kitchen/Food Service

Baseline:

1. Provide space and amenities for on-site food preparation, planning, and serving. Standard is hot lunch meal preparation and breakfast service eligible under federal and state programs.
2. Provide from among the following features for this educational space:

System	Features
Planning Factors	Food Prep/Planning: 10sf per seated meal Food Service: 1sf per seated meal Food Storage – Seasonal Delivery: 7sf/student population Food Storage – Regular Delivery: 3sf/student population
Spatial Elements	Ceilings: 10ft +/-, rectangular configuration
Finishes	Floor: ceramic/quarry tile Ceiling: gypsum board/paint Walls: protective surfaces such as stainless steel, FRP full height in prep/cooking areas, washable paint
Doors	Exterior: insulated swing door up to 42in or double door with removable astragal. Interior for code compliance; hardware to meet ADA and functional needs
Windows	None
Specialties	Staff lockers, tackboard, whiteboard, corner guards
Plumbing	Hot/cold water, waste, and vent to support specific equipment; grease interceptor; prep sink, handwash sink, three-compartment wash sink; commercial dish machine
Heating/Cooling	As calculated for code compliance
Ventilation/Exhaust	As calculated for code compliance; commercial Type 1 or 2 hood(s)
Lighting	Surface mount or recessed
Power	110v duplex for code compliance; 110v quadplex at each data port
Special Systems	Phone/intercom, synchronized clock; duplex data port (2)
Equipment/Furnishings	All prep, cooking, and cleaning equipment with direct connection to building services

Provisional:

3. Consider enclosed office for kitchen supervisor when serving 200 or more meals per day.
4. Consider central kitchens in large districts with warming kitchens distributed at the individual school level.
5. Consider kitchens capable of pre-packaged food preparation in locations where kitchen staff is not available.
6. Consider welded seam resilient flooring with slip resistance in lieu of tile floors when installing over frame construction.

Premium:

7. (Reserved)

Best Practice/Lessons Learned

A. Locating a custodial service closet near the kitchen space can be very beneficial.
B. In larger schools, consider using transfer air from the school for exhaust hood make-up air in place of dedicated make-up air unit.

Student Store

Baseline:

1. Provide space and amenities for student-run food service operations in support of business and hospitality curriculum elements and extra-curricular and community use activities. Anticipated items include school supplies, promotional/branding hard and soft goods, and food items.
2. Provide from among the following features for this educational space:

System	Features
Planning Factors	Provide dedicated space where 6-12 student population exceeds 60; typical 120sf minimum; up to 300sf
Spatial Elements	Ceilings: 9ft +/-, rectangular configuration
Finishes	Floor: resilient Ceiling: acoustic tile Walls: painted GWB, FRP at wet areas
Doors	Security door at counter, Interior for code compliance; hardware, see *Safety & Security at Classrooms*
Windows	None
Specialties	Tackboard, corner guards, 36in base cabinets w/laminate counter, 42in wall cabinets (some open shelving for display), soap and paper towel dispenser
Plumbing	Prep/clean-up sink; hot/cold water, waste, and vent to support specific equipment
Heating/Cooling	As calculated for code compliance
Ventilation/Exhaust	As calculated for code compliance
Lighting	Pendant or drop-in indirect
Power	110v duplex for code compliance; 110v quadplex at each data port

System	Features
Special Systems	Phone/intercom, synchronized clock; duplex data port (2)
Equipment/Furnishings	Any prep, cooking, and cleaning equipment with direct connection to building services, point of sale (POS) equipment, all other as FF&E

Provisional:

3. (Reserved)

Premium:

4. (Reserved)

Best Practice/Lessons Learned

A. Commonly arranged with display/sales space connected to support/storage space.

Fitness Room

Baseline:

1. Provide space and amenities for physical education supported with intentional curriculum in the following fitness areas: strength, conditioning, cardio (may also incorporate aerobics/dance).
2. Provide from among the following features for this educational space:

System	Features
Planning Factors	Provide dedicated space where 6-12 student population exceeds 60; typical 500sf minimum; up to 3,000sf
Spatial Elements	Ceilings: 9ft +/-, rectangular configuration
Finishes	Floor: cushioned resilient Ceiling: acoustic tile Walls: paint
Doors	Interior for code compliance; hardware, see *Safety & Security at Classrooms*
Windows	Optional
Specialties	Whiteboard, tackboard, window coverings
Plumbing	None
Heating/Cooling	As calculated for code compliance
Ventilation/Exhaust	As calculated for code compliance; ducting treatment to reduce sound transfer out
Lighting	Pendant or drop-in indirect, provide dimming
Power	110v duplex for code compliance;
Special Systems	Phone/intercom, synchronized clock; duplex data port (2)
Equipment/Furnishings	Wall-mounted racks for elevated equipment storage; weightlifting pads.

Provisional:

3. Consider a 10ft ceiling height if needed to support specific curriculum and space uses.

~~3.~~4. Consider providing acoustical wall assemblies at this space if programmed for music and dance.

~~4.~~5. Consider dedicated room exhaust or negative pressure at ventilation systems.

Premium:

~~5.~~6. Dedicated space in school facilities where the projected student population in grades 6-12 is less than 60 students.

Best Practice/Lessons Learned

A. Consider locating adjacent to Gymnasium.
B. Consider impact loads when floors are not slab on grade.

Locker Room/Showers

Baseline:

1. Provide space and amenities for clothes changing in preparation for physical fitness activities and for showering and changing following activities. Often combined with space from *Category D – Supplementary Restroom/Toilet* allocations.
2. Provide from among the following features for this educational space:

System	Features
Planning Factors	Provide dedicated space where 6-12 student population exceeds 20; typical 400sf minimum (2ea); up to 3,000sf (2ea)
Spatial Elements	Ceilings: 9ft +/-, rectangular configuration
Finishes	Floor: resilient with welded seams; ceramic tile at wet areas Ceiling: gypsum board, paint Walls: ceramic tile, full-height at showers; gypsum wall board at lockers/non-wet areas, paint
Doors	Interior for code compliance; hardware, see *Safety & Security at Classrooms*
Windows	None
Specialties	Partitions/curtains at showers, lockers for 25 percent of 6-12 student population
Plumbing	Recessed, lockable hose bib (stainless)
Heating/Cooling	As calculated for code compliance; dedicated zone control
Ventilation/Exhaust	As calculated for code compliance
Lighting	Surface mount LED, occupancy sensors controls, key override
Power	110v duplex for code compliance in changing area
Special Systems	Intercom, synchronized clock, hair/hand dryers
Equipment/Furnishings	Fixed benches in changing/locker area

Provisional:

3. Consider providing stall showers where program uses warrant. Reduced gap, privacy panels permitted.

Premium:

4. Dedicated space in school facilities where the projected student population in grades 6-12 is less than 20 students.

Best Practice/Lessons Learned

A. Non-metallic (i.e., plastic/resin) Specialties are preferred over metallic.

Shared Spaces

Student Commons

Baseline:

1. Provide space and amenities for student and visitor entry and welcome, 'hub' circulation, student informal and intentional congregation and interaction. Can receive community use. May accommodate student dining and large group instruction.
2. Provide from among the following features for this educational space:

System	Features
Planning Factors	Typical 600 to 1,400sf; up to 3,000sf
Spatial Elements	Ceilings: 12ft +/-; often double-height in two-story schools; irregular configuration
Finishes	Floor: resilient sheet or other hard surface Ceiling: suspended or adhered acoustic tile, vaulted/exposed typical Walls: protective material (FRP, etc.) 4ft to 8ft, paint above
Doors	Interior for code compliance; hardware, see *Safety & Security at Classrooms*
Windows	Fixed windows in frames, storefronts typical (see *0422 Storefronts*)
Specialties	Acoustic panels, window coverings
Plumbing	None required; drinking fountain common
Heating/Cooling	As calculated for code compliance
Ventilation/Exhaust	As calculated for code compliance
Lighting	Pendant direct/indirect, accent and cove lighting common, provide dimming based on programmed use
Power	110v duplex for code compliance; 110v quadplex at each data port
Special Systems	Intercom, synchronized clock; wireless data, projection screen
Equipment/Furnishings	Stackable chairs w/carts, tables on wheels; informal seating and instructional furnishings

Provisional:

3. Consider incorporating compatible ancillary features and spaces to include art/cultural installations, project learning, and presentations.

Premium:

4. (Reserved)

Best Practice/Lessons Learned

A. Consider adjacencies with performance spaces such as platforms/stages, and Student Store.

B. Space may occur at any grade level and student population. Often must be multi-use at lower grades and populations versus functioning as dedicated space.

~~B.~~C. Larger K-12 schools may consider an additional smaller Commons for secondary grade student use. Space can be for informal student gathering and ~~also~~ breakout space for guided learning.

Multipurpose

Baseline:

1. Provide space and amenities for curricular and extra-curricular activities in all or some of the following areas: performing arts, cafeteria/lunchroom, student, and visitor entry and welcome, 'hub' circulation, student informal and intentional congregation and interaction, etc.
2. Provide from among the following features for this educational space:

<table>
<tr><th>System</th><th>Features</th></tr>
<tr><td>Planning Factors</td><td>Typical 600sf minimum typical; approx. 15sf per student for table seating in support of dining at the following percentage factors:
<table>
<tr><th>Student Population</th><th>Percent of Population</th><th>Approx. Chair Seating</th></tr>
<tr><td>10-50</td><td>100%</td><td>60</td></tr>
<tr><td>51-150</td><td>75% to 65%</td><td>165</td></tr>
<tr><td>151 – 350</td><td>65% to 45%</td><td>340</td></tr>
<tr><td>351 – 500</td><td>45% to 35%</td><td>440</td></tr>
<tr><td>Over 500</td><td>30%</td><td></td></tr>
</table>
Platform Stage:
<table>
<tr><th>Student Population</th><th>Platform Area</th><th>Notes</th></tr>
<tr><td>150 – 350</td><td>300 – 500sf</td><td></td></tr>
<tr><td>351 – 500</td><td>500 – 900sf</td><td></td></tr>
<tr><td>Over 500</td><td>900 – 1,400sf</td><td></td></tr>
</table>
Note: For student populations below 150 portable stage/platforms are typical.</td></tr>
<tr><td>Spatial Elements</td><td>Ceilings: 12ft +/-; often double-height in two-story schools; rectangular configuration</td></tr>
<tr><td>Finishes</td><td>Floor: resilient sheet or other hard surface
Ceiling: suspended or adhered acoustic tile, vaulted/exposed typical
Walls: protective material (e.g., FRP) 4ft to 8ft, paint above</td></tr>
<tr><td>Doors</td><td>Interior for code compliance; hardware, see Safety & Security at Classrooms</td></tr>
<tr><td>Windows</td><td>Fixed windows in frames, storefronts typical (see 0422 Storefronts)</td></tr>
<tr><td>Specialties</td><td>Acoustic panels, window coverings</td></tr>
<tr><td>Plumbing</td><td>None required; drinking fountain common</td></tr>
<tr><td>Heating/Cooling</td><td>As calculated for code compliance</td></tr>
</table>

System	Features
Ventilation/Exhaust	As calculated for code compliance
Lighting	Pendant direct/indirect, accent and cove lighting common, provide dimming based on programmed use
Power	110v duplex for code compliance; 110v quadplex at each data port
Special Systems	Phone/intercom, synchronized clock; wireless data
Equipment/Furnishings	Stackable chairs w/carts, 5ft tables on wheels

Provisional:

3. Consider table and chair storage support space.
4. Consider kitchenette support space in educational programs supported by a central kitchen for food preparation.

Premium:

5. (Reserved)

Best Practice/Lessons Learned

A. Provide afterhours access to Multipurpose Room (and public restrooms) while restricting access to remainder of the school.
B. Zone heating and ventilation system so multipurpose afterhours space activities can operate separately from the rest of the school.

Auditorium (+ Stage)

Baseline:

1. Provide space and amenities for performing arts curricular and extra-curricular activities in all or some of the following areas of group and individual performance, and performance production: drama, dance, choir, band, orchestra, etc.
2. Provide from among the following features for this educational space:

System	Features
Planning Factors	Seating area: typical 7-10sf per seat total area Proscenium width: 1. 200 – 400 seats – +/-35ft 2. 400 – 600 seats – +/-40ft 3. 600 – 900 seats – +/-50ft Stage area: 1. Depth: 75% proscenium width 2. Width: 150% proscenium width
Spatial Elements	Ceilings: 12ft +/-; often double-height in two-story schools; irregular configuration
Finishes	Floor: resilient sheet or other hard surface Ceiling: suspended or adhered acoustic tile, vaulted/exposed typical

System	Features
	Walls: gypsum wall board, painted with applied acoustical treatment/elements
Doors	Exterior as required for code compliance; interior for code compliance and function; exit hardware for code compliance, passage hardware for function and safety
Windows	None, typical
Specialties	Acoustic panels, window coverings
Plumbing	None required; consider counter mounted sink in dressing rooms
Heating/Cooling	As calculated for code compliance
Ventilation/Exhaust	As calculated for code compliance; sound attenuators and low dba diffusers
Lighting	Recessed indirect, accent and cove lighting common, provide dimming based on programmed use
Power	110v duplex for code compliance
Special Systems	Stage lighting, sound system, synchronized clock; wireless data
Equipment/Furnishings	Fixed seating

Provisional:

3. Consider carpet as floor finish in aisles for sound control.
4. Consider dedicated, enclosed Control Room of approximately 150sf.
5. Consider Dressing Room/Green Room space of approximately 600sf.
6. Consider Fabrication/Storage Room space of approximately 800sf.

Premium:

7. Dedicated space in school facilities serving grades other than 9-12 or in school facilities where one-third of the projected ADM is less than 200 students (see Multipurpose and/or Commons).
8. Square footage that exceeds that required for seating one-third of the projected ADM or for stage areas greater than 35ft deep and 1.75 of the proscenium width.
9. Proscenium arches wider than 60ft.
10. Fly galleries.
11. Stage gridirons, pin rails, or catwalks over stages.
12. Proscenium openings higher than 25ft or stage ceilings higher than 30ft.
13. Trap rooms (under-stage storage).
14. Orchestra pits.
15. Professional theater lighting systems.
16. Balconies or spectator boxes.
17. Elevators dedicated to serving just the auditorium.
18. Special curved plaster wall or ceiling assemblies designed for acoustic balancing.
19. Decorative wood paneling, wallpaper, and murals.
20. Spaces and systems for “black-box” theaters.

21. Digital variable acoustics systems for grades 9-12.

Best Practice/Lessons Learned

A. Provide afterhours access to Auditorium (and public restrooms) while restricting access to remainder of the school.~~(Reserved)~~

Pool

Swimming pool sizes and amenities are described in the department publication *Swimming Pool Guidelines for Educational Facilities*.[5]

[5] See DEED publication *Swimming Pool Guidelines for Educational Facilities*. https://education.alaska.gov/facilities/publications/SwimmingPool.pdf

Category D – Supplementary

Circulation

Corridors/Vestibules/Entries

Baseline:

1. Provide space and amenities for building entry and circulation between program areas. Maximize visual continuity for observation and supervision.
2. Provide from among the following features for this educational space:

System	Features
Planning Factors	Corridors: Grades K-6: 15-20sf/student design capacity Grades 7-12: 18-24sf/student design capacity Standard corridor width: Grades K-6: 7ft-6in clear (add 6in for corridors with lockers) Grades 7-12: 8ft-6in clear (add 12in for corridors with lockers) Entries/Vestibules: 2-5sf/student design capacity
Spatial Elements	Ceilings: 10ft +/-, linear configuration, alcoves common, clerestory and light monitors common
Finishes	Floor: resilient at corridors, walk-off carpet tile at vestibules Ceiling: acoustic tile, can be open to structure Walls: painted GWB above 6ft, durable overlay below 6ft
Doors	Interior for code compliance; hardware, see *Safety & Security at Classrooms*
Windows	Fixed where used in clerestory or roof monitors
Specialties	Lockers, full height, one per student
Plumbing	Drinking fountain w/bottle fill
Heating/Cooling	As calculated for code compliance
Ventilation/Exhaust	As calculated for code compliance
Lighting	Wall sconce, uplight, or drop-in indirect
Power	110v duplex for code compliance
Special Systems	Phone/intercom speakers, synchronized clock
Equipment/Furnishings	None

Provisional:

1. See Section *0711 Passenger Elevators* for use of ramps in lieu of elevators.
2. See Part 2, Section 3, *C. Safety & Security at Building Entries*.

Premium:

3. (Reserved)

Best Practice/Lessons Learned

A. Manufactured sloped tops on lockers are preferred to full recess and soffiting; much easier to change out when needed.

Stairs/Elevators

Baseline:

1. Provide space and amenities for building entry and circulation between program areas. Maximize visual continuity for observation and supervision.
2. Provide from among the following features for this educational space:

System	Features
Planning Factors	Stairs: see factors under 0331 Stair Structure Elevators: see factors under 0711 Passenger Elevators
Spatial Elements	Ceilings: Vary, often double height, linear configuration, alcoves common
Finishes	Floor: resilient at stairs, match adjacent at elevator Ceiling: acoustic tile, can be open to structure Walls: painted GWB w/durable overlay typical
Doors	Interior for code compliance; hardware, see *Safety & Security at Classrooms*
Windows	Fixed where used
Specialties	None
Plumbing	None
Heating/Cooling	As calculated for code compliance
Ventilation/Exhaust	As calculated for code compliance
Lighting	Wall sconce, uplight, or drop-in indirect
Power	Elevator support
Special Systems	Speakers
Equipment/Furnishings	None

Provisional:

3. See Section *0711 Passenger Elevators* for use of ramps in lieu of elevators.
4. See Part 2, Section 3, *C. Safety & Security at Building Entries*.

Premium:

5. (Reserved)

Best Practice/Lessons Learned

A. (Reserved)

Utilities/Maintenance

Restrooms/Toilets

Baseline:

1. Provide space and amenities for student and staff restrooms. Student restrooms for boys and girls, and one unisex staff restroom should be distributed in each classroom cluster.
2. Provide from among the following features for this educational space:

System	Features
Planning Factors	K-6 Facilities: 2sf per student design capacity 7-12 Facilities: 3sf per student design capacity K-12 Facilities: 5sf per student design capacity See also *General Use Classroom* for Pre-K and K, *Special Education*, *Nurse,* and *Teacher Workroom/Breakroom* for other restrooms in addition to this category.
Spatial Elements	Ceilings: 9ft +/-, rectangular configuration
Finishes	Floor: ceramic tile or resilient with integral cove base Ceiling: suspended GWB, paint (washable) Walls: ceramic tile or FRP to 6ft paint (washable) above
Doors	Interior for code compliance; hardware
Windows	None required
Specialties	None required. Mirror, soap dispenser, paper towel dispenser, grab bars (smaller profile for Pre-K to 1st grade), toilet paper dispenser, sanitary napkin receptacle, sanitary napkin dispenser at grades 6-12.
Plumbing	Toilets, urinals, sinks; as calculated for code compliance
Heating/Cooling	As calculated for code compliance
Ventilation/Exhaust	As calculated for code compliance
Lighting	Wall-mount at sinks/counters; recessed or surface-mount for ambient lighting
Power	110v duplex for code compliance
Special Systems	None required
Equipment/Furnishings	TBD

Provisional:

3. (Reserved)

Premium:

4. (Reserved)

Best Practice/Lessons Learned

A. Do not use baseboard or wall mounted cabinet unit heaters to heat these spaces.

Custodial

Baseline:

1. Provide space and amenities for custodial activities. Space should accommodate short-term supply storage, and daily-use equipment (e.g., custodial cart, vacuums, etc.).
2. Provide from among the following features for this educational space:

System	Features
Planning Factors	Typically, one 80sf room per 15,000sf to 25,000sf of space to be cleaned. Minimum 70sf
Spatial Elements	Ceilings: 9ft +/-, rectangular configuration
Finishes	Floor: resilient with integral cove base, sealed concrete Ceiling: acoustic tile, open to structure Walls: paint
Doors	Interior for code compliance; hardware, keyed lever latch
Windows	None
Specialties	None
Plumbing	Floor-mounted mop sink with hot and cold supply
Heating/Cooling	As calculated for code compliance
Ventilation/Exhaust	Exhaust fan with controls, continuous negative pressure
Lighting	Surface-mounted or drop-in indirect
Power	110v duplex for code compliance
Special Systems	None
Equipment/Furnishings	Wall-mounted adjustable shelving, wall-mounted mop racks, chemical dispensing unit, chemical storage cabinet

Provisional:

3. Consider soap and paper towel dispenser for personal cleanup.
4. Consider locating a stacking washer/dryer unit in custodial space (if not at Gymnasium storage).

Premium:

5. (Reserved)

Best Practice/Lessons Learned

A. (Reserved Recommend a minimum of one Custodial room on each level of a multi-level building. Placement close to restrooms is ideal.)

A. B. A covered entry at this space is a good idea.

Supply/Food Storage

Baseline:

1. Provide space and amenities for bulk deliveries of all types for school operations (food service, custodial, instructional, FF&E, etc.). The space(s) also serve as the exit point for various types of solid waste. Provide space and amenities for the storage of supplies related to building operations, primarily custodial and dry-goods. For perishable food additional space and

feature are need. (Note: See *Category B – Support Teaching* for storage of instructional materials.) and for storage of food and food preparation items.).

2. Provide from among the following features for this educational space:

System	Features
Planning Factors	Supply Storage: Seasonal Delivery: 5sf per student population Supply Storage: Regular Delivery: 1sf per student population
Spatial Elements	Ceilings: 10ft +/-, rectangular configuration
Finishes	Floor: resilient, sealed concrete Ceiling: acoustic tile, open to structure Walls: GWB, wainscot to 4ft, paint above
Doors	Interior for code compliance; keyed lever hardware
Windows	None
Specialties	None
Plumbing	None required
Heating/Cooling	As calculated for code compliance
Ventilation/Exhaust	As calculated for code compliance
Lighting	Surface or drop-in indirect, provide dimming
Power	110v duplex for code compliance
Special Systems	Synchronized clock
Equipment/Furnishings	Adjustable shelving

Provisional:

3. (Reserved)

Premium:

4. (Reserved)

Best Practice/Lessons Learned

A. (Reserved)

Refer/Freezer (Reserved)

Maintenance & Receiving

Baseline:

1. Provide space and amenities for a maintenance office, tool storage, work table/bench. Provide space to receive bulk deliveries of all types for school operations (food service, custodial, instructional, FF&E, etc.). The space(s) also serve as the exit point for various types of solid waste.
2. Provide from among the following features for this educational space:

System	Features
Planning Factors	Maintenance & Receiving: Typical 200 – 600sf (upper levels provide for on-site maintenance/custodial office, maintenance shop, and large custodial and maintenance equipment storage

System	Features
Spatial Elements	Ceilings: 10ft +/-, rectangular configuration
Finishes	Floor: resilient, sealed concrete Ceiling: acoustic tile, open to structure Walls: GWB, wainscot to 4ft, paint above
Doors	Interior for code compliance, 8ft x 8ft coiling or sectional door (motorized), exterior personnel door; keyed or card-controlled lever; hardware
Windows	None; exterior personnel door should have ~~half~~narrow-lite
Specialties	Tackboard, whiteboard at Receiving
Plumbing	None required
Heating/Cooling	As calculated for code compliance
Ventilation/Exhaust	As calculated for code compliance
Lighting	Surface or drop-in indirect, provide dimming
Power	110v duplex for code compliance; 110v quadplex at each data port
Special Systems	Phone/intercom, synchronized clock; duplex data port (2)
Equipment/Furnishings	Adjustable shelving

Provisional:

5. Consider installation of a floor drain in Receiving/Maintenance if supplies and equipment will chronically be snow covered.

Premium:

6. (Reserved)

Best Practice/Lessons Learned

A. (Reserved)

Mechanical/Electrical

Baseline:

1. Provide space and amenities for heating, ventilation, electrical service/distribution equipment and all appurtenances supporting this equipment. These categories of equipment may be in combined space or separate spaces depending on building codes, building layout, and design parameters.
2. Provide from among the following features for this educational space:

System	Features
Planning Factors	Net Floor Area = Footprint Area x Equipment Factor x Circulation Factor

Equipment Type	Base Area	Equip. Factor	Circ. Factor
Heating Equip.	equip. footprint	2.5	1.5
Ventilation Equip.	equip. footprint	3.5	1.3
Electrical Equip.	equip. footprint	2.5	1.5
Electrical Panels	panel width	3.0	1.3

System	Features
Spatial Elements	Ceilings: height varies, often exposed to structure; clearance to structure greater than 7ft A.F.F. is GSF, irregular configuration
Finishes	Floor: resilient, sealed concrete, epoxy on wood underlayment Ceiling: GWB with paint or exposed to structure Walls: paint
Doors	Interior for code compliance, exterior door for mechanical rooms sized per mechanical equipment; keyed or card lever hardware
Windows	None
Specialties	None
Plumbing	Floor drain with trap primer (not needed in Electrical if separate)
Heating/Cooling	As calculated for code compliance
Ventilation/Exhaust	As calculated for code compliance
Lighting	Surface mounted
Power	110v duplex for code compliance; 110v quadplex at each data port
Special Systems	Duplex data ports (as needed for network connected equipment)
Equipment/Furnishings	None

Provisional:

3. Consider installing acoustical separation (STC 34 minimum) around spaces with mechanical ventilation equipment.
4. Consider installing a whiteboard for diagramming, discussion, notes, etc.

Premium:

5. (Reserved)

Best Practice/Lessons Learned

A. Locate boiler rooms at grade with exterior door access to an adjacent service vehicle parking space whenever possible.

B. Floors in Mechanical should generally be designed as 'water tight'.

~~A.~~C. Consider access for equipment replacement in Mechanical with boilers and/or air handling units; oversize doors many be needed. Provide exterior doors whenever possible.

Telecom/Server Room

Baseline:

1. Provide space, equipment, and appurtenances for data and communication service, processing, and distribution. This includes the entry and termination of public communications utilities and WAN and LAN equipment. Space may also house headend equipment for other special electrical systems including intercom/paging, clock, security/CCTV, etc.

2. Provide from among the following features for this educational space:

System	Features
Planning Factors	Typical 30sf/100 students; minimum 15sf; maximum 360sf including two intermediate closets at 30sf/each Notes: 1. Space typically transitions from telecom closet to a telecom room above 30sf. 2. Often located in Administration, can be co-located with Utilities/Maintenance function.
Spatial Elements	Ceilings: 9ft +/-, rectangular configuration
Finishes	Floor: resilient, sealed concrete, electrostatic resistant Ceiling: acoustic tile, open to structure Walls: paint
Doors	Interior for code compliance; keyed or card lever hardware
Windows	None
Specialties	Whiteboard
Plumbing	None required
Heating/Cooling	As calculated for code compliance
Ventilation/Exhaust	As calculated for code compliance
Lighting	Surface mounted or drop-in indirect
Power	110v typical, meet power requirements of equipment, provide UPS back up
Special Systems	Phone/intercom
Equipment/Furnishings	Equipment racks (two-post), cable tray or j-hooks

Provisional:

3. Consider providing dedicated space for telecom rooms to isolate cooling system needs. Avoid co-locating racks in mechanical rooms.
4. Consider providing 4-post racks only where required by specific equipment.
5. Consider providing cable tray versus j-hooks within telecom space to aid in organization.
6. Consider, at space needs below a dedicated room (less than 30sf), co-locating with compatible special electrical systems (e.g., intercom/paging, security, etc.) or administrative areas (e.g., Administration Office, Teacher Workroom, etc.).
7. Consider ventilation systems for temperature control in climates where this can provide sufficient cooling.

Premium:

8. Central UPS systems.
9. Air conditioning if temperatures are not excessive in rack cooling systems.

Best Practice/Lessons Learned

A. Locate telecom room in central area of building where possible to average cable lengths.

B. Separate mechanical cooling system from other HVAC system(s) to independent operation during unoccupied times.

4. HIGH PERFORMANCE FACILITIES

DEED encourages high-performance schools for Alaska communities. A high-performance school is designed to conserve natural resources, save money over time, and improve the overall health and well-being of students, staff, and community. Emphasis is placed on low-impact site design, reduced impact on local infrastructure, energy efficiency, water use reduction, non-toxic materials, waste management, indoor air quality, efficient operations, and community engagement.

High performance school design principles can be broken into three general areas of emphasis:

~~A. Integrative design process~~
~~B.~~A. Human health and comfort
B. Demand reduction
C. Resiliency

These principles are woven throughout this document as both Baseline strategies and accepted alternatives when considering Provisional strategies. Key standards are summarized in **F. DEED Standards for High Performance Facilities** below. Other resources on high-performance school design are available from many public and private organizations. Review of these may provide further assistance to project teams.

Because elements of these three principles for high performance school design are often completing against each other, a synthesizing approach is needed to achieve the optimal balance. That approach is known as the Integrated Design Process (IDP). A good introductory primer on IDP has been developed as part of the Whole Building Design Guide (WBDG), an information gateway that is part of the National Institute of Building Sciences.

A. Integrated Design Process

One of the key ingredients to creating a high-performance school is to conduct an integrated design process. The integrated design process is a collaborative approach that includes the full project team in decision making from project inception through design, construction, and commissioning. The process focuses on a whole-systems design approach: recognition that all the components of the building work interdependently and affect the performance of one another.

A few key steps to implementing an integrative design process include:

1. Set sustainability goals with the owner at project inception.
2. Conduct a full team meeting at the beginning of each project phase.
3. Include high-performance design principles as an agenda item at all project meetings.
4. Incorporate life cycle cost and value analysis into the project decision-making process.

Buildings are often budgeted on first costs alone. Life cycle costing takes a more integrated approach, factoring in energy savings over time, durability and reduced maintenance of systems and materials, and enhanced occupant health and productivity. High performance design principles place

emphasis on looking at the building as a whole over time to minimize energy use, maximize cost savings, and increase resiliency—all while creating comfortable and healthy spaces for the occupants.

As part of an integrated design process, energy modeling and commissioning will confirm that all systems and components are integrated to achieve optimum results and are installed and operated as designed. One strategy may offset another. For instance, daylight sensors may cost more up front as an individual strategy, but once energy savings and associated reduced mechanical loads are considered, the team may realize that they can save money by selecting a smaller mechanical system.

Practices to optimize systems integration and increase efficiency include energy modeling and building commissioning. Design-phase energy modeling is a tool to use early and throughout the design process to test a variety of energy efficiency measures to determine the best way to align systems and components. Commissioning also offers an opportunity to make adjustments in the field and to train occupants on how to use the systems, improving efficiency even further.

B. Human Health & Comfort

Learning environments have a huge impact on student performance, health, and overall well-being. High performance schools can provide high quality indoor air along with thermal, visual, and acoustical comfort. Emphasis is placed on daylight in classrooms and views to the outdoors, HVAC and lighting controls, non-toxic materials, enhanced filtration, carbon dioxide sensors, cross-contamination prevention, natural ventilation, and increased outdoor airflow rates in mechanically ventilated spaces.

Benefits of high-performance schools can include improved student performance, increased occupant health, reduced student absentee rates, and greater staff satisfaction. When implemented well, ancillary benefits such as visual and physical connection to exterior spaces and shared community spaces within the building often occur. In addition, community benefits that reach beyond the school facility are common including highlighting the benefits of reusing and recycling materials, and creating an environment that serves as a community teaching tool for sustainable living

C. Demand Reduction

High-performance schools are designed to reduce demand on energy and natural resources, to optimize the performance of building systems, and to reduce the overall operating costs of the school. Emphasis is placed on energy efficient mechanical systems, high-performance envelope design, low-flow water fixtures, lighting and daylight controls, and energy efficient equipment and appliances. The American Society of Heating, Refrigerating, and Air-Conditioning Engineers (ASHRAE) Standard 90.1 sets out performance criteria in these areas and is enforced by DEED through customized checklists.

Employing high-performance principles such as demand reduction, energy efficiency, and system optimization results in climate appropriate solutions, buildings that have low-to-no impact on local infrastructure, and an overall reduction in the school facility's carbon footprint.

Baseline

1. Utilize night-setback control systems for unoccupied times.

2. Zone the HVAC system to the operational use of the facility during after-hour, or public uses (common after-hour space uses include the Gym, Library/Media Center, Auditorium, and Student Commons).

Provisional

3. Consider separate ventilation systems for the gymnasium and an associated set of restrooms accessible after-hours.
4. Consider displacement ventilation for classrooms and larger spaces. Displacement ventilation systems have lower energy requirements (reduction in cooling loads and higher Zone Air Distribution Effectiveness ratio) compared to traditional overhead ventilation systems. Systems are also typically quieter and have been shown to reduce transfer of germs between occupants.
5. Consider heat pump supplemented heat plants where geographically appropriate and where District has maintenance capabilities to support.
6. Consider extending waste/recovered heat systems from nearby power plants.

Premium

7. (Reserved)

Best Practice/Lessons Learned

A. ~~(Reserved~~If displacement ventilation is being considered, be aware of the challenges presented in classroom spaces where large wall diffusers that are required can often get covered.~~)~~

D. Resiliency

Schools often serve as an emergency shelter within community disaster preparedness plans. As such, they must be designed to ensure they will be safe and operational for the students and community during minor events such as a power outage as well major natural disasters. This goes beyond the traditional redundancy in mechanical and electrical systems to include structural and building envelope design that will sustain a comfortable indoor environment for occupants during prolonged periods without power.

Baseline:

1. Provide standby generator or power source. This may be excluded in urban locations.
2. Provide redundancy in heat plant equipment including boilers and main circulation pumps. Appropriate redundancy factors for boilers (i.e., two at 67% or three at 50% of total heat load).

Provisional:

3. Consider high mass structures that will retain heat for extended periods of time. CF-1.
4. Consider redundancy in domestic hot water heaters for remote locations where a loss of domestic hot water will impact kitchen/nutritional capabilities of the school.
5. Consider having all air handling units inside of the building envelope instead of roof mounted air handling equipment.

Premium:

6. Boiler redundancy beyond two, 100% boilers.

E. High-Performance Certifications

High-performance building certification systems such as the United States Green Building Council (USGBC) LEED for Schools Rating System, Collaborative for High Performance Schools (CHPS), or International WELL Being Institute (WELL) can provide detailed guidance on implementing high-performance school design strategies.

Although DEED recognizes the value of building certifications by a third-party organization, the State will not participate in costs associated with these certifications.

Baseline:

1. None.

Provisional:

2. Consider high-performance building materials in any systems identified in this handbook that may be certified by recognized standards bodies to the extent these products are cost-effective for the region. CF-1; LCCA-5

Premium:

3. Green Building Certification: Registering the project with the USGBC LEED Rating System and obtaining LEED for Schools certification.
4. Educational Displays: Providing a permanent display, building signage, digital dashboard, or building tour that describe the high-performance features of the school.
5. Carbon Footprint Reporting: Costs to calculate the school's carbon footprint. Include a greenhouse gas inventory and opportunities to reduce greenhouse gas emissions.
6. Climate Action Plan: Costs to develop and implement a climate action plan to raise awareness of the school community's carbon footprint and engage students, staff, and the community in reducing that carbon footprint.

F. DEED Standards for High Performance Buildings

Baseline:

1. Commission facility using a certified commissioning agent in accordance with Alaska regulations 4 AAC 31.080(j), 31.900(31), 31.900(32), and 31.065.
2. Design heating and cooling systems to meet the requirements of ASHRAE 55 Thermal Comfort in Buildings (latest edition) except where humidification/dehumidification is not practical.
3. "Right size" HVAC equipment based on development of building massing and envelope. May require multiple iterations as building layout changes during design.
4. Avoid designs where operating independent heating and cooling systems simultaneously is required.
5. Utilize HVAC systems that will redistribute heat while also providing cooling, such as variable refrigerant flow (VRF) systems (where appropriate for local conditions and maintenance capabilities).

6. Design variable output HVAC systems to adapt to varying building heating and cooling demands.
7. Provide minimum MERV-13 filtration on all ventilation systems.

Provisional:

8. Consider incorporating the commissioning agent early in the design, such as 35%~~, or 65%~~.
9. Consider re-commissioning systems two months prior to one-year warranty date to help identify failed equipment or components and to correct control system programming errors.
10. Consider providing green spaces, open spaces, and shared community spaces in the building.
11. Consider reusing and recycling materials during construction and occupancy.
12. Consider creating an environment that is a community teaching tool for high-performance buildings and sustainable living.
13. Consider providing access to daylight and views to outdoors from classrooms and other regularly occupied spaces.
14. Consider using energy modeling and iterative design to reduce building energy consumption by 5 percent over ASHRAE-90.1 (current version).
15. Consider using the building control system to monitor indoor air quality and adjust ventilation rates to mitigate contaminants such as VOCs and CO2.
16. Consider providing a building flush-out post construction per LEED, WELL or similar accepted procedures.

Premium:

17. Re-commissioning systems two years after the school opens to ensure the energy conservation features are operating as intended and to adjust to increase efficiency.
18. On-going commissioning of the facility every 5 years.
19. Grey water reclamation systems for use with flushing plumbing fixtures.
20. On-site harvesting of renewable energy such as wind and solar.
21. Ventilation systems providing more than ASHRAE 62.1 minimum outdoor air rates beyond acceptable cost increases. CF-2.

Best Practices/Lessons Learned

A. (Reserved)

Part 3. SYSTEM STANDARDS

01. SITE AND INFRASTRUCTURE

A. Building System Summary

The **Site and Infrastructure** of school buildings consist of construction elements, systems and features external to the school facility. A common rule-of-thumb for the demarcation of building infrastructure from site infrastructure is "five feet outside the building line". This is, of course, an imperfect approximation but it can serve as a useful reference when differentiating between similar systems. The department recognizes five sub-categories in this building system: **Site Improvements**, **Site Structures**, **Civil/Mechanical Utilities**, **Site Electrical**, and **Offsite Work**. While all these systems support the use and purpose of the school facility, many have no physical connection to the facility. The utility sub-systems are the exception; they both serve and are connected. Utility systems will need to be integrated with standards in *081 Plumbing* and *091 Services & Distribution*. Site issues not related to improvements and infrastructure are identified and categorized under **11 Special Conditions**. Examples would be site and utility demolition, site drainage, and remediation of hazards.

B. Design Philosophy

Historically, development of Site and Infrastructure systems for educational facilities has been widely variable in projects with state-aid across Alaska. School planning and design goals should achieve statewide equity for capital investments in the various subsystems of this category while responding to the variety of geographic and climatic needs. Overbuilding must be avoided and sustainable solutions which respond to local conditions must govern.

Many determinants influence the ultimate cost of site and infrastructure development for a project. Some determinants are programmatic; for instance, site development costs for a high school will be higher than those of an elementary school due to factors such as the increased accommodation of vehicles, and the inclusion of competition sports fields typically provided with the construction of a high school. The location of the site and proximity to utilities also can greatly affect the site development costs. Rural sites can have much greater utility costs than urban sites due to the need to provide utility infrastructure, such as water storage and treatment, sewage treatment and disposal, and heating oil storage, that urban sites are not required to provide. Though sometimes necessary, constructing, and operating dedicated utility systems to serve the needs of school facilities places a heavy burden on a school district. This should be avoided wherever possible, instead making that the responsibility of the local community.

The physical characteristics of the site, such as soil conditions and topography, also have a great impact on the site development costs. Sites that require a good deal of excavation, grading, or imported fill to provide an adequate building pad will understandably have higher earthwork costs when compared to building sites not requiring such extensive alterations. The cost of earthwork is not limited to the building footprint; the construction cost of playfields, parking areas, roads, and even utility infrastructure will be impacted by the physical characteristics of the site.

The selection of a quality building site is the first step in ensuring cost-effective Site and Infrastructure costs. The department's publication *Site Selection and Evaluation Criteria Handbook*

(https://education.alaska.gov/facilities/publications/SiteSelection.pdf) is intended to be a resource and tool for districts to use when evaluating potential school sites. For additional design parameters see the **Design Ratio & Ratios** section of this system.

C. Design Criteria & Ratios

Criteria

A. Site earthwork should attempt to achieve no import or export of soil; this will clearly be difficult on sites with poor soils.
B. Site utilities should be provided offsite by the public utility whenever possible. This includes water, sewer, stormwater, electrical, and fuel storage utilities at rural sites and efforts should be made to work with the community to a developed, shared utility infrastructure.
C. Development of vehicular circulation and storage areas shall be minimized.
D. Parking areas will be sized to provide the required parking spaces per the governing code and the parking spaces will be sized to accommodate the standard vehicle in the region.
E. Construction of fire service roads around school buildings is not required in communities that do not have an organized fire fighting capacity and equipment. It is recommended to consider designing fire service roads for all communities to provide access for maintenance and future construction access.
F. Roads and parking areas shall be consolidated to minimize their footprint on the site.

Ratios

1. XX/AC (Reserved)
2. XX/GSF(Reserved)

011 Reserved

011X TBD

012 Reserved

012X TBD

013 Site Improvements

0131 Vehicular Surfaces

Baseline:

1. Parking areas, access drives, and vehicular circulation will have appropriate structural subbase, 4-inch basecourse, and 2-inch asphalt paving; increase cross-section at truck delivery and bus loops.
2. Provide parking spaces at a ratio of 1 per 20 K-8 students and 1 per 15 grade 9-12 students for the projected student population.
3. Provide dedicated bus lanes/bus loops and dedicated parent pick-up/drop-off areas. Design vehicle circulation and parking areas to maximize site safety.

4. Minimize islands and other obstructions in parking areas, except where needed for circulation control, to accommodate snow removal and storage.
5. Provide parking lot lighting to IES standards (ref. *0163 Lighting & Equipment* for additional provisions).
6. Provide accessible parking spaces in accordance with applicable codes.

Provisional:

7. Consider a top course of uniform gravel, crushed rock, or recycled asphalt in any community without access to a batch or drum-mix plant within an approximate 45-minute delivery radius.
8. Consider vehicular surfaces of the best available local fill in roadless communities.
9. Consider designing mitigations in vehicular pavement to prevent stormwater and snowmelt from flowing across pedestrian surfaces.
10. Consider speed control measures a long straightaways and high-pedestrian areas.
11. Consider designating parking spaces near the main entrance for carpool and low-emitting vehicles.
12. Consider providing headbolt heaters at staff parking areas in climate zones 7, 8 and 9 (ref. *0161 Electrical Services & Distribution* for additional provisions).

Premium:

13. Paving plants as a project cost.
14. Additional parking and locally mandated parking over the above the standards.
15. Concrete pavement other than at loading dock aprons and dumpster approaches.
16. Asphalt concrete pavement more than 2in thick except at loading docks, bus loops, and dumpster approaches which may be 4in.
17. “Porous” drainage pavement.
18. Access controlled (e.g., magnetic cards, etc.) parking lots.
19. Colored pavement.
20. Radiant parking snow melt systems.
21. Headbolt heaters in climate zone 6, or in zone 7 for more than 50 percent of the anticipated number of school staff.

Best Practice/Lessons Learned

A. (Reserved)

0132 Pedestrian Surfaces

Baseline:

1. Provide pedestrian surfaces from building entries to all vehicular parking areas and bus and parent drop-offs.
2. Provide pedestrian surfaces from primary public access points to the school facility.
3. Pedestrian surfaces will have appropriate structural subbase, basecourse, and allowable surfacing.
4. Provide accessible pedestrian routes in accordance with applicable codes (e.g., ADA, etc.).

Provisional:

5. Consider a top course of uniform gravel, crushed rock, or recycled asphalt in any community without access to a concrete or asphalt batch plant within an approximate 45-minute delivery radius.
6. Consider pedestrian surfaces of the best available local fill in roadless communities.
7. Consider pressure treated wood (CF-2/LCCA-2), or grates (CF-5/LCCA-4).
8. Consider radiant snow melt systems at main entries. LCCA-5.

Premium:

9. Pedestrian surfaces over 6ft width except at main entrances.
10. Concrete or asphalt pavers.
11. Concrete walks beyond 50ft from building entries unless demonstrated to be more cost-effective than asphalt paving. LCCA-3.
12. Asphalt concrete pavement more than 1-1/2in thick.
13. Radiant snow melt systems beyond 30ft from main entries.

Best Practice/Lessons Learned

A. (Reserved)

0133 Elevated Decks & Ramps

Baseline:

1. Provide handrails and guardrails for elevated decks when required by code.

~~1. None.~~

Provisional:

2. Consider elevated decks at buildings constructed above grade on piling or caissons; use substructure similar to the adjacent facility, adjusted for load conditions.
3. Consider decking/surfacing of pressure treated wood, galvanized metal (grip-strut) or fiberglass. CF-5/LCCA-4.

~~4. Provide handrails and guardrails for elevated decks when required by code.~~

Premium:

~~5.~~4. Elevated decks beyond 50ft from building entries unless demonstrated to be more cost-effective than at-grade decks.

~~6.~~5. Elevated decks or ramps sized to support vehicles greater than 1,000lb.

~~7.~~6. Decorative or custom handrails and/or guardrails.

Best Practice/Lessons Learned

A. (Reserved)

0134 Site Walls

Baseline:

1. None.

Provisional:

2. Consider retaining walls where required by transitions in grade.
3. Consider alternatives to concrete in any community without access to a batch plant within an approximate 45min delivery radius. Alternatives might include gabion baskets, driven posts/piles, or unit masonry. CF-2 LCCA-1.
4. ~~Retaining walls designs must have an engineer's seal where required by code.~~

Premium:

~~5.~~4. Site walls over 10ft in height.

~~6.~~5. Decorative or custom detailed site walls.

Best Practice/Lessons Learned

A. (Reserved)

0135 Landscaping & Irrigation

Baseline:

1. Prioritize the location of plantings at the main entrance and as buffering for paved areas and walks, and along public building facades.
2. Avoid plantings that create a security or visibility issue near entrances.
3. Provide native, water conserving plants.
4. Plant trees of a reasonable size and ~~caliper~~diameter.
5. Locate trees away from the building to provide a minimum of 12ft clearance from the drip line of a fully grown tree.

Provisional:

6. (Reserved)

Premium:

7. Annuals plantings.
8. Buffering plantings required by local authorities.
9. Non-native plantings or trees.
10. Site irrigation systems for athletic fields.

Best Practice/Lessons Learned

A. (Reserved)

0136 Fencing and Gates

Baseline:

1. Provide 6ft chain-link fencing around all playgrounds and athletic fields.
2. Provide 8ft chain-link fencing at elevated play decks.
3. Provide personnel swing gates where needed for reasonable access and control.
4. Provide one 10ft wide vehicle access gate, swing hinged or slide roller.
5. Provide fencing associated with site utility requirements (e.g., bulk fuel storage, generators, off-site utilities, etc.).

Provisional:

6. Consider safety bollards or 'staples' to segregate vehicular and pedestrian traffic at drop-off zones where curbs are not provided.
7. Consider staggered-fence access points in lieu of swing gates wherever possible.
8. Consider ground contact treated wood for fence posts where determined to be cost-effective.

Premium:

9. Custom fabricated or decorative fencing.
10. Wood fencing.
11. Chain link fence coatings and screen slats.
12. Site fencing at property boundaries.

Best Practice/Lessons Learned

A. ~~(Reserved~~Swinging vehicle access gates often get out of plumb and will not stay in an open position without an attachment point (post, etc.) at the appropriate location.~~)~~

0137 Site Furnishings & Equipment

Baseline:

1. Provide low maintenance, animal proof exterior trash receptacles near playgrounds and building entrances.
2. Provide one 30ft aluminum flagpole with hinged base (may also be building mounted).

Provisional:

3. Consider a free-standing school sign when building-mounted signage is not visible from the main access drive. Meet local signage ordinances, if any. (Ref. 0443 Other Exterior Accessories for building mounted signage.)
4. Consider bike racks at the main entrance to the school.
5. Consider aluminum benches with backs at locations where outdoor seating is needed.

Premium:

6. Building signs with a surface area greater than 45sf per side.
7. Decorative concrete or stone benches.

Best Practice/Lessons Learned

A. (Reserved)

0138 Playgrounds & Playfields

Baseline:

1. Provide at-grade playgrounds with age-appropriate play equipment and play surfaces for schools serving any grades K-6. Quantity and size of play equipment should conform to established standards and be calculated to meet the student population. Structured play surfaces should be approximately 60 percent hard surface (i.e., asphalt, concrete) and 40 percent soft surface (i.e., fall-protected).
2. Provide at-grade playfields for schools serving any grades 7-12 necessary for established physical education curriculum.

3. Where playfields will function as sports fields, provide field size and orientation to conform with NFHS (National Federation of State High School Associations) Court and Field Diagrams.
4. Design play areas to conform to ASTM standards and the publication by the National Principals Association.
5. Specify play area equipment and surfaces to meet Consumer Product Safety Commission standards.
6. Provide drainage for playgrounds and playfields to prevent ponding.
7. Specify surfaces and play equipment for soft play areas that meet ADA and OSHA standards.
8. Provide subsurface drainage systems under soft play areas.
9. Provide playgrounds and playfields designed to accommodate snow removal and maintenance.
10. Specify playground equipment constructed of durable, weather-resistant, low maintenance materials.

Provisional:

11. Consider installing empty conduit for future power to the athletic fields.
12. Consider additional unstructured play areas with sand or gravel surfaces.
13. Consider on-grade play decks constructed of pressure treated wood where access to asphalt and concrete are limited (see also Provisional elements at *0131 Vehicular Surfaces* and *0132 Pedestrian Surfaces*). Size play decks at approximately 15sf per K-6 student population.
14. Consider elevated playgrounds on helical pile where fill for construction of at-grade playgrounds is not available. Provide perimeter fencing as needed. Size elevated playground/play decks at 10sf per K-6 student population.

Premium:

15. Sports fields in support of extracurricular sports with less than three consecutive years of school-sponsored activity.
16. Artificial turf surfaces for any sports field.
17. Surfaced running tracks (e.g., urethane, etc.).
18. Athletic and play areas that exceed Provisional limitations by more than 15 percent.
19. Bike trails or walking/running trails.
20. Bleachers, lighting, concession stands, irrigation systems, press boxes, scoreboards, and exterior drinking fountains.

Best Practice/Lessons Learned

A. (Reserved)

0139 Other Site Improvements

Baseline:

1. None.

Provisional:

2. Consider sledding hills where project excavation would otherwise be required to be removed from site.
3. Consider school gardens (see *Part 2, High Performance Site Principles*).

Premium:

4. Sledding hills with imported fill.
5. Ice rinks.
6. Water features.

Best Practice/Lessons Learned

A. (Reserved)

014 Site Structures

0141 Freestanding Shelters

Baseline:

1. None.

Provisional:

2. Consider covered play areas with sidewall eave heights up to 16ft in climates with high precipitation.
3. Consider outdoor classroom structures/pavilions to support a specific educational program.
4. Consider energy efficient lighting inside shelters.
5. See *0138 Playgrounds & Playfields* for Baseline and Provisional equipment and surfaces.

Premium:

6. Perimeter wall enclosures greater than 75 percent of enclosed perimeter.
7. Heating of any type.
8. Footprint areas in excess of allowable covered area (4 AAC 31.020).

Best Practice/Lessons Learned

A. (Reserved)

0142 Attached Shelters

Baseline:

1. None.

Provisional:

2. See *0141 Freestanding Shelters* for applicable recommendations.

Premium:

3. See *0141 Freestanding Shelters* for applicable premiums.

Best Practice/Lessons Learned

A. (Reserved)

0143 Support Buildings

Baseline:

1. None.

Provisional:

2. See *111 Special Construction* for specific support building types.
3. Consider walk-in freezers for food storage in remote locations.
4. Consider storage for approved school equipment needed to protect such from premature deterioration.
5. Consider storage for instructional and/or education support items.
6. Consider "bus barn" where student transportation is provided by school district, will count as school GSF.

Premium:

7. Support Buildings classified as temporary (4 AAC 31.900).

Best Practice/Lessons Learned

A. (Reserved)

015 Civil/Mechanical Utilities

0151 Water Systems

Reference *0812 Plumbing Piping* for in-building systems.

Baseline:

1. Provide adequate water supply to the facility based on established industry consumption and use metrics for potable and non-potable uses.
2. Where possible, select sites with service from public water ~~available to the site~~systems.
3. Provide piping from a connection point identified by the public water system provider.
4. ~~1.~~ Direct-bury water service lines at depths providing adequate protection from freezing.
5. Piping material for water supply services up to 1in may be copper or polyethylene; greater than 1in to 6in will be polyethylene; service lines 6in or greater may be ductile iron or polyethylene.
6. ~~2.~~ Locate water utility service entrance away from main building entry.
7. ~~3.~~ Coordinate water connections with wastewater, stormwater, fuel, and other utility connections to enter building at Mechanical/Electrical space.
8. ~~4.~~ Locate water piping to allow access for pipe maintenance and building maintenance; locate piping away from pedestrian walkways and vehicle traffic to the greatest extent practicable.

Provisional:

9. Consider sizing water systems on specific occupancy and usage information when local water supplies are limited. Provide a record of design calculations and any operational limitations due to system design.
10. Consider locating piping above ground using insulated (arctic) pipe with HDPE or CMP outer jackets when climate and/or soil conditions will not permit direct bury.
11. Consider on-site water service systems (wells, surface ponds, rainwater retention, etc.) only when reliable water service is not available from a public utility.

12. Consider water storage in above-ground insulated steel tanks on appropriate foundations when local water production is not sufficient to supply system needs with quantities and/or pressures required.

~~5.~~13. Consider recirculating lines and/or heat trace on water supply mains as required by site climate conditions (LCCA-4).

~~6.~~14. Consider on-site water treatment for approved on-site water systems when required by water quality tests or other known-contamination factors for approved water source(s).

Premium:

15. ~~(Reserved~~On-site water systems when service is available from a public entity except for considerations of reliability and resiliency (LCCA-3).

16. Water service connections (curb-stops) greater than 20 feet from the school parcel property line.

17. Piling-supported above ground water storage tanks (CF-1).

~~7.~~

18. PCI membrane 'Fyne' water treatment systems (LCCA-4).

19. Reverse osmosis (RO) water treatment systems (LCCA-5).

Best Practice/Lessons Learned

A. Perform a system flow test and provide static pressure, residual pressure, and residual flow data to mechanical engineer at beginning of project for fire suppression design, including a fire pump assessment.

B. If source water quality is not known at the point of bidding (e.g., a well is installed under the project), include appropriate allowances for treatment systems and designate a location/space for equipment.

0152 Sanitary Sewer ~~(ref~~

Reference *0814 Waste & Vent Piping* for in-building systems~~)~~

Baseline:

1. ~~Select~~Provide adequate sanitary sewer to the facility based on established industry production metrics for wastewater generation.

~~1.~~2. Where possible, select sites ~~with~~that are serviced by a public wastewater system~~available to the site~~.

3. Provide sanitary sewer discharge piping/system with an invert that allows gravity flow throughout the school without the need for a lift station.

4. Provide piping from a connection point identified by the public waste-water system provider.

5. Direct-bury sanitary sewer lines at depths providing adequate protection from freezing.

6. Piping material for sanitary sewer will be ABS, PVC, or HDPE.

~~2.~~7. Locate sanitary sewer service entrance away from main building entry.

~~3.~~8. Coordinate sanitary sewer connections with water, fuel and other utility connections entering the facility at Mechanical/Electrical space.

~~4.~~9. Locate wastewater piping to allow access for pipe maintenance and building maintenance; locate piping away from pedestrian walkways and vehicle traffic to the greatest extent practicable. Reference *0814 Waste & Vent Piping.*

Provisional:

10. Consider multi-stage septic systems for sites where a municipal or community connection is not available.
11. Consider wastewater pretreatment systems at sites with septic systems.
12. Consider multi-stage wastewater treatment lagoons where a municipal or community system is not available and where these systems can be permitted under Alaska Department of Environmental Conservation regulations.
13. Consider locating piping above ground using insulated (arctic) pipe with HDPE or CMP outer jackets when climate and/or soil conditions will not permit direct bury.

~~5.~~14. Consider packaged wastewater treatment systems when conventional subsurface (septic) or surface (lagoon) treatments are not possible.

15. Consider forced main sanitary sewer where gravity discharge cannot be achieved. C~~c~~oordinate with the vacuum waste utility to have vacuum collection sumps installed within the school building, for sites served by utility level vacuum waste systems.

~~6.~~16. Consider kitchen waste design with DEC and local Authority Having Jurisdiction to ensure exterior grease interceptors or sampling manholes, if required, are incorporated into the documents and specifications.

Premium:

17. On-site wastewater systems when service is available from a public entity except for considerations of reliability and resiliency (LCCA-3).
18. Wastewater service connections greater than 20 feet from the school parcel property line.

~~7.~~19. ~~PCI membrane 'Fyne'~~MBR package plants with capacity beyond 100,000L/day. LCCA-4.

Best Practice/Lessons Learned

A. ~~(Reserved)~~Avoid locating septic tanks and leach fields in playground areas. Consider implications of a failure of the tank or field.

0153 Storm Water

Reference *0814 Waste & Vent Piping* for in-building systems

Baseline:

1. Select sites with public stormwater available to the site, where available.
2. Design an on-site drainage system to keep stormwater run-off away from the building and to keep grounds, paved areas, and playfields free of standing water.
3. Design "open pond" stormwater storage systems, where possible. Avoid buried storage systems.
4. Enclose stormwater ponds and holding areas with 4'-0"-high galvanized chain link fencing. Provide gates for maintenance.

5. Provide drip edges at sloped roof areas with positive means of collecting roof runoff and a pipe to convey the flow to the drainage system. Do not use perimeter foundation drains to intercept roof runoff.
6. Coordinate stormwater system overflow spout locations away from public walkways but locate such that they will be noticed if the standard stormwater system backs up.

Provisional:

7. Consider providing heat trace on stormwater discharge piping if system daylights.
8. Consider providing electric heat trace on stormwater overflow spouts.

Premium:

9. ~~Chain link fence coatings and screen slats.~~Reserved.

Best Practice/Lessons Learned

A. (Reserved)

0154 Fuel Systems

Coordinate with *0851 Fuel Supply (Gas & Oil)*

Baseline:

1. Select sites with natural gas utility connection to the site, where available.
2. Locate fuel oil and propane storage away from the building front entrance and readily accessible for year-round filling by fuel trucks.
3. Enclose bulk fuel oil and propane storage areas with 8ft-high galvanized chain link fencing. Provide gates for maintenance.
4. Install UL-142 above grade double wall intermediate fuel oil storage tank as close as practicable to fuel-fired mechanical equipment. Enclose with 8ft-high galvanized chain link fencing. Provide gates for maintenance.

Provisional:

5. Consider above ground bulk fuel storage tanks in locations where fuel delivery is less than three times a year.
6. Consider co-locating district-owned bulk fuel storage tanks with other local entities such as power providers to reduce infrastructure costs.

~~5.~~7.

Premium:

~~6.~~8. Bulk fuel storage capacity greater than 200% of the calculated need to supply heat to education related facilities (i.e., a two-year supply).

Best Practice/Lessons Learned

A. (Reserved)

0155 Heating/Cooling Piping & Utilidors

Baseline:

1. None.

Provisional:

2. Consider site distribution of heating supply/return when an existing 'central plant' has excess capacity, and when piping and system equipment (e.g., heat exchanger, etc.) is cost effective on a life-cycle cost basis.

Premium:

3. Cooling piping of any type, size, or length; any cooling piping should be provided within each building.
4. Site heating piping runs from any central plant to a supported building in excess of 500 feet.

Best Practice/Lessons Learned

A. (Reserved)

016 Site Electrical

0161 Electrical Service & Distribution

Baseline:

1. Utilize 3-phase power if available.
2. Coordinate with the local utility for connection point, distribution voltage, and power plant capacity early in the design.
3. Locate service entry near electrical room and generator.
4. Locate generator near service entry and fuel source. Provide year-round access to module.

Provisional:

5. Consider locating the transformers as close as practical to service entrance when designing the line extension.
6. Consider time or occupancy-based control of these circuits feeding headbolt heaters.
7. Consider use of transformers to combat line loss in feeding headbolt heaters.

Premium:

8. (Reserved)

Best Practice/Lessons Learned

A. (Reserved)

0162 Data/Comm Service & Distribution

Coordinate with *0942 Data and Communications*

Baseline:

1. Utilize public fiber optic services if available.

Provisional:

2. Consider using the same routing as power to reach site/building where practicable.

Premium:

3. (Reserved)

Best Practice/Lessons Learned

A. (Reserved)

0163 Lighting & Equipment

Coordinate with *0162 Data/Comm Service & Distribution* and *092 Lighting*

Baseline:

1. This lighting is for general use. Specific applications such as athletic fields, hockey rinks, and similar would be included in design of those site elements.
2. Building-mounted lighting may be used for site lighting if practical, or as a supplement to pole-mounted lighting.
3. Pole-mounted lighting should be designed for roadway, driveway, and parking areas per IES standards. Additional lighting should be considered for hardscape, playground equipment, sledding hills, and similar areas where use may require artificial lighting.
4. Poles should be located on the perimeter of parking areas to stay out of the way of snow removal paths as much as possible.
5. Lighting parameters including minimum lighting levels, glare, uniformity, and similar should meet IES standards where no local code is in effect.

Provisional:

6. Consider providing conduit to new poles for signal wiring to cameras, wireless access points, etc., as design budget and need allows.

Premium:

7. Lighting for trails.

Best Practice/Lessons Learned

A. (Reserved)

0164 Security Systems

Coordinate with *0162 Data/Comm Service & Distribution* and *092 Lighting*

Baseline:

1. Provide video surveillance of the building perimeter and access points using wide dynamic range cameras.
2. Provide hard-wired devices with power over ethernet capability.
3. Interconnect site security components to security headend and monitoring equipment providing a similar function within the school facility.

Provisional:

4. Consider video surveillance of parking areas not easily observed by routine law enforcement patrol protocols.
5. Consider video surveillance of sensitive site improvements such as bulk fuel storage and playgrounds.
6. Consider public address systems.

Premium:

7. Intrusion detection or video surveillance expressly positioned and providing coverage of the perimeter boundary of the school parcel.
8. Dedicated mounting poles or other apparatus serving only the security system.
9. Security system coverage of trails and off-site improvements.
10. Electrically operated access control gates at vehicular or pedestrian entry points.

Best Practice/Lessons Learned

A. (Reserved)

017 Offsite Work

0171 Offsite Improvements

Baseline:

1. None.

Provisional:

2. Consider offsite (beyond the school parcel boundary) improvements when required to provide a functioning, accessible school site and school facility.

Premium:

3. Elements of offsite improvements that are not a direct and sole benefit to the school for the lifespan of the improvement.
4. Costs of offsite improvements not appropriately shared with the landowner when such improvements benefit entities in addition to the school.

Best Practice/Lessons Learned

A. (Reserved)

0172 Offsite Utilities

Baseline:

1. None.

Provisional:

2. Consider offsite utilities when required to provide a functioning school infrastructure and school facility.

Premium:

3. Elements of offsite utilities that are not a direct and sole benefit to the school for the lifespan of the utility.
4. Costs of offsite utilities not appropriately shared with the landowner when such utilities benefit entities in addition to the school.

Best Practice/Lessons Learned

A. (Reserved)

0173 Other Offsite Work

Baseline:

1. None.

Provisional:

2. Consider other offsite work when required to provide a functioning school site and school facility.

Premium:

3. Elements of other offsite work that are not a direct and sole benefit to the school for the lifespan of the work.
4. Cost of other offsite work not appropriately shared with the landowner when such other work benefits entities in addition to the school.

Best Practice/Lessons Learned

A. (Reserved)

02. SUBSTRUCTURE

A. Building System Summary

The **Substructure** of school buildings consist of all types of building foundations and supporting elements such as insulation, waterproofing and drainage systems. At-grade concrete floor slabs, both structural and non-structural, are also included in this system including special features in those slabs such as trenches and pits. The department recognizes three sub-categories in this building system: **Standard Foundations & Basements**, **Slab on Grade**, and **Special Foundations**. Basements, which are not common in Alaskan schools, are included within the standard foundation element. They often only differ from standard foundations in the height of the foundation stem wall. Five types of special foundations are identified. A common special foundation would be a pile foundation. As a sub-system, Slab on Grade overlaps with the function of the Floor Structure sub-system within **Superstructure**. Similarly, **Substructure** performance is often very dependent on proper control of site drainage and grading, areas which overlap with the Special Site Conditions sub-system within **Special Conditions**.

B. Design Philosophy

Substructure systems, foundations, ~~in particular,~~ are typically far more expensive in Alaska than in other parts of the country. Usually, foundation system options are heavily influenced by the soil conditions of a particular site. Similar to its effect on the cost of site development, the soil conditions of the selected site also play a large part in the cost of the foundation system and determining the number of foundation system options that are acceptable on a given site. Thus, the quality of soils should be given significant weighting when evaluating site options.

Due to the relative high cost of foundation systems, consideration should be given to the construction of two-story structures for school facilities exceeding 40,000 GSF. The cost savings of a two-story structure is not only limited to the foundation system. When evaluating the potential cost savings of a two-story design versus a single story, other building systems, such as roofing, vertical

circulation, and exterior walls, should be considered. The shipping weight of the potential foundation system as well as the installation cost should be taken into consideration when evaluating foundation system options. Access to readily available raw materials or the cost of importing raw materials (i.e., gravel for concrete) should be considered~~taken into account~~ in the selection of foundation systems. Building sites whose soil conditions allow the use of standard concrete foundations are preferable to sites that require piling foundations.

The selection of a quality building site Is the first step in ensuring cost-effective Site and Infrastructure costs. The department's publication ***Site Selection and Evaluation Criteria Handbook*** is intended to be a resource and tool for districts to use when evaluating potential school sites. For additional design parameters see the **Design Ratio** section of this system.

C. Design Criteria & Ratios

Criteria

~~1. Multi-story construction shall be considered and presented as a schematic design option for all school structures over 40,000 GSF.~~

~~2.~~1. Where appropriate for soil conditions, standard concrete foundations are almost always the preferred substructure system.

~~3.~~2. If any other substructure system is to be considered, a cost analysis ~~will be performed~~may be required at the department's discretion. Cost analysis shall include cost of energy and maintenance.

~~4.~~3. Where soils are of low moisture content, all weather wood foundations should be considered for facilities smaller than 20,000 GSF.

~~5.~~4. Where appropriate for soil conditions, substructure systems utilizing a heated crawlspace with perimeter enclosure are preferable to substructure systems that utilize an elevated building with an air space between the underside of the building and grade.

Ratios

A. Total building deadload/GSF
B. Cubic feet of concrete/GSF
C. Pounds of rebar/CY concrete
D. Total building deadload/GSF
E. Pile weight (LB)/Footprint area (FPA)

021 Standard Foundations & Basements

0211 Continuous & Column Footings

Baseline:

1. 4,000psi concrete is the basis of design. Mixes for other strengths are subject to evaluation by life-cycle cost analysis.

2. Carbon steel reinforcing bar is the basis of design with ratios in the 30-80lbs range per cubic yard of concrete.
3. Design footings sized in accordance with building codes, soils, and superimposed loads.
4. ~~Soil bearing pressures below 2,000psi require site selection justification and DEED approval.~~

Provisional:

~~5.~~4. Consider all weather wood (AWW) footings consisting of timbers and strongbacks are acceptable where soils are appropriate (i.e., low moisture, non-permafrost). AWW foundations must be supported by appropriate life-cycle cost analysis.

Premium:

1. Development on sites with soil bearing pressures below 2,000psi.

~~1.~~2. Coated reinforcing bar, including galvanized and epoxy, and stainless steel.

~~2.~~3. Reinforcing bar above 80lbs per cubic yard of concrete.

Best Practice/Lessons Learned

A. (Reserved)

0212 Foundation Walls & Treatment

Baseline:

1. Extend foundation walls to frost depths per local conditions/codes.
2. 4,000psi concrete is the basis of design. Mixes for other strengths are subject to evaluation by life-cycle cost analysis.
3. Carbon steel reinforcing bar is the basis of design with ratios in the 50-100lbs per cubic yard of concrete.
4. Design foundation walls sized in accordance with building codes, soils, and superimposed loads.
5. Insulate foundations as required by DEED-adopted energy codes to eliminate or minimize heat loss.
6. Provide damp-proofing treatment as required by local conditions/codes.
7. Provide durable (e.g., 10mil poly) vapor barrier on all exposed earth contained within foundation walls.

Provisional:

8. Consider concrete masonry unit (CMU) foundation walls, with reinforcing, are acceptable.
9. Consider all weather wood (AWW) foundation walls consisting of framing and sheathing are acceptable where soils are appropriate (i.e., low moisture, non-permafrost). AWW foundations must be supported by appropriate life-cycle cost analysis.
10. Consider frost protected shallow foundations (FPSF) including perimeter insulation are acceptable when supported by appropriate life-cycle cost analysis.
11. Consider avoiding below grade functional space enclosed by foundation walls whenever possible.
12. Consider exterior sheet waterproofing on foundation walls that enclose space below the finish grade level; includes below-grade mechanical and service spaces.

Premium:

13. Coated reinforcing bar, including galvanized and epoxy, and stainless steel.
14. Reinforcing bar above 100lbs per cubic yard of concrete.
15. Foundation walls enclosing below grade space classified under adopted codes as occupied space.

Best Practice/Lessons Learned

A. (Reserved)

0213 Foundation Drainage

Baseline:

1. Install perimeter foundation drainage only where required by codes adopted by the state or a local jurisdiction with delegated authority.

Provisional:

2. Consider, when required by local conditions/code, perforated pipe footing drains bedded in drain rock with filter fabric are acceptable.
3. Consider run foundation drain systems to daylight where possible and appropriate (see *0153 Storm Water* for standards on-site drainage collection).
4. Consider drainage mats and other water/moisture control measures are acceptable when required by site conditions and supported by appropriate life-cycle cost analysis.

Premium:

5. Sites requiring underslab drainage.

022 Slab on Grade

0221 Structural & Non-structural Slab

Baseline:

1. 4,000psi concrete is the basis of design for interior slabs. 5,000psi concrete is the basis of design for exterior, exposed slabs. Mixes for other strengths are subject to evaluation by life-cycle cost analysis.
2. Carbon steel reinforcing bar is the basis of design with ratios in the 20-50lbs range per cubic yard of concrete.
3. Structural slabs are not anticipated except at isolated point loads for installed equipment.
4. Non-structural slabs shall be 4-inch nominal thickness.
5. Provide standard compacted sub-base, welded wire fabric reinforcement, moisture control, and trowel finish.
6. Insulate slabs as required by DEED-adopted energy codes to eliminate or minimize heat loss.
7. See *0311 Lower and Main Floors* for wood and steel superstructures.

Provisional:

8. Consider reinforcing bar in non-structural slabs where required for slab openings, incidental loads, and perimeter durability.

9. Consider shrinkage and crack control using glass fiber reinforcing in-lieu of or in addition to welded wire fabric.
10. Consider integrating footings and slabs where part of an approved design assembly such as at FPSF.
11. Consider polished concrete finish where appropriate to be used in lieu of applied floor coverings.
12. Consider providing full frost-depth wall foundations under entry slabs where necessary to prevent frost heaving.
13. Consider perimeter insulation when required by site conditions and supported by appropriate life-cycle cost analysis.

Premium:

14. Coated reinforcing bar, including galvanized and epoxy, and stainless steel.
15. Reinforcing bar above 50lbs per cubic yard of concrete.
16. Colored or decorative concrete slabs exceeding 40 percent of exposed concrete.

Best Practice/Lessons Learned

A. (Reserved)

0222 Trench, Pit and Pad

Baseline:

1. 4,000psi concrete is the basis of design for pits and pads. Mixes for other strengths are subject to evaluation by life-cycle cost analysis.
2. Carbon steel reinforcing bar is the basis of design with ratios in the 50-100lbs range per cubic yard of concrete.
3. Provide elevator pits in the dimensions and depths required by the selected equipment
4. Pads to provide adequate securing of equipment will be provided where required for anchoring or other safety measures were required by codes adopted by the state or a local jurisdiction with delegated authority.

Provisional:

5. Consider non-seismic housekeeping pads for major HVAC and electrical equipment at nominal heights not to exceed 4in above the surrounding floor level.

Premium:

6. Trenches formed of concrete; slab block-outs and reinforcing for nominal trench drains in support of Career and Technical Education are acceptable.

Best Practice/Lessons Learned

A. (Reserved)

0223 Underslab Elements

Baseline:

1. Provide underslab insulation, minimum R-10, where slab-on-grade radiant floor heating is provided.

Provisional:

2. Consider underslab rigid insulation in support of FPSF and where otherwise supported by an energy life-cycle cost analysis of the proposed heating system.

Premium:

3. Sites requiring underslab drainage.
4. Sites requiring underslab radon mitigation.

Best Practice/Lessons Learned

A. (Reserved)

024 Special Foundations

0241 Piling & Pile Cap

Baseline:

1. Provide a steel H-pile foundation including steel or lumber pile caps and required lateral bracing where soil bearing pressures cannot support a standard foundation or where it is not cost effective to remove poor soils and replace with suitable fill.
2. Install thermistor tubes integral with pile.

Provisional:

3. Consider a treated wood piling foundation including timber or engineered lumber pile caps and required lateral bracing for smaller education related facilities up to 5,000gsf.
4. Consider steel pipe piles where supported over H-piles based on a life-cycle cost analysis.

Premium:

5. Sites where pile stick-up exceeds a total average of 6ft for all piles, or any pile stick-up exceeds 12ft.
6. Pile foundations exceeding 40pounds per footprint area (does not include lateral bracing or pile caps).

Best Practice/Lessons Learned

A. (Reserved)

0242 Caissons

Baseline:

1. None; caisson foundations not anticipated.

Provisional:

2. Consider caisson foundations where bedrock (+/- 15,000psi) occurs at shallow depths of up to 8ft below grade. If this foundation is proposed, it must be supported with an appropriate cost analysis of the full substructure.

Premium:

3. Caisson foundations where total estimated **02 Substructure** cost exceeds other alternatives.

Best Practice/Lessons Learned

A. (Reserved)

0243 Grade Beams

Baseline:

1. None; grade beam foundations not anticipated.

Provisional:

2. Consider grade beam foundations where adequate support for continuous footings is not available, subgrade point loads are available or can be created (i.e., piling etc.), and concrete is readily available and cost effective. If this foundation is proposed, it must be supported with an appropriate cost analysis of the full substructure.

Premium:

3. Grade beam foundations where total estimated **02 Substructure** cost exceeds other alternatives.

Best Practice/Lessons Learned

A. (Reserved)

0244 Arctic Foundation Systems

Baseline:

1. Provide an arctic foundation system consisting of thermopile (with or without helical ribs, pile extensions, steel or lumber pile caps and required lateral bracing where soils consist of continuous or discontinuous permafrost.
2. Install thermistor tubes adjacent to each pile.
3. Thermopile and thermosyphons will be included in a project's commissioning plan unless approved otherwise by DEED.

Provisional:

4. Consider passive thermosyphons in lieu of thermopile where suitable fill is available to support installation of standard foundations.
5. Consider underslab rigid insulation in support of FPSF and where otherwise supported by an energy life-cycle cost analysis of the proposed heating system.

Premium:

6. Arctic foundations with active refrigeration unless. LCCA-4.
7. Gravel pads in conjunction with thermopile arctic foundations.

Best Practice/Lessons Learned

A. (Reserved)

0245 Other Special Foundations

Baseline:

1. None; other special foundations such as sheet pile, raft, multi-point frame, etc. are not anticipated.

Provisional:

2. Consider other special foundations when building loads and soil conditions may exclude other substructure solutions. If a special foundation is proposed, it must be supported with an appropriate cost analysis of the full substructure.

Premium:

3. Other special foundations where total estimated **02 Substructure** cost exceeds other alternatives.

Best Practice/Lessons Learned

A. (Reserved)

03. SUPERSTRUCTURE

A. Building System Summary

The **Superstructure** of a building consists of all gravity and lateral force resisting members above the substructure to and including the roof deck. The department recognizes three sub-categories in this building system: **Floor Structure**, **Roof Structure**, and **Stairs**. Floor, roof, and stair structures normally include vertical members (columns, walls), horizontal members (beams, joists/rafters, trusses, stringers), decking (wood sheathing, concrete, etc.), and a variety of bracing elements. In some superstructure systems with bearing walls (e.g., masonry units, light-gauge steel, nominal wood framing, etc.) the superstructure blends with the Exterior Closure and Interiors systems. In **Floor Structure** using slab-on-grade, the system overlaps with **Substructure**.

B. Design Philosophy

Alaskan schools must be provided with an adequate superstructure which responds efficiently, and effectively to building loads as prescribed in adopted building codes and to the conditions of the local environment and building use. Structural efficiency measures include minimizing the deadload of the building, selecting high strength-to-weight and strength-to-cost materials, building simplicity, and structural member uniformity. A uniformly loaded floor system is typically the most cost-effective elevated floor system; concentrated point loads must be accommodated but should be minimized. It should be noted that concrete slab on grade floor systems are the least expensive floor systems in areas where concrete is readily available. For additional design parameters see the **Design Ratio** section of this system.

The same can be said for roof assemblies that are typically comprised of roof sheathing, roof rafters or trusses, beams, and columns carrying concentrated vertical loads to the foundation or a lower floor assembly. Structural roof assemblies that utilize load-bearing partitions are typically more cost-effective than assemblies that use post and beam systems to bear vertical loads. With the inclusion of the structural insulated panels in the roof assembly and its use to replace both the roof sheathing and roof rafters or trusses due to its large span and loading limits, roof assemblies have become more reliant on a post and beam assembly. While the use of structural insulated roof panels may reduce the time required to fully construct the structural roof assembly, its inherent inclusion of heavily loaded beams and columns adds to the overall cost of the superstructure.

The previous paragraphs deal with how the structural systems are designed to accommodate gravity loads. Consideration must also be given to how the structural system performs under lateral, seismic, and wind loading conditions. The best way to design a cost-effective structural system to handle wind loads is to limit them. The building's form and massing play a significant role in limiting the structure's exposure to wind loads and should be considered by the architect at the outset of design. Buildings that expose large areas of high bay space to lateral wind loads will not be conducive to cost-effective structural design.

C. Design Criteria & Ratios

Criteria

- All single-story structures and smaller (60,000 GSF or less) two story structures should utilize uniform loading structural systems (i.e., load bearing walls) wherever feasible.
- Building massing should limit exterior wall area and exterior exposure of large high bay spaces to wind loads.

Ratios

1. (Reserved)

031 Floor Structure

0311 Lower & Main Floors

Baseline:

~~1.~~ Provide structural floor framing assemblies of wood or metal consisting of posts, beams/frame bearing walls, joists, and decking where required when slab on grade is not cost effective (ref. *0221 Structural & Non-structural Slab (CF-2/LCCA-2)*). ~~Support frame floor assemblies with appropriate cost analysis (e.g., in geographic regions where the cost of concrete is high, or soils will not permit this standard).~~

~~2.~~1. Provide floor framing assemblies (materials, size, spacing, etc.) designed for maximum efficiency in accordance with building codes and superimposed loads.

~~3.~~2. Provide HSS shapes for columns/posts, W-shapes for beams/girders, open web trusses for joists and fluted sheet metal for decking as the basis of design.

~~4.~~3. Wood members functioning in the capacity of metal deck and concrete must be minimum 1-1/8-inch wood structural panel or wood decking.

~~5.~~4. Insulate frame floors as required by DEED-adopted energy codes to eliminate or minimize heat loss.

~~6.~~5. Provide protective coating on structural members as required by local conditions/codes.

Provisional:

~~7.~~6. Consider light-gauge steel, engineered wood, or lumber for any component listed in the basis of design. Support light-gauge steel and wood members and assemblies with appropriate cost analysis and justification (e.g., building dimensions and configurations with small spans).

~~8.~~7. Consider, where pile foundations (*0241*, *0244*) are accepted, a structural insulated panel (SIP), with or without embedded floor joists, as required to meet code-specified loading. If panels will not span between pile caps, consider intermediary engineered wood beams or steel wide flange beams. Support SIP assemblies with an appropriate cost analysis of the full substructure and *0311 Floor Structure*.

Premium:

~~9.~~8. Framed floor assemblies where total estimated *02 Substructure* + *0311 Lower and Main Floors* cost exceeds other alternatives.

Best Practice/Lessons Learned

A. (Reserved)

0312 Upper Floors

Baseline:

1. Provide structural frame floor assemblies of wood or metal consisting of columns, beams/frame bearing walls, joists, and decking.
2. Provide upper floor assemblies (materials, size, spacing, etc.) designed for maximum efficiency in accordance with building codes and superimposed loads.
3. Provide HSS shapes for columns/posts, W-shapes for beams/girders, open web trusses for joists and fluted sheet metal for decking as the basis of design.
4. Wood members functioning in the capacity of metal deck and concrete must be minimum 1-1/8-inch wood structural panel or wood decking.
5. Insulate upper floor perimeters as required by DEED-adopted energy codes to eliminate or minimize heat loss.
6. Provide protective coating on structural members as required by local conditions/codes.

Provisional:

7. Consider light-gauge steel, engineered wood, or lumber for any component listed in the basis of design. Support light-gauge steel and wood members and assemblies with appropriate cost analysis and justification (e.g., building dimensions and configurations with small spans).
8. Consider framed bearing walls in lieu of columns and beams/girders where cost effectiveness can be increased when considering the combination of systems in *0312* and *0411 Exterior Walls* or *0312* and *0611 Fixed Partitions*.
9. Consider, where pile foundations (*0241*, *0244*) are accepted, a structural insulated panel (SIP), with or without embedded lumber, as required to meet code-specified loading. If panels will not span between pile caps, consider intermediary engineered wood beams or steel wide flange beams. Support SIP assemblies with an appropriate cost analysis of the full substructure and *0311 Floor Structure* analysis.

Premium:

10. Framed floor assemblies where total estimated **02 Substructure** + *0311 Lower and Main Floors* cost exceeds other alternatives (i.e., slab-on-grade as the cost baseline).
11. Exterior balconies and construction.

Best Practice/Lessons Learned

A. (Reserved)

0313 Ramps

Baseline:

1. Ramps accepted with framing equal to *0311 Lower and Main Floors* and alternative systems as required by building function and with approved cost analysis.

Provisional:

2. Consider light-gauge steel, engineered wood, or lumber for any component listed in the basis of design. Support light-gauge steel and wood members and assemblies with appropriate cost analysis and justification (e.g., ramp dimensions and configurations).
3. See Section *0711 Passenger Elevators* for use of ramps in lieu of elevators.

Premium:

4. Framed ramp assemblies where total estimated **02 Substructure** + *0311 Lower and Main Floors* cost exceeds other alternatives (i.e., slab-on-grade as the cost baseline.)
5. Ramps wider than 110 percent of the minimum permitted under applicable codes.

Best Practice/Lessons Learned

A. (Reserved)

032 Roof Structure

0321 Pitched Roofs

Baseline:

1. Provide structural frame roof assemblies of wood or metal consisting of columns, beams/frame walls, rafters, and decking.
2. Provide trusses where clear spans are required or possible (gymnasiums, multipurpose, library, etc.).
3. Design roof assemblies (materials, size, spacing, etc.) for maximum efficiency in accordance with building codes and superimposed loads.
4. HSS shapes for columns/posts, W or HSS steel for beams/girders, open web trusses or engineered wood for rafters, and fluted sheet metal for decking form the basis of design.
5. Wood members functioning in the capacity of metal deck may be wood structural panel or wood decking with appropriate span ratings as required by applicable building codes.
6. Provide protective coating on structural members as required by local conditions/codes.

Provisional:

7. Consider light-gauge steel, engineered wood (including GLB) or lumber for any component listed in the basis of design. Support light-gauge steel and wood members and assemblies with appropriate cost analysis and justification (e.g., building dimensions and configurations with small spans).
8. Consider framed bearing walls in lieu of columns and beams/girders where cost effectiveness can be increased when considering the combination of systems in *0321 and 0411 Exterior Walls* or *0321* and *0611 Fixed Partitions*.
9. Consider a structural insulated panel (SIP), with or without embedded lumber, as required to meet code-specified loading. Support SIP assemblies with an appropriate cost analysis of the full substructure and *0321 Pitched Roof* analysis.

Premium:

10. (Reserved)

Best Practice/Lessons Learned

A. Combustible framing materials and cold/vented attic construction may require dry-system sprinkler heads in fully sprinklered schools. This will impact initial and life-cycle costs.

0322 Flat Roofs

Baseline:

1. Provide structural frame roof assemblies of wood or metal consisting of columns, beams/frame walls, rafters, and decking.
2. Provide trusses where clear spans are required or possible (gymnasiums, multipurpose, library, etc.).
3. Design roof assemblies (materials, size, spacing, etc.) for maximum efficiency in accordance with building codes and superimposed loads.
4. HSS shapes for columns/posts, W or HSS steel for beams/girders, open web trusses or engineered wood for rafters, and fluted sheet metal for decking form the basis of design.
5. Wood members functioning in the capacity of metal deck may wood structural panel or wood decking with appropriate span ratings as required by applicable building codes.
6. Provide protective coating on structural members as required by local conditions/codes.

Provisional:

7. Consider light-gauge steel, engineered wood (including GLB) or lumber for any component listed in the basis of design. Support light-gauge steel and wood members and assemblies with appropriate cost analysis and justification (e.g., building dimensions and configurations with small spans).
8. Consider framed bearing walls in lieu of columns and beams/girders where cost effectiveness can be increased when considering the combination of systems in *0322* and *0411 Exterior Walls* or *0322* and *0611 Fixed Partitions*.

Premium:

9. Exposed structural members where cost analysis demonstrates a cost increase above CF-1 for the *0321* and *0322* systems.
10. (Reserved)

Best Practice/Lessons Learned

A. (Reserved)

0323 Special Roofs

Baseline:

A. None; other special roof such as (occupied) roof decks, canopies, etc. are not anticipated.

Provisional:

B. Consider other special roofs when building loads, logistics, materials, and construction may exclude other roof solutions. If a special roof is proposed, it must be supported with an appropriate cost analysis of the full superstructure.

Premium:

C. Other special roofs where total estimated **03 Superstructure** cost exceeds other alternatives.

Best Practice/Lessons Learned

A. (Reserved)

033 Stairs

0331 Stair Structure

Baseline:

1. Provide stair structure assemblies for stairs and landings, of wood or metal consisting of stringers, treads, risers, connectors, beams/joists. Treads and landings may include concrete decking.
2. Design stair assemblies (materials, size, spacing, etc.) for maximum efficiency in accordance with building codes and superimposed loads (e.g., plate steel stringers with stiffening provided by treads and risers).
3. Provide stairs in the quantity prescribed by code and with dimensions not greater than 110 percent of code minimums.
4. Provide protective coating on structural members as required by local conditions/codes.

Provisional:

5. Consider up to one stair associated with a primary common area or public space that has 'architectural features' such as: no stair enclosure, concealed structure, concealed connections, open risers, cantilevered treads, integrated enhanced finishes, etc.
6. Consider alternative stair types where permitted by code for limited access such as alternating tread stairs.

Premium:

7. Stairs with any dimension greater than 110 percent of the minimum permitted under applicable codes.
8. More than one stair with 'architectural' features.

Best Practice/Lessons Learned

A. (Reserved)

0332 Stair Railings

Baseline:

1. Provide stair railing assemblies for stairs and landings, of wood or metal consisting of posts, rails, spindles/panels, shoes, and connectors.
2. Design railing assemblies (materials, size, spacing, etc.) for maximum efficiency in accordance with building codes and superimposed loads.
3. Provide railings in the quantity prescribed by code and with dimensions not greater than 110 percent of code minimums.
4. Provide protective coating on railing members as required by local conditions/codes.

Provisional:

5. Consider up to one stair railing associated with a primary common area or public space that has 'architectural features' such as: decorative posts, tempered glass panels, concealed

structure, concealed connections, open risers, cantilevered treads, integrated enhanced finishes, etc.

6. For stairs railings in high-visibility areas, consider stainless steel for all high-wear elements such as handrails and shoes to reduce long-term maintenance costs.
7. Where functionally and visually appropriate, consider stair railings with top rails at guardrail heights and separate handrails.

Premium:

8. Railings with any dimension greater than 110 percent of the minimum permitted under applicable codes except as noted.
9. More than one stair railing with 'architectural' features.

Best Practice/Lessons Learned

A. (Reserved)

0333 Ladders & Steps

Baseline:

1. Provide ladder assemblies of wood or metal consisting of rails, rungs, cages, and connectors.
2. Provide structural step assemblies in conformance with applicable provisions of *0331 Stair Structure*.
3. Design ladder assemblies (materials, size, spacing, etc.) for maximum efficiency in accordance with building codes and superimposed loads.
4. Provide ladders in the quantity prescribed by code and with dimensions not greater than 110 percent of code minimums.
5. Provide protective coating on ladder members as required by local conditions/codes.

Provisional:

6. Consider alternating tread stairs and other alternatives to ladders to improve access.

Premium:

7. Ladder and step materials not commonly accepted as 'utilitarian'.

Best Practice/Lessons Learned

A. (Reserved)

04. EXTERIOR CLOSURE

A. Building System Summary

The **Exterior Closure** of a building consists of an assembly of components which isolate the interior spaces of a building from the exterior environment or modulate the interaction between those elements. In addition to its technical function, the sub-systems in this category are often the most visible elements of a building and work together to provide an aesthetic function. The department recognizes four sub-categories in this building system: **Exterior Walls & Soffits**, **Exterior Glazing**, **Exterior Doors**, and **Exterior Accessories**. Wall and soffit systems normally include framing, exterior and interior substrates and finishes, insulation, and various types of membrane barriers. Windows and doors integrate with the wall/soffit assembly. Where wall framing provides structural capacity, some exterior closure elements overlap with **Superstructure**. In addition, while roof systems provide a technical function that is nearly identical to **Exterior Closure**, the department recognizes **Roof Systems** as a separate major building system due to its unique complexities.

B. Design Philosophy

Exterior closure systems bear the brunt of Alaska's harsh climate. They must be able to endure large variations in seasonal temperatures. While fraught with differing elements and junctions of such elements, the assembly must remain weather tight, even in Alaska's extreme wind and rain. To achieve optimal performance, the exterior assembly should be constructed of quality materials and craftsmanship. Exterior closures should be designed holistically to control transfer of heat, air, moisture, vapor drive, daylight, and noise. The construction of a high-performance exterior assembly is expensive, so the design of a school facility should strive to reduce the amount of exterior wall area that is to be constructed. This is not only cost-effective in terms of initial cost, but is also cost-effective in terms of operations, maintenance, and replacement costs. By reducing the area of the exterior closure system, the area for heat loss is reduced, the area to be painted or regularly maintained is reduced, and when the exterior finish has reached the end of its useful life, the area to be replaced is reduced. All of these factors contribute to reduce the life cycle cost of the school facility.

Oftentimes, a facility's exterior closure system will also serve as part of the facility's structural system by transferring roof and floor loads to the foundation system. The use of an assembly that serves dual purposes is a helpful step toward the cost-effective design of a facility. Wall assemblies constructed from dimensional lumber, structural insulated panels, metal studs, and concrete masonry units are all capable of serving this dual-purpose role as exterior closure and structural system. Each material assembly has its own strengths and weaknesses that require the designer to determine the systems appropriateness for a given project. However, as noted earlier, load bearing exterior wall systems deserve serious consideration on most projects.

C. Design Criteria & Ratios

Criteria

- All single-story structures and smaller (60,000 GSF or less) two story structures should utilize a load bearing exterior wall assembly wherever feasible.
- Building massing should limit exterior exposure of large high bay spaces to wind loads.
- The footprint, configuration, and structural grid should be simple and straightforward, without complex geometries.
- Exterior walls should be straight, with few, if any, curves. Avoid complex configurations with unnecessary corners and changes of materials.
- DEED-adopted energy codes will have a significant influence on envelope design and must be complied with in the most cost-effective way possible.

Ratios

1. School facilities less than 20,000 GSF shall have a maximum exterior closure area (excluding roof soffits) to GSF ratio of 0.8 and a maximum number of one exterior door leaf per 2,000 GSF.
2. School facilities between 20,000 and 40,000 GSF shall have a maximum exterior closure area (excluding roof soffits) to GSF ratio of 0.7 and a maximum number of one exterior door leaf per 2,500 GSF.
3. School facilities greater than 40,000 GSF shall have a maximum exterior closure area (excluding roof soffits) to GSF ratio of 0.6 and a maximum number of one exterior door leaf per 3,000 GSF.

041 Exterior Walls and Soffits

0411 Exterior Walls

Baseline:

1. Wall and soffit assemblies should be designed to consider life-cycle analysis, energy efficiency, durability, low or no required maintenance and overall costs of assemblies.
2. Materials used for exterior enclosures shall be of commercial grade, durable with an intended 20-year or longer usable life.
3. Consider use of a load-bearing exterior wall assembly where feasible. Wall assemblies constructed from dimensional lumber, structural insulated panels, metal studs, and concrete masonry units are all capable of serving this dual-purpose role as exterior closure and structural system.
    a. Wood studs. CF-3, LCCA-3, labor intensive.
    b. Structural insulated panels. CF-3 to 4 (better in remote locations), LCCA-3.
    c. Metal Studs: CF-4, Thermal Bridging leads to more complex total wall assembly. LCCA-3.
    d. Concrete masonry units. CF-3 (rural location 1), LCCA-1. CMU become very expensive in rural location due to freight. CMU has addition LCCA cost for future renovation as it is difficult to remove/modify.

4. Exterior Cladding and Siding: Exterior material choices are numerous and diverse. When choosing cladding, careful consideration should be given to design guidelines listed above and coordinated with District design preferences. Products that require sealants and repeated paint and stain maintenance are discouraged. Products include:
    a. Structural Insulated Panels (SIP): Overall thickness, surface thickness, and R-value appropriate to region and structural design intent. CF-3, LCCA-3.
    b. Metal Wall Panels: 24-gauge minimum thickness zinc-coated (galvanized) or aluminum-zinc alloy coated-sheet steel. Fluoropolymer exterior finish with minimum 20-year finish warranty. CF-2, LCCA-2, (in rural locations overall wall system may be more expensive as more layers of material are used in total system.
    c. Insulated Metal Wall Panels (IMP): 24-gauge minimum thickness zinc-coated (galvanized) or aluminum-zinc alloy-coated sheet steel. Fluoropolymer exterior finish with minimum 20-year finish warranty. R-value as appropriate to the climate and region. CF-2, LCCA-2.
    d. Phenolic Resin Panels: Install per manufacturer's instructions on recommended mounting and fastening systems. Specify colors and patterns proven to not fade over time due to ultraviolet radiation exposure. CF-4, LCCA-2.
    e. Fiber Cement Panels: Install per manufacturer's instructions on recommended mounting and fastening systems. CF-4, LCCA-2.
    f. Exterior Insulation Finish System (EIFS): Specify impact resistant mesh that will resist damage from projectiles. Provide flashing to prevent water intrusion into the system. Provide drainage layer behind insulation layer to allow moisture to escape if needed. CF-4, LCCA-2 to 4, (expensive to repair in rural locations).
    g. Exterior Masonry: Can also serve as the structural system. Consider also as an exterior 4' to 8' high protective "wainscot" with different materials above. Avoid use in remote areas due to transportation costs. Schedule installation to avoid the need for temporary heat. Masonry or concrete walls should contain weep holes at the base of walls 8-12 inches above finish grade, unobstructed, with insect screen. CF-3, LCCA-1 to 2.
5. Wall Insulation: Types and R-values; the following values or those values tested from manufacturers may be used in determining R-values of wall assemblies.
    a. Expanded Polystyrene (EPS) Board R-Value = 4.17 per inch. CF-2, LCCA-2.
    b. Extruded Polystyrene (XPS) Board R-Value = 4.17 per inch. CF-3, LCCA-3.
    c. Polyisocyanurate (Polyiso) Board R-Value = 5.6 per inch. CF-2, LCCA-2.
    d. Glass-Fiber Batt Insulation R-Value = 3.16 per inch. CF-1, LCCA-2.
    e. Glass-Fiber Batt Insulation (High Density) R-Value = 4.28 per inch. CF-1, LCCA-2.
    f. Glass-Fiber Blown-In Insulation R Value = 3.7 - 4.28 per inch. CF-1, LCCA-2.
    g. Mineral Wool Batt Insulation R-Value = 4.0 per inch. CF-4, LCCA-2.
    h. Open Cell Spray Foam Insulation R-Value = 3.6 per inch. CF-3, LCCA-3.
    i. Closed Cell Spray Foam Insulation R-Value = 6.0 - 6.5 per inch. CF-3, LCCA-3.
6. Continuous Exterior Insulation (CI): Provide a continuous layer of insulation at the exterior side of the wall assembly. Protect CI with air/weather barrier and siding material in a rain screen assembly. Minimum R-Value of continuous insulation layer of R-7. Use CI to mitigate

thermal conductance through wall structure. CF-1, LCCA-1, low first cost and significant LCCA advantage due to energy savings.

7. Vapor Retarders at Exterior Walls: Provide vapor retarder at the warm side of wall insulation with permeance rating not to exceed 0.13 perms, polyethylene, 6-10 mils thick. Where vapor retarder is not in direct contact with a cover material such as gypsum wallboard, vapor retarder shall have a flame-spread rating not to exceed 25 and a smoke density not to exceed 450. Ensure vapor retarder is continuous at wall to roof transitions. Minimize penetrations of vapor retarder.
8. Vapor Retarders at Concrete Floor Slabs: Floor slabs on grade with non-permeable floor finishes should have a vapor retarder of 0.05 perms or less, polyethylene, 10-15 mils thick. Non-permeable floor finishes include (but are not limited to) epoxy, polyurethane, vinyl, linoleum, and rubber. Under slab vapor retarders must be durable enough to withstand construction activity. Penetrations should be detailed according to the manufacturer's instructions. Specifications should require measurement of slab relative humidity in accordance with the requirements of the floor finish manufacturer.
9. Thermal Resistance: Insulation and minimum R-values of wall assemblies shall accommodate regional climate. Minimum wall assembly value in all Climate Regions is R-19.
10. Exterior Air/Weather Barrier Systems: Self-adhering sheets, fluid applied membrane, or mechanically attached building wrap. Detail wall/roof intersection to provide continuous air/weather barrier system. CF-2 to 4, LCCA-2 to 3 (product vary in cost and performance).
11. Impact Resistance at Exteriors: Provide impact resistant material up to a minimum of four feet above ground height. CF-3, LCCA-3.
12. Corrosion Resistance: Analyze local risks of corrosion from environmental or industrial sources.
13. Graffiti Resistance: Enable the removal of graffiti without damage to the appearance, finish, and durability of the substrate.
14. Acoustics: Consider local conditions for requirements.
15. Building massing should limit exterior exposure of large high bay spaces to wind loads.
16. Design flashing details as per SMACNA flashing recommendations to prevent water infiltration into the wall.
17. Design simple, cost-effective steel, concrete, or masonry lintels. Specify galvanized at exterior steel lintels.
18. Do not use paper or organic products that support mold growth when wet in any exterior wall assembly.

Provisional:

19. Consider ~~avoiding~~ specifying materials that do not require regular application of paint or sealers to prevent water intrusion.
20. Consider providing impact resistant material up to a minimum of eight feet above ground height. CF-1, LCCA-1.
21. Consider avoiding masonry veneer. CF-3, LCCA-2.
22. Consider power and data raceways at exterior walls to reduce the number of penetrations in the vapor retarder.

23. Consider Insulated Metal Wall Panels (IMP) with addition of air/weather barrier directly behind the IMP for additional protection. Air/Weather Barrier CF-1, LCCA-1.

Premium:

24. Glazed bricks, cast stone, 'architectural' finish cast-in-place concrete. Cost prohibitive in most rural applications. CF-4, LCCA-3.
25. Precast concrete cost prohibitive in rural applications due to freight and need for large equipment to handle. CF-3 to 4 LCCA-2.
26. Granite, slate, or other stone that is more expensive than common masonry. CF-5, LCCA-2.
27. Lead-coated copper, stainless steel, zinc, or other metal shingles and siding products. CF-4, LCCA-1, may have application in saltwater environments.
28. Ceramic, porcelain, or other tile products that are more expensive than common brick. CF-3 to 4, LCCA-2.
29. Enamel panels or other manufactured curtain wall products. CF-4, LCCA-3.
30. Exterior porcelain tile, glass tile, or glass cladding systems. CF-4, LCCA-3.
31. Composite stone veneer cladding. CF-4, LCCA-3, weight of material is problematic in rural locations.
32. Channel glass facades. CF-5, LCCA-4.

Best Practice/Lessons Learned

A. (Reserved)

0412 Facias & Soffits

Baseline:

1. Soffits at upper floor and roof overhangs will include the following:
    a. Exterior materials as described in *0411 Exterior Walls*.
    b. Vapor retarders, insulation, and exterior air/weather barrier as required for conformance with energy standards.
2. Soffited areas that include both heated space and unheated space should be avoided or minimized. Where this condition occurs in fire sprinklered buildings, and the size of the soffit requires sprinkler coverage, sprinkler piping must be in a heated space, or a dry sprinkler system provided.
3. Full or partial underfloor soffits are allowed when building floors are elevated based on local geotechnical and climatic condition (ref. *024 Special Foundations*) and will include the following:
    a. An economical exterior finish.
    b. Vapor retarders, insulation, and exterior air/weather barrier as required for conformance with energy standards.
4. Provide skirting system (chain link fencing) to prevent public access to underside of building for fire-safety prevention. CF-1, LCCA-1.

Provisional:

5. Consider enclosure skirting with sheathing or another weather-resistant covering in climates where under-building air flow is not required.

6. Consider structural insulated panels (SIPs) for underfloor soffits, which are all capable of serving a dual-purpose role as exterior closure and structural system. CF-3, LCCA-3.

Premium:

7. Building skirting:
    a. Perforated metal panel. CF-4 LCCA-2.
    b. Welded wire fabric. CF-4 LCCA-2.
8. Metal panel siding on underside of SIPs. CF-2 LCCA-1.

Best Practice/Lessons Learned

A. Keep roof and upper floor soffits to less than 4ft to minimize the need for providing sprinkler coverage.

0413 Curtainwalls & Non-bearing Walls

Baseline:

1. Provide exterior curtainwall assemblies where cost effective in schools exceeding two stories.

Provisional:

2. Consider glazing options other than structural silicone such as mechanically keyed gaskets.

Premium:

3. Curtainwall systems in one-story and two-story schools (see *0422 Storefronts* as an acceptable alternative).

Best Practice/Lessons Learned

A. (Reserved)

042 Exterior Glazing

0421 Windows

Baseline:

1. Provide glass thickness and safety glass materials appropriate to safety risk, energy performance requirements and local conditions, including wind loads and internal air pressures, deflections, safety, and code compliance.
2. ~~Conduct life-cycle analysis and collect detailed warranty information on v~~Provide ~~v~~vinyl, or vinyl-clad wood frames~~, and fiberglass windows for DEED review and approval prior to incorporation into the design. CF-3~~.
3. Exterior windows must have insulated glazing system (outer glazing low E coating with an air space and interior glazing that meets latest adopted edition of IBC for wind pressures). Ensure building energy efficiency, interior glare, daylighting, acoustic performance, and security when selecting exterior window and glazing systems. Provide high performance glazing units with high visible light transmittance for better daylighting and a low solar heat gain coefficient in accordance the National Fenestration Rating Council.
4. Square feet of exterior openings to square feet of total exterior wall will meet Design Ratio provisions. Size and placement should provide a balance of natural lighting, view, solar gain, and heat loss.

5. Glazing in windows in high-traffic and vandal-prone areas should provide an appropriate level of impact resistance.
6. To simplify replacement of broken units, avoid individual glass pieces larger than 4 feet in width or 6 feet in height.
7. Exterior windows constructed with thermally broken frames to reduce heat loss and prevent thermal conduction.
8. Provide commercial-grade windows. Provide prefinished exterior surfaces as opposed to field finished or painted options.
9. Provide casement and awning windows with screens at operable vents. Casement and awning windows must not be oversized and must be easily opened by crank mechanisms. Do not locate operable windows at locations where persons can accidently strike the frame of an open window. Provide an adequate number of locking points to provide positive closure.
10. Specify windows with sub-frame construction for efficiency and to resist water penetration.

Provisional:

11. Consider fiberglass frames. CF-3, LCCA-3.
12. Consider aluminum clad wood frames. CF-3, LCCA-3.

~~11.~~13. Consider single or double hung windows with window screens in appropriate climates (primarily zones 6 and 7) as a character defining feature of an existing building or as an historic treatment. CF-3, LCCA-3.

~~12.~~14. Consider specifying high-performance glazing as determined by orientation and energy modeling. CF-4, LCCA-TBD, depending on glazing, price of windows can double. LCCA analysis of the systems vary.

~~13.~~15. Consider polycarbonate covers at windows susceptible to vandalism and in remote areas where window replacement is not readily available.

Premium:

~~14.~~16. Stainless steel, mahogany, teak, or exotic hardwood window frames or sashes.

~~15.~~17. Skylights.

~~16.~~18. Triple-glazed windows in climate zones 6 and 7. LCCA 3.

~~17.~~19. Bullet-resistant glass. ~~Consider providing UL 752 Ballistic Rating of Levels 3 through 7. Degree of ballistic protection level should be determined by school district or community policy and design parameters for each school.~~

~~18.~~20. Any windows of special sizes requiring manufacturer's premium costs.

~~19.~~21. Silicone glazing systems, butt glazing systems, or double wall glazing systems.

~~20.~~22. Non-standard colors or finishes on windows that require manufacturer's premium costs.

~~21.~~23. Glazed channel glass wall systems.

~~22.~~24. Arched or complex windows and frames.

Best Practice/Lessons Learned

A. When considering window sizing and placement to achieve openings to exterior walls (O:EW) ratios, it is often more energy efficient to use less but larger windows versus multiple smaller windows or windows with mullions.

0422 Storefronts

Baseline:

1. Provide thermally broken aluminum frames or aluminum clad wood frames in storefront systems for larger window installations. CF-4, LCCA-3.
2. Provide engineered systems from the manufacturer.

Provisional:

3. (Reserved)

Premium:

4. Storefront systems with glazing extending less than 15in above floor level.

Best Practice/Lessons Learned

A. (Reserved)

0423 Structural Window Walls

Baseline:

1. None.

Provisional:

2. None.

Premium:

3. Structural glazing systems of any size.

Best Practice/Lessons Learned

A. (Reserved)

0424 Translucent Panels

Baseline:

1. (Reserved)

Provisional:

2. Consider insulated translucent sandwich panels where light transmittance is desired but visual transmittance is not required.

Premium:

3. (Reserved)

Best Practice/Lessons Learned

A. Translucent sandwich panels are particularly suited to high bay and clerestory windows where clear glass would produce uncontrolled glare.

043 Exterior Doors

0431 Personnel Doors

Baseline:

1. Exterior doors shall be water-tight, weather-tight, and protected from climatic influences, including rain and strong winds.
2. Exterior doors subject to continual heavy use must be constructed both for strength and resilience against wear, and against accidental or deliberate damage. Sufficiently robust to provide appropriate building security and to withstand high traffic conditions without stress or damage to the door, glazing or hinges. Specify exterior doors with fully welded metal frames. Avoid "knock-down" frames at exterior doors.
3. Door materials include:
   a. Insulated, fully galvanized steel, primed and painted. CF-2, LCCA-1.
   b. Fiberglass, especially suitable for coastal, salt environments, climate zones 6 and 7.
   c. Aluminum, factory finish. CF-2, LCCA-1.
4. Avoid the use of fully glazed door systems.
5. Specify ANSI Grade ~~5~~ 1 exterior door hardware with stainless steel components and no plastic components in hinges, locks, panic hardware, or lever handles. CF-4, LCCA-1.
6. Specify exterior doors with fully welded metal frames. Avoid "knock-down" frames at exterior doors. CF-3, LCCA-1.
7. Provide electronic locks and controls at exterior doors where required for security.

Provisional:

8. Consider specifying 42-inch-wide doors only at limited locations when functionally necessary such as at service doors. CF-2, LCCA-1.
9. Consider the site-specific local complexities of construction logistics when selecting exterior materials for remote communities.

Premium:

10. Non-standard colors or finishes on doors that require manufacturer's premium costs. CF-4, LCCA-2.
11. Stainless steel doors or frames. CF-4, LCCA-1.

Best Practice/Lessons Learned

A. (Reserved)

0432 Special Doors

Baseline:

1. (Reserved)

Provisional:

2. (Reserved)

Premium:

3. Non-standard doors that are higher than 84in or wider than 36in – other than service doors. CF-4, LCCA-1.

4. Any doors of special sizes requiring manufacturer's premium costs. CF-4, LCCA-1.
5. Overhead doors except at service/delivery. CF-3, LCCA-3.
6. Bullet-resistant doors. ~~Consider providing UL 752 Ballistic Rating of Levels 3 through 7. Degree of ballistic protection level should be determined by school district or community policy and design parameters for each school.~~

Best Practice/Lessons Learned

A. (Reserved)

044 Exterior Accessories

0441 Louvers, Screens & Shading Devices

Baseline:

1. Louvers: Specify internally draining style. In high wind environments of all climate zones, provide protective exterior wall mounted hoods to prevent accumulation of rain, snow and ice within louvers or screened openings.
2. Hoods shall be galvanized and painted metal or stainless steel with sloped tops.
3. Coordinate location of ventilation intakes with prevailing wind direction(s) and location of combustion flues, plumbing vents, and other sources of objectionable odors.

Provisional:

4. Consider screening enclosures at services areas and dumpsters; cedar fencing, front of the enclosure may have a gate, however, may also be left open for ease of access.
5. Consider exterior light shelves at large window areas to reduce interior glare and solar heat gain, primarily at south and west facing facades. Light shelves may be pre-manufactured as part of the window system or "stick built".

Premium:

6. Light shelves on the interior side of windows. LCCA-4.

Best Practice/Lessons Learned

A. In schools with elevated main floors, consider utilizing the space below the school for exhaust and relief air discharge, but only where skirting is such that heat can be easily dissipated. Take care with air intakes; organics below the structure may create objectionable odors for outside air intakes. Provide security screening across face of termination points.

0442 Balcony Elements

Baseline:

1. Guardrails and handrails: Provide at locations and construction as required by IBC. Materials include galvanized; galvanized and painted or high-performance coated steel; aluminum (bare or coated); treated wood or combinations of the above.

Provisional:

2. (Reserved)

Premium:

3. (Reserved)

Best Practice/Lessons Learned

A. (Reserved)

0443 Other Exterior Accessories

Baseline:

1. Provide building-mounted school sign of individual letters or ganged on sign-board.

Provisional:

2. Consider providing lighting for school sign; control on photocell.

Premium:

3. More than one building-mounted school name sign.

Best Practice/Lessons Learned

A. (Reserved)

05. ROOF SYSTEMS

A. Building System Summary

The **Roof Systems** of a building consist of an assembly of components which protect the building's structure and interior spaces from precipitation of all types and work together to control and remove that precipitation. It also isolates the interior spaces of a building from other exterior environmental factors such as temperature. The department recognizes three sub-categories in this building system: **Pitched Roof**, **Flat Roof**, and **Roof Accessories**. The sub-systems under these categories consist of the components associated with each roofing system including the roofing material, and collection and drainage features. Roof accessory components such as hatches and skylights, and curbs for mechanical equipment are also in this section. Roofs which also serve as walkable/usable decks and components associated with vegetative roofs are assessed in this section. **Roof Systems** interface with **Exterior Closure** and **Roof Structure** but have little to no component overlap. Unlike **Exterior Walls & Soffits** where an interior wall substrate is part of the wall assembly, all interior ceilings are assigned to **Ceiling Finishes**.

B. Design Philosophy

One of the most challenging building systems on Alaskan school facilities is the roof system. Achieving high-performing roofs with long lifespans can be difficult. Failed roofs, especially those which allow water to penetrate interior spaces are a distraction to students and educators. In addition, they degrade building structural systems and finishes, oftentimes creating damages whose repair costs dwarf the repair cost of the leak itself. Many school districts' maintenance staffs spend an inordinate amount of time chasing roof leaks and repairing the damage they have created. But roof issues aren't just limited to leaks. The insulating property of a facility's roofing system is also an important design consideration. As the primary point of heat loss, the design and construction of the roof system must be designed in response to Alaska's climate zones.

The easiest way to reduce the potential roofing problems and initial construction cost of a high-performance roofing system is to reduce the area of roof to be constructed. By decreasing the roof area of a facility, the annual roof maintenance effort is reduced, thus reducing the system's maintenance cost. Often these types of reductions can only occur when considering multi-story versus single-story buildings. Following size, reducing roof complexity is the next most important factor when designing for cost effectiveness. The footprint, configuration, and structural grid should be simple and straightforward, without complex geometries. Water-shedding pitched roofs offer the best performance in areas of high rainfall but can reach performance limitations on schools with large roof areas. Successful, cost-effective use of low-slope roof systems has been proven in most Alaska climate zones; however, these roofs are the most dependent on high quality materials and excellent installation.

C. Design Criteria & Ratios

Criteria

- Hot roof design is preferable to a vented cold roof especially in facilities possessing a wood structural system.

- Roof penetrations will be minimized by consolidation of plumbing vents and other systems where possible.
- Roof penetrations will be located near the ridge or top of the roof slope to reduce potential snow damage and roof leaks.
- Roof design shall be simple and not broken into planes or cut-up by unnecessary dormers.
- Water shedding roof systems shall be constructed at a minimum of a 3:12 slope.
- Metal roofs with exposed fasteners are not to be utilized on new construction or replacement roof projects.

Ratios

1. (Reserved)

051 Pitched Roofs

Baseline:

1. Recommended pitch for major portion of roofs is 3:12 to 6:12~~. Where~~. Where the size of the structure in a pitched roof design causes an excessive volume of unused attic space consider changing to a low slope roof design.
2. Snow shedding: For roof materials prone to snow shedding carefully consider the discharge areas to provide occupant safety and to avoid damaging nearby surfaces. Snow shedding shall not occur at any door, including service and maintenance doors.
3. Gutters and downspouts: Where needed to control run off, provide commercial grade gutters and downspouts. Ensure downspout discharge is in a controlled drainage system. Do not discharge run-off over sidewalks or other pedestrian circulation.
4. Roof penetrations: Minimize the number of roof penetrations. Where possible, sidewall penetrations such as mechanical intake and exhaust are preferred. On metal roof surfaces, locate necessary penetrations near to the ridge to minimize risk of sliding snow damage. Provide heavy gage snow diverters above penetrations where shedding may damage penetrations.
5. Installation detailing shall consider and accommodate thermal expansion and contraction.
6. Roof Materials: When choosing roofing systems, careful consideration should be given to design guidelines listed above and coordinated with District design preferences.
    a. Metal Roofs: Sheet material, 26-gauge in portable roll formed or factory formed profiles. Base metal aluminum-zinc alloy coated hot-dipped process and pre-painted. Two-coat fluoropolymer finish system, 20-year warranty on the finish. Avoid large roofs where metal lengths exceed practical lengths due to shipping, handling and machine roll forming considerations. Avoid field splices. CF-3, LCCA-3.
    b. Insulated Metal Roof Panels (IMP): Overall thickness, surface thickness, and R-value appropriate to region and structural design intent. CF-3, LCCA-3.
    c. Asphalt Shingles: Asphalt coated glass felt, maximum 225lb per square (100sf), mineral granule surface with algae resistance, Class A fire resistance. Installation must be rated for site wind conditions. 30-year warranty. Do not specify residential grade shingles. CF-1, LCCA-3.

d. Underlayment: Self-adhering polymer-modified asphalt sheet, 40 mil total thickness, polyethylene sheet top surface, specify slip resistant top surface when needed for safe installation. CF-2, LCCA-1.

7. Roof Insulation: Types and R-values; the following values, or tested values from manufacturers may be used in determining R-values of roof assemblies.
   a. Expanded Polystyrene (EPS) Board R-Value = 4.17 per inch. CF-2, LCCA-1.
   b. Extruded Polystyrene (XPS) Board R-Value = 4.17 per inch. CF-3, LCCA-1.
   c. Polyisocyanurate (Polyiso) Board R-Value = 5.6 per inch. CF-2 to 3, LCCA-1.
   d. Glass-Fiber Batt Insulation R-Value = 3.16 per inch. CF-1, LCCA-1.
   e. Glass-Fiber Batt Insulation (High Density) R-Value = 4.28 per inch. CF-1, LCCA-1.
   f. Glass-Fiber Blown-In Insulation R Value = 3.7 - 4.28 per inch. CF-1, LCCA-1.
   g. Mineral Wool Batt Insulation R-Value = 4.0 per inch. CF-3, LCCA-1.
   h. Open Cell Spray Foam Insulation R-Value = 3.6 per inch. CF-3, LCCA-1.
   i. Closed Cell Spray Foam Insulation R-Value = 6.0 - 6.5 per inch. CF-4, LCCA-1.
8. Ventilation: Provide ventilation openings equal to or exceeding building code requirements for the roof area to be ventilated. Ensure the structure and associated blocking does not impede air movement. In high wind areas provide design to mitigate infiltration of wind driven rain, snow, or ice crystals through use of filters and/or baffle design at ventilation openings. Provide weep holes, or similar, to allow escapement of moisture accumulation such as at ridge vents.

Provisional:

9. Consider 24-gauge metal roof panels for flat-pan standing seam, or where design wind speeds exceed 100 miles per hour.
10. Consider 22-gauge metal roof panels where on purlins or other interval-spaced structural support. CF-2, LCCA-2.
11. Consider Attachment: Fasten sheet metal roofing to supports with concealed clips at each standing-seam joint, avoid exposed fastener systems.
12. Consider providing (2) layers of underlayment at slopes of 2 in 12 or less. CF-1, LCCA-1.
13. Consider at asphalt shingle installations, providing hand-tabbing at each shingle to manufacturer's recommendation to prevent wind uplift.
14. Consider Asphalt Shingles: Asphalt coated glass felt, mineral granule surfaced, Class A fire resistance. Installation must be rated for site wind conditions. 50-year warranty.

Premium:

15. Polyurethane Foam (PUF) roof assemblies.
16. Metal roof panels 22-gauge or greater except where providing structural support over purlins or battens and part of an assembly approved under an LCCA.
17. Metal shingles and tiles require DEED review and approval.
18. Clay or ceramic roof tiles require DEED review and approval.
19. On large roof areas served by gutters: Gutter system large enough to walk in and with safety rail along the side of gutter and tie offs for cleaning.

Best Practice/Lessons Learned

A. (Reserved)

052 Flat Roof (Low Slope)

Baseline:

1. Low slope roofs to be exposed membrane over coverboard, insulation, vapor retarder and thermal barrier board over structural deck. Specify roofs with extended warranties with 20-year minimum life. CF-3, LCCA-3.
2. Assemblies should be fully adhered systems. Mechanically attached systems may be used when conditions do not allow for fully adhered. In a mechanically attached system provide self-healing vapor retarder to reduce impact of attachment penetrations through the system.
3. Slope of the surface membrane to drain is 3/8 inch per foot preferred, 1/4 inch per foot minimum. Calculate slope of valleys at tapered crickets to maintain positive drainage.
4. Membranes:

   Note that membranes requiring heated asphaltic products may not be practical in remote locations due to transportation costs and logistics.

   a. Ethylene propylene diene monomer (EPDM) single ply membrane, 60 mil, internally reinforced. CF-2, LCCA-2.
   b. Ethylene propylene diene monomer (EPDM) single ply membrane, 90 mil, non-reinforced. CF-2, LCCA-2.
   c. Asphaltic built-up, 5-ply (BUR) consisting of base sheet, 3-ply sheets plus cap sheet. CF-4, LCCA-3.
   d. Asphaltic mineral cap built-up, 5-ply (MCBUR) consisting of base sheet, 3-ply sheets plus mineral cap top sheet. CF-4, LCCA-3.
   e. Weldable Thermoplastic Polyolefin (TPO) single-ply membrane. CF-3, LCCA-2.
   f. Weldable Thermoplastic Polyvinyl Chloride (PVC) single-ply membrane. CF-3, LCCA-2.
   g. Modified Bitumen, multi-ply membranes. CF-4, LCCA-2.
5. Insulation: See *051 Pitched Roofs* Item 7 above for insulation types and R-values.
6. Roof drains: Provide code required secondary overflow drains.
   a. Connect to internal rain leaders leading to storm drain system where available and code allows.
   b. Provide insulated roof drains sumps to reduce condensation. Rain leaders may lead to dry wells or to daylight where storm drains are not available.
   c. Avoid the use of scuppers except for secondary overflow drains. Provide rock/debris screening at any discharge pipes where accessible from ground level.
   d. Provide measures to prevent freezing around roof drains such as reduced R-value around drains, minimum R-value around drains is R-12. Use heat trace as a last option.
   e. Use cast iron dome strainers on roof drains. Do not use plastic.
   f. Do not discharge water, snow, and ice along the face of the walls. Design systems to prevent water from sheeting down across the face of exterior walls or splashing against exterior walls at grade.
   g. Locate overflow spouts where visible to staff but not draining onto pedestrian areas.

h. Where heat trace is provided, locate clearly labeled switches/controls in readily accessible locations.

7. Parapets: Top of parapet to be minimum 12 inches above the roof surface. Roof membrane to lap up and over the parapet and be protected by a cap flashing. Cap flashing to be held by a continuous wind cleat, fastened at an on-center distance capable of resisting site-specific wind conditions.
8. Minimize roof penetrations through the roof membrane. All roof penetrations to be made by certified installers with approved roofing manufacturer's details. Avoid 'shelves' on the exterior faces of parapet that might hold ice to prevent the potential of falling and personal injury and to avoid melting and staining down the face of the wall.
9. Mechanical equipment curbs should have diversion crickets to maintain rainwater flow and avoid damming. Elevate mechanical equipment a minimum of 18 inches above the roof surface. Locate mechanical air intakes a minimum of 24 inches above the roof surface.
10. Minimize complex and multiple roof levels in the building design.
11. Provide access to the roof from an interior location.

Provisional:

12. Consider for BURs – Built-up bituminous roofing: Asphalt saturated glass fiber felts, four ply plus base sheet. CF-4, LCCA-4.
13. Consider installing electric heat trace and insulation on roof plumbing vents.
14. Consider, where possible, achieving roof slope by sloping the building structure to reduce the quantity of tapered insulation.
15. Consider heat trace in roof and overflow drains based on regional applicability.
16. Consider providing overflow spout on primary stormwater piping at exit point from building, so that blockages in site storm drain do not cause backup into interior rain leader piping.

Premium:

17. Roof warranties exceeding 30 years.
18. Liquid Applied Membranes (LAM). CF-3.
19. Any colored roofing system other than manufacturer's standard colors. CF-4, LCCA-1.
20. Green/vegetative roofs. CF-5, LCCA-5.

Best Practice/Lessons Learned

A. (Reserved)

053 Roof Accessories

Baseline:

1. Provide OSHA compliant rooftop safety railings where rooftop equipment requires access within 10 feet of a roof edge.
2. Design roof hatches for maintenance sized large enough to accommodate individuals equipped with full emergency gear or service personnel with supplies and toolboxes.
3. Combine roof access with regular stairway access to upper-level building elements. If not possible, provide alternating tread stairs in lieu of ship's ladders or exterior roof ladders whenever possible.

4. Provide snow guards to prevent large accumulations of snow and ice from shedding. CF-1, LCCA-1.

Provisional:

5. Consider vertical glazed clerestories or light monitors over skylights. Locate base of glazing minimum 24 inches above roof surface.
6. Permanently mounted safety harness tie offs. CF-1, LCCA-4.

Premium:

7. Roof deck plazas with pavers and protective railings, walls and supports.

Best Practice/Lessons Learned

A. (Reserved)

06. INTERIORS

A. Building System Summary

The **Interiors** of a building consist of elements that divide buildings into different rooms and spaces and the fittings and finishes in those rooms and spaces which contribute to their special function. It does not include mechanical and electrical systems. The department recognizes six sub-categories in this building system: **Partitions/Soffits**, **Special Partitions**, **Interior Openings**, **Special Floors**, **Interior Finishes**, and **Specialties**. The sub-systems under these categories include the components needed to construct walls, provide openings in those walls such as doors and windows, and provide appropriated finishes to all the surfaces including ceilings, walls, and floors. **Interiors** systems interface primarily with **Mechanical** and **Electrical** systems which are often embedded in or attached to **Interiors** elements.

B. Design Philosophy

Interior partitions, soffits, openings, finishes, and specialties typically account for approximately 10 to 12 percent of a project's total construction cost. In a traditional school design, the cost of partitions and doors are fairly consistent. However, the use and quantity of special partitions such as glazing and movable partitions varies between school designs and can significantly impact the cost of the interiors. The use and quantity of casework also varies between school designs, thus affecting the project cost. The material choice and specification of interior floors, walls, and ceilings also plays a large part in determining the cost of a project's interiors. Interiors are the work and learning environment and they directly impact the health and wellness of occupants, affect absenteeism and teacher retention, and influence learning.

C. Design Criteria & Ratios

Criteria

- Interior glazing should be used prudently.
- Alternative storage solutions, such as closets with shelving in lieu of casework, should be considered.
- Entries and circulation corridors should utilize a durable, non-staining, non-slip floor material.
- In areas without paved walk and road surfaces, gymnasium floors should utilize a sheet athletic flooring or a poured urethane floor in lieu of a wood floor to minimize damage to floor from tracked in soils.
- Interior spaces and floor finishes should be laid out in a manner that reduces seams and material waste.

Ratios

A. Interior doors should be limited to one per every 400 GSF.

061 Partitions/Soffits

0611 Fixed Partitions

Baseline:

1. Specify interior construction materials of high durability, low maintenance, and an expected life span of 30 years.
2. Provide acoustical and smoke separation by designing interior walls to extend to the underside of the structural deck whenever practicable and when required by codes.
3. Provide the appropriate STC ratings for school spaces (per ANSI/ASA S12.60 on Classroom Acoustics).
4. Standard partition construction will be 20-gauge metal framing sized for needed wall cavity widths, 5/8-inch gypsum wall board each side, taped, mudded, and finished to Level 4. CF-3 LCCA-3. Add the following:
    a. Plywood sheathing where required for shear. CF-2, LCCA-1.
    b. Wood blocking as permitted by code where required for wall-mounted accessories. CF-2, LCCA-1.
    c. 18-20 ga metal backing if wood is not permitted. CF-3, LCCA-1.
    d. Cementitious backer board where installing wall tile. CF-3, LCCA-1.
    e. Acoustical insulation, resilient channel, and sealant where required for STC ratings. CF-3, LCCA-1.
    f. Impact resistant GWB or surface applied impact resistance at high-traffic areas.
5. Partitions to be easy to maintain and easily cleanable.
6. High traffic areas to be impact resistant GWB. CF-4, LCCA-1.
7. Provide expansion/control joints as recommended in the latest edition of the United States Gypsum (USG) Construction Handbook.
8. Gymnasium wall finishes to have additional wall protection below 10 feet to allow for general durability, and impact resistance. (ref. Category A, Assembly Spaces, Gymnasium).
9. Non-porous, easily cleanable surfaces for food services areas. FRP, ceramic or porcelain tile wainscot to 4'-0" A.F.F. at a minimum for wet areas. Provide full height FRP, ceramic or porcelain tile, or stainless steel at grease-prone areas. CF-3, LCCA-3.

Provisional:

10. Consider concrete masonry walls where cost effective and deemed essential by design team (may need LCCA). CF-3 to 5 in rural locations, LCCA-1.
11. Consider wood framed walls where more cost effective. CF-3, LCCA-3.
12. Consider at glazed porcelain and/or ceramic tile, consider use of manufactured metal trim pieces at base, corners, and terminations. CF-1, LCCA-1.
13. Consider acoustical panels: fabric wrapped panels or paint-grade wood fiber strand board. CF-1, LCCA-2.

Premium:

14. Full-height ceramic or porcelain tile, or ~~stainless steel~~stainless-steel sheet at Food Service areas.

15. Radiused and curved walls beyond. CF-1.
16. Walls that exceed the minimum STC rating for school spaces.
17. Walls that use both impact resistant GWB and an impact resistant applied wall finish.

Best Practice/Lessons Learned

A. (Reserved)

0612 Soffits & Ceilings

Baseline:

1. Standard soffit construction will be 20-gauge metal framing, cold rolled channel, or fabricated metal suspended-ceiling systems sized for anticipated loads and spans, 5/8-inch gypsum wall board, taped, mudded, and finished to Level 4. Add the following:
    a. Additional gypsum wall board where required for fire resistance. CF-3, LCCA-3.
    b. Wood blocking as permitted by code where required for wall-mounted accessories. CF-2, LCCA-1.
    c. 18-20 ga metal backing if wood is not permitted. CF-3, LCCA-1.
    d. Acoustical insulation, resilient channel, and sealant where required for STC ratings.
2. Soffits to be easy to maintain and easily cleanable.
3. Soffits below 10ft in high traffic areas to be impact resistant GWB. CF-4, LCCA-1.
4. Provide expansion/control joints as recommended in the latest edition of the United States Gypsum (USG) Construction Handbook.

Provisional:

5. Consider using acoustic lay-in tile for horizontal elements of soffits where appropriate.

Premium:

6. Soffits of wood or metal panel systems. CF-1.
7. Soffits of suspended 'cloud' and other decorative treatments. CF-1.

Best Practice/Lessons Learned

A. (Reserved)

062 Special Partitions

0621 Operable Partitions

Baseline:

1. None.

Provisional:

2. Consider side or upward acting operable partitions when needed to create isolated, functional smaller spaces from larger open spaces (e.g., to separate Stage from Multi-purpose to create a Music/Drama classroom). (ref. Category A – Instructional/General Use Classroom for Provisional elements related to hinged double doors up to 4ft per leaf for connection between classrooms.)

Premium:

3. Operable partitions or large sliding doors between classrooms in Category A.

Best Practice/Lessons Learned

A. (Reserved)

0622 Demountable Partitions

Baseline:

1. (Reserved)

Provisional:

2. (Reserved)

Premium:

3. (Reserved)

Best Practice/Lessons Learned

A. (Reserved)

0623 Glazed Partitions

Baseline:

1. (Reserved)

Provisional:

2. Consider use of glazed partition walls in aluminum or steel frames with appropriate safety glazing in areas where transparency is important in delivery of the educational program.

Premium:

3. Glazing modules exceeding 60in in more than one dimension.

Best Practice/Lessons Learned

A. (Reserved)

0624 Railing & Screens

Baseline:

1. (Reserved)

Provisional:

2. (Reserved)

Premium:

3. (Reserved)

Best Practice/Lessons Learned

A. (Reserved)

063 Interior Openings

0631 Personnel Doors

Baseline:

1. Interior doors systems shall be readily available and have a wide variety of offerings including acoustical, fire rated, hollow metal and flush wood veneer. CF-varies, LCCA-varies.
2. All doors within public use areas to be ADA compliant.
3. All swing doors throughout to have ADA compliant, lever-style, commercial grade hardware.
4. Overhead doors at food service pass-throughs, shop areas, or for separating zones; lockable.
5. Specify interior doors with welded metal frames in all new construction. "Knock-down" frames are discouraged. CF-3, LCCA-3.
6. Standard door assemblies to be solid core, factory-finished wood doors and painted hollow metal frames, with fire resistive ratings as required by code. 1 ¾-inch, 16-gauge insulated hollow metal doors may be used in lieu of wood; metal doors should be used in PE, shops, gymnasium, labs, and locker rooms.
    a. Provide glass vision lite kits and/or louvre openings as indicated by educational specification and/or program.
    b. In un-rated assemblies, provide ¼-inch, clear tempered glass door inserts and relites.
    c. Vision Lite kits within doors to have 18-gauge cold rolled steel frames with mitered and welded corners and should utilize standard sizes: 6"x27", 12"x12", 24"x24", 24"x36", 24"x60".
7. Door hardware in a variety of configurations including, but not limited to:
    a. Office sets: full-perimeter gaskets and door bottom with neoprene element, office lockset, ~~wall~~wall, or floor stop.
    b. Storage sets: full-perimeter gaskets and door bottom with neoprene element, storage lockset, ~~wall~~wall, or floor stop, closer, kickplate.
    c. Classrooms: full-perimeter gaskets and door bottom with neoprene element, closer, wall or floor stop, lockdown locking mechanism.
    d. Gymnasium doors or sets of double doors used to close down portions of the school: panic hardware, closers, kickplates, locking doors (manual or card reader), floor or wall stops where possible, overhead stops where floor/wall stops are not possible and full-perimeter gaskets and door bottom with neoprene element. Double doors should not have astragals. CF-3, LCCA-3.
    e. ADA/Unisex single-toilet room doors: full-perimeter gaskets and door bottom with neoprene element, lockset with occupied indicator, and a wall or floor stop.
    f. Teacher work and support spaces: silencers, proximity card readers, closer, and a wall or floor stop.

Provisional:

8. Consider all classroom doors to have closers, with closing mechanism to be mounted on the classroom side to allow for locking devices to be applied in the event of lockdown situations.
9. Consider door glazing insert kits in a variety of sizes, safety glazing. CF-3, LCCA-3.
10. Consider single or double intercommunicating doors between classrooms. CF-3, LCCA-2.

Premium:

11. Non-standard doors that are higher than 84" or wider than 36". CF-4, LCCA-2.
12. Any doors or windows of special sizes requiring manufacturer's premium costs. CF-4, LCCA-2.
13. Non-standard colors or finishes on doors that require manufacturer's premium costs. CF-4, LCCA-1.

Best Practice/Lessons Learned

A. (Reserved)

0632 Special Doors

Baseline:

1. (Reserved)

Provisional:

2. (Reserved)

Premium:

3. Motorized overhead doors with glazing used as space dividers walls between classrooms. CF-4, LCCA-4.
4. Bullet resistant doors & glazing; UL Listed Level 1- Level 3 is acceptable. CF-5, LCCA varies.
    a. UL 752 - Level 1 - protects against 9mm full metal copper jacked with lead core. No spall, no penetration.
    b. UL 752 – Level 2 – protects against .357 Magnum jacketed lead soft point. No spall, no penetration.
    c. UL 752 – Level 3 – protects against .44 Magnum lead semi-wadcutter gas checked. No spall, no penetration.

Best Practice/Lessons Learned

A. (Reserved)

0633 Windows & Sidelites

Baseline:

1. Limit the size of windowpanes and relites to standard sizes: 18, 24, 36, 48, 60 inches wide by 18, 24, 36, 48 or 60 inches high. Limit overall size of windowpanes; use multiple smaller windows in lieu of one large window. Glazing/relites adjacent to doors can go up to 84 inches high.
2. Relite and frames to be painted hollow metal, with fire resistive ratings as required by code.
3. Window and relite frames and sills to be paint grade. CF-3, LCCA-3.

Provisional:

4. Consider 2-way mirrors in observation areas, safety glazing.

Premium:

5. Silicone glazing systems, butt glazing systems or double wall glazing systems.
6. Arched or complex windows and frames.
7. Non-standard relites and vision lite kits.

8. Ballistic and blast mitigation coatings or films.

Best Practice/Lessons Learned

A. (Reserved)

064 Special Floors

0641 Access Floors

Baseline:

1. (Reserved)

Provisional:

2. (Reserved)

Premium:

3. Raised floor raceway systems. CF-3, LCCA-3.

Best Practice/Lessons Learned

A. (Reserved)

0642 Platforms & Stages

Baseline:

1. (Reserved)

Provisional:

2. Consider floors in stage/platform areas appropriate for a variety of performances: dance performances, vocal/music performances, etc. Floors, where required by the program, shall be a cost-effective, self-install sprung floor, resilient finish panel system designed for permanent installation. CF-4 to 5, LCCA-3.

Premium:

3. Auditorium spring floor panel system with hardwood surfaces.

Best Practice/Lessons Learned

A. (Reserved)

065 Interior Finishes

0651 Floor Finishes

Baseline:

1. Selected finishes to be sustainable and contribute to a healthy, productive learning environment. Evaluate products for recycled content, recyclability, waste reduction, energy efficient maintenance, low VOC content and post-installation product emissions.
2. Specified applied finishes shall be easy to clean and resistant to moisture and mold/bacterial growth.

3. Resilient flooring such as linoleum, sheet vinyl, rubber flooring or VCT is preferred for hallways/corridors, art classrooms, storage rooms, and other locations where carpet is not ideal.
    a. Resilient floor materials to be low-VOC, use low-VOC adhesives, and be compatible with low-VOC, water-based solvents/cleaning agents.
    b. All resilient materials shall be commercially rated for heavy-duty wear.
    c. Resilient sports flooring to have striping for common indoor sports played within the district.
    d. Science labs to have chemical resistant flooring.
    e. Provide static dissipative flooring where required by the program.
4. Carpet tiles are preferred for office and classroom spaces throughout (exception: labs and art rooms).
    a. Carpet tile should have a high wear / TARR rating, stain resistance and cleanability; carpet to have moisture impervious backing.
    b. Carpet tiles should have a minimum of 25 percent recycled content and a minimum of 17-ounce face weight.
    c. Carpets to be low-VOC, use low-VOC adhesives, and be compatible with low-VOC, water-based solvents/cleaning agents.
5. Adhesives and sealants used in the building interior (inside the exterior moisture barrier) must be low VOC.
6. Provide a walk-off mat system at every main entrance.
7. Standard resilient wall base should be use throughout office, classroom, and hallway areas with slight modifications based on the rooms.
    a. Tile base where walls are receiving tile applications.
    b. Resilient sheet with integral cove base with top trim in toilet rooms or food service areas.
8. Wood sports flooring, where required by the program, to be second and better grade maple strip flooring with striping for common indoor sports played within the district. CF-4 to 5, LCCA-3.

Provisional:

9. Consider porcelain tile and mosaic tile floor and wall finishes in toilet/shower rooms where required by the program. All tile and grouts should be installed based on the installation conditions and as recommended by the Tile Council of America. CF-3, LCCA-1.
    a. Use epoxy-modified grout mixture for high moisture areas.

Premium:

10. Wood sports flooring for elementary schools.
11. Cork or bamboo flooring material.
12. Wood, plywood wrapped, or ~~stainless steel~~stainless-steel wall base.

~~13. Wax free resilient floor systems.~~

~~14.~~13. Recessed walk-off grate entry system. CF-4, LCCA-1.

~~15.~~14. Integral cove base in areas other than toilet rooms, lockers, kitchens, and custodial closets.

Best Practice/Lessons Learned

A. Consider the use of ice melt when selecting flooring materials in high traffic areas. Extending the walk off mat length helps reduce the amount of ice melt in other areas of the building. ~~(Reserved)~~

0652 Wall Finishes

Baseline:

1. Paint/sealers used throughout should be durable and scrubbable, with low- to no-VOC content.
    a. Use acrylic latex for non-metal surface.
    b. Use water-based acrylic alkyd enamel paints on metal surfaces.
    c. Use water-based epoxy paints in interior spaces with high humidity or areas subject to surface moisture.
    d. Use concrete sealer and/or concrete paint where required by the program.
    e. Wall paint to have one primer and two (2) finish coats.
    f. Door/relite frames to have a minimum of two (2) applied coats over a factory prime coat.
2. Gymnasium wall finishes to have hard surfaces below 8 ft to allow for rebound of balls. Surfaces above 8 ft to have acoustical wall panels.
3. Non-porous, easily cleanable surfaces for food services areas. Ceramic or porcelain tile wainscot to 4 ft above floor level at a minimum for wet areas. Provide full height ceramic tile at grease-prone areas.

Provisional:

4. Consider FRP panels as needed for service and as required. CF-2, LCCA-1.

Premium:

5. Wall paneling or wallpaper. CF-4, LCCA-2.
6. Full height wall tile except at grease-prone areas in kitchens. CF-4, LCCA-1.
7. Architectural resin panels.

Best Practice/Lessons Learned

A. (Reserved)

0653 Ceiling Finishes

Baseline:

1. Acoustical ceilings and panels to contain recycled content where possible.
    a. Sound absorptive with a minimum noise reduction coefficient (NRC) of .55 and a ceiling attenuation class (CAC) rating of 35.
    b. Ceilings to be installed with a standard 15/16 in grid system and seismically braced. Ceiling suspension system to be hot dipped galvanized steel to inhibit rust.
    c. Ceilings within food service and lab areas to be washable and scrubbable.
    d. Acoustic ceilings shall meet ASTM C 1264 for Class A materials.

Provisional:

2. Consider ceiling grids to support hanging displays in all classrooms and hallways.

Premium:

3. Decorative or expensive non-standard ceiling tiles or ceiling systems such as metal or wood slat ceilings. CF-5, LCCA-2.
4. Suspended acoustic ceiling trims other than 15/16 in grid profiles.

Best Practice/Lessons Learned

A. (Reserved)

0654 Other Finishes

Baseline:

1. Provide resilient preformed stair tread and riser units; landings to match typical floor finishes.

Provisional:

2. Consider exposed concrete treads in metal pan where compatible with aesthetic and regional cost factors; provide non-slip metal nosings.

Premium:

3. (Reserved)

Best Practice/Lessons Learned

A. (Reserved)

066 Specialties

0661 Interior Specialties

Baseline:

1. Interior signage to be provided at all areas required by code to receive signage. All signs to have grade 2 Braille, tactile characters and pictograms as required by code.
2. Student lockers shall be provided as required by the programming documents and should be steel construction with sloped top and closed base; lock requirements to be selected by the school district. Lockers within locker rooms and changing areas to be ventilated steel construction.
3. Toilet room accessories to include, but not limited to commercial-grade, readily available:
    a. Soap dispensers.
    b. Mirrors.
    c. Toilet paper dispensers.
    d. Seat cover dispensers.
    e. Sanitary napkin receptacles.
    f. Grab bars.
    g. Paper towel dispensers.
    h. Baby changing stations and/or adult-sized changing stations for special needs classrooms as indicated by the program documents.

i. Waste receptacles.
j. Toilet partitions; to be durable and graffiti resistant. Partition hardware or door type to be selected to provide maximum privacy and minimum gaps between stall components.
k. ADA shower with shower seat.

4. Corner guards to be minimum of 2mm thick, have a 1 ½ inch wing on either side and be a minimum of 4'-0" A.F.F. Material to be textured rigid material and available in 90 degree and 135-degree corner styles. CF-2 to 4, LCCA-1.
5. Fire extinguishers to be provided per code. All fire extinguisher cabinets to be recessed or semi-recessed. Provide signage and stickers on cabinet for fire extinguisher visibility.
6. Provide standard porcelain enamel steel whiteboards with integral trays and tack/map/poster rail as required by educational program; music rooms to have whiteboards with and without staff lines.
7. Provide tackboards with aluminum frame in manufacturer standard sizes.
8. Provide retractable projection screens.

Provisional:

9. Consider polyethylene terephthalate (PET) felt, and fabric covered rigid fiberglass board or fine-grain cork core acoustic wall and ceiling panels where needed for acoustical control.
10. Consider ventilated plastic lockers for high-humidity locker room conditions.
11. Consider stainless steel corner guards in non-high-traffic areas; ease all sharp edges for safety.
12. Consider sliding double whiteboards with an integrated map/poster rail at top and tackboards, typical one per classrooms where whitemarkerboards are called out.
13. Consider wayfinding signage with changeable inserts, ADA signage on acrylic with standoffs or vinyl graphic signage.
14. Consider dry-erase wallcovering surfaces that double as projection screens.
15. Consider electric automatic hand dryers at locker rooms.

Premium:

16. Toilet room premiums: motion-sensor soap dispensers, automatic hand dryers. LCCA-3.
17. Antimicrobial lockers to help protect against bacteria, mold, yeast and mildew or hardwood or hardwood veneer lockers. CF-4, LCCA-3.
18. Wood or metal framed mirrors of custom size, backlit.
19. Stainless steel corner guards outside of high-traffic areas.
20. Magnetic glass whiteboards.
21. Motor operated projection screen in any location other than auditoriums, gymnasiums, or other large presentation/lecture areas.
22. Linear, panel grille and perforated wood wall panels for acoustical control.
23. Suspended acoustical felt baffles & wall panels.

Best Practice/Lessons Learned

A. Match toilet room (and classroom) accessories to the district's supply contracts for consumable hygiene products.

B. Semi-recessed fire extinguisher cabinets often allow for continuity of acoustic or smoke/fire barriers.
C. The need for a retractable projection screen in every teaching space may have been overcome with the advent of a readily available projection surface provided by a whiteboard.
D. Be aware that use of 'maximum' privacy partitions (i.e., bottoms less than 9in A.F.F. may require larger stalls for accessibility compliance.

0662 Casework & Millwork

Baseline:

1. Specify durable and easily cleaned casework. Base requirement is high pressure laminates over stable substrate with 3mm PVC edge banding. Counters are high pressure laminate with postformed backsplash and front edge profile. Casework to meet AWI Custom/Duty Level 3 throughout with the following special conditions: CF-3, LCCA-1.
    a. Resin counters in science labs space. CF-4, LCCA-1.
    b. Polycarbonate glazing to be used for casework within science lab space. CF-3, LCCA-1.
    c. Coat cubby areas with coat hooks, storage above and benches for changing shoes/outdoor gear. Provide dividers and spacing between hooks to prevent the spread of head lice and other parasites.
    d. Boot racks with space below to allow for cleaning.
    e. Perimeter counter with lab sinks/stations, and art drying racks in art classrooms.
    ~~e.~~f. Administration reception counter including ADA-height counter, (ref. *Administration*).
    ~~f.~~g. Library circulation desk with counter space including ADA height counter, book drop (ref. *1015 Equipment*).
2. Hallway areas to have lockable display cases for 2-D and 3-D displays, benches near toilet rooms and tackboards. CF-3, LCCA-1.

Provisional:

3. ~~(Reserved)~~Consider stainless steel counters with integral backsplash, sinks, and drainboards at *Art*.

Premium:

4. Specialty solid surface counters to include, composite quartz, recycled glass, cast terrazzo, or polycarbonate counters.
5. Stainless steel lab storage and cabinetry.
6. Solid wood cabinets or wood veneer cabinets.
7. Casework or architectural woodwork such as picture rails, wainscoting, crown moldings, or paneling.

Best Practice/Lessons Learned

A. (Reserved)

0663 Seating

Baseline:

1. Building entry vestibules to have perimeter benches in the parent pick-up / drop-off zones and lost & found bin. CF-3, LCCA-1.

Provisional:

2. (Reserved)

Premium:

3. (Reserved)

Best Practice/Lessons Learned

A. (Reserved)

0664 Window Coverings

Baseline:

1. Window treatments to be roller shades. Provide fascia on coverings to hide mounting brackets and mechanisms.

Provisional:

2. Consider blackout shades where required by the instructional program.

Premium:

3. Motorized roller shades.

Best Practice/Lessons Learned

A. (Reserved)

07. CONVEYING SYSTEMS

A. Building System Summary

The **Conveying Systems** of a building are dedicated systems designed to move persons or materials up, down, around, and through a facility. The department recognizes two sub-categories in this building system: **Passenger Conveyors**, and **Material Handling Systems**. The sub-systems under these categories include elevators and personnel lifts as well as material lifts, hoists/cranes, and other kinetic systems such as dense files storage. The functions and loads induced by Conveying Systems often require broad integration with other building systems such as **Substructure**, **Superstructure**, **Mechanical** and **Electrical** systems. **Interiors** elements including Partitions, Soffits, and Interior Finishes are often represented in Conveying System components.

B. Design Philosophy

Conveying systems were developed to increase efficiency and capacity. Where they are able to achieve this in Alaskan schools, they should be implemented—with discretion. The efficiencies gained with two story school construction are often offset by the need for passenger conveyors. In addition, most of these systems rely on tight tolerances that are impacted by building movement. Such movement can occur in all Substructure and Superstructure types and is primarily influenced by the stability of subsurface conditions. Some sites and building configurations can appropriately trade the space efficiency of elevators and vertical lifts with the equally accessible solution of ramps. Cost-effective use of Conveying Systems in schools should be supported by solid life-cycle cost analysis.

C. Design Criteria & Ratios

Criteria

- Select the type of elevator mechanism based on subsurface soil conditions and building stability.
- Two-story school solutions should incorporate a design layout that requires only one elevator.
- Vehicle lifts and hoist systems will be limited to a defined educational program need.

Ratios

1. (Reserved)

071 Passenger Conveyors

0711 Passenger Elevators

Baseline:

1. Install elevators only where required by codes adopted by the state or a local jurisdiction with delegated authority. (For multi-story schools meeting accessibility requirements with ramps in lieu of elevators, see 4 AAC 31.020 for a space variance.)
2. Install electric traction elevators when permitted for maximum energy efficiency.
3. Installations not within 100 road miles of an established elevator service center at the time of construction are limited to hydraulic elevators excluding roped-hydraulic mechanisms.

4. In-ground hydraulic elevators must be supported by a geotechnical report showing suitable subsurface conditions.
5. Single piston hydraulic systems may not be eccentrically loaded.
6. Elevators will be supplied with backup power for lowering only.
7. Elevators will be included in a project's commissioning plan unless approved otherwise by DEED.

Provisional:

8. Consider elevators with machine rooms are preferred for maintenance simplicity. (For space variances associated with machine rooms, see 4 AAC 31.020.)
9. Consider if a sump is required for an elevator pit, locate the sump pump outside the elevator shaft.
10. Education related facilities with three or more stories should consider in-ground hydraulic pistons where subsurface geotechnical considerations allow.
11. Consider that cab flooring should match adjacent lobby/corridor flooring; doors and frames should be stainless steel.
12. Consider robust, durable controls, one per car (including both card access if a building standard and keyed controls), sensors, and connection to building automation.

Premium:

13. Education-related facilities with more than one passenger elevator. CF-2, LCCA-2.
14. Elevators with rated speeds above 200fpm and load capacities above 2,500lbs.
15. Cab construction, features (lighting, etc.), and finishes above the manufacturer's standard base or that require manufacturer's premium costs except as noted above.

Best Practice/Lessons Learned

A. (Reserved)

0712 Lifts & Other Conveyors

Baseline:

1. Passenger lifts or wheelchair lifts may be used where permitted by codes adopted by the state or a local jurisdiction with delegated authority. Primarily this will be at floor level changes that are less than a story height.
2. Inclined stair lifts are not permitted.

Provisional:

3. Consider providing an audio-visual alarm that is operational at all times and activates when the lift is in operation except that a lift installed at a stage shall be free of a warning light or alarm.
4. Consider providing shielding devices to protect users from the machinery or other hazards and obstructions.
5. Consider cab flooring to match adjacent lobby/corridor flooring.

Premium:

6. Escalators or any type of moving walkway.

Best Practice/Lessons Learned

A. (Reserved)

072 Material Handling Systems

0721 Elevators & Lifts

Baseline:

1. Dedicated freight elevators (or lifts where permitted by code) in education related facilities may be installed where the upper level(s) served by the conveyance total in excess of 100,000gsf.
2. If layouts permit, and as allowed by code, a required passenger elevator may be increased in size and capacity to function as a freight conveyance.
3. Vehicle lifts in the following quantities may be installed at any education related facility serving grades 9-12 whose approved educational specification includes an automotive Career Technology Education pathway:

Number of Students in grades 9-12	Allowable Vehicle Lifts
< 500 students grades 9-12	1
501 – 2,000 students grades 9-12	2
> 2,000 students grades 9-12	3

Provisional:

4. Consider lifts shall have shielding devices to protect users from the machinery or other hazards and obstructions.
5. Consider the maximum lifting height for vehicle lifts shall be 68 inches.
6. Consider two post lifts are limited to slab-on-grade construction; use four post lifts for elevated floors.
7. Consider where portable automotive lifts can meet curriculum requirements, such lifts shall be purchased and provided under School Equipment.

Premium:

8. Eligible education related facilities with more than one freight elevator or lift.
9. Freight elevator dimensions exceeding 5ft x 8ft and load capacities above 5,500lbs.
10. Vehicle lifts in excess of allowable quantities.
11. Vehicle lifts with load capacities above ~~3~~9,000lbs or with ancillary accessories or features such as alignment calibration.

Best Practice/Lessons Learned

A. (Reserved)

0722 Hoists & Cranes

Baseline:

1. None.

Provisional:

2. Consider modular hoist and rail systems where needed to support the specific educational program.

Premium:

3. Overhead hoists with a capacity greater than 2,000lb.
4. Site fabricated, permanent, overhead hoist or crane assemblies.

0723 Other Systems

Baseline:

1. None.

Provisional:

2. Consider dumbwaiters of any size permitted by code may be used when transfer of materials between floors is needed and freight elevators are not permitted. (Note: dimensions and capacity of dumbwaiters are restricted by code and are very modest.)

Premium:

3. Belt conveyors, pneumatic tube systems, linen/trash/mail chutes, or operable scaffolding.

Best Practice/Lessons Learned

A. (Reserved)

08. MECHANICAL

A. Building System Summary

The **Mechanical** systems of a building create the internal environment necessary for comfort, hygiene, and safety within the school facility. The systems are highly integrated and are often highly automated. The department recognizes five sub-categories in this building system: **Plumbing**, **HVAC**, **Integrated Automation**, **Fire Protection**, and **Special Mechanical Systems**. The sub-systems under these categories include a large variety of fixtures, equipment combined with several types of distribution components including piping, valves, ducting, and controls. The **Mechanical** functions within a facility require broad integration with other building systems such as **Civil/Mechanical Utilities**, **Superstructure**, **Exterior Closure**, **Interiors**, and **Electrical** systems.

B. Design Philosophy

Mechanical systems shall be designed to conserve energy and water to reduce operating costs and demand on community resources. The systems shall be integrated with the design of the building plan and envelope to optimize performance and provide occupant comfort. The systems shall be durable, expandable, and easily maintained. Mechanical systems shall comply with DEED-adopted energy codes.

Mechanical joins Interiors as one of the higher cost building systems and typically accounts for approximately 10-12 percent of a project's total construction cost. Like Interiors, Mechanical systems are subject to initial cost savings by specification of materials or equipment, but oftentimes the reduction in initial cost is offset by increased maintenance and operation costs over the life of the system. It is important that the cost effectiveness of all material and equipment specifications is evaluated on a life cycle basis.

Plumbing systems can be greatly influenced by standards for cost-effective design because their use is not required in every functional area, whereas HVAC and sprinkler systems are. Consolidation of plumbing systems to core areas to limit piping runs and reduction of the overall plumbing fixture count are design decisions that limit a project's plumbing cost. Fine-tuning the design of the HVAC systems can also generate cost savings. Ventilation requirements for indoor air quality are a primary driver of energy use. By right-sizing the ventilation system to a proper occupancy count, establishing a higher acceptable maximum temperature, and incorporating operable windows into the design calculations, ventilation rates can be reduced, thus reducing air handler capacity and the space required for equipment and distribution. Wet sprinkler systems are less expensive than dry systems, so reducing or eliminating the need for dry sprinkler systems will reduce the cost of the facility.

C. Design Criteria & Ratios

Criteria

- Boilers should be designed to burn natural gas where available or #2 diesel fuel where not.
- Sinks or other plumbing fixtures shall not be provided in standard classrooms that serve other than elementary grades.

- Ventilation systems shall be sized per the intended room occupancy provided by the district (rather than the fire egress code occupancy).
- Maximum interior design temperature for ventilation system design shall be 75°F ~~or greater~~.
- Where operable windows are furnished, design of the ventilation system shall consider the cooling and ventilation capacity of the windows.
- Install mechanical and building automation systems capable of being operated by school district personnel.
- Integrate monthly utility consumption records into integrated automation systems where possible.

Ratios

1. (Reserved)

D. General

Baseline:

1. Design in accordance with the version of ASHRAE 90.1 currently required by DEED, including amendments by DEED.
2. Incorporate redundancy and resiliency into critical mechanical systems.
3. Consolidate equipment into mechanical spaces where possible. Provide sufficient floor space to provide minimum equipment clearances, and to allow maintenance activities and maintenance equipment. Locate equipment where it can be readily accessed for maintenance. Where feasible, keep equipment within 6 feet of finished floor.
4. Design potable water systems to conserve water to the greatest extent practicable, without compromising system performance.
5. Group spaces with high fixture counts together – e.g., public restrooms, commercial kitchens, custodial.
6. Design piping systems to provide ease of maintenance – valves and equipment that are readily accessible, clearly indicated access locations, and clearly labeled piping, valves, and equipment.
7. For remodel/addition projects, do not abandon equipment or systems in place. Demolish piping, ducts and wiring back to active portions of the systems.
8. Install low-VOC containing materials in accordance with 40 CFR 59, the National Volatile Organic Compound Emission Standards For Consumer and Commercial Products.
9. Design building systems to allow for future expansion. Provide clearly designated space for future equipment when appropriate.
10. Specify plenum-rated piping and materials in open return-air plenums and fan rooms.

Provisional:

11. Consider accommodating future removal and replacement of all mechanical equipment, with appropriate coordination between disciplines to provide for this occurrence.
12. Consider a flow meter on the domestic water service for monitoring by the building control system.

13. Consider rainwater and/or snowmelt capture systems for facilities with limited access to potable water. Design gray water and rainwater capture, treatment, and distribution systems for urinal and water closet flushing.
14. Consider using energy modeling during the design phase for system selection and building configuration.
15. Consider compiling comprehensive life cycle analyses throughout the design phase that addresses the initial cost of the systems, annual operating cost, maintenance costs, and replacement costs.
16. Consider designing building systems to allow for 15 percent additional capacity for future expansion when population rates indicate future growth.

Premium:

17. Renewable energy sources such as geothermal, biomass, and thermal electric storage from turbines.

Best Practice/Lessons Learned

A. (Reserved)

081 Plumbing

0811 Plumbing Fixtures

Baseline:

1. Provide water conserving fixtures that meet the Energy Policy Act (EPAct) 1992, with Amendments.
2. Provide commercial fixtures that are durable and easily maintained.
3. Specify floor mounted wall carriers for wall-mounted water closets, urinals, lavatories, and drinking fountains.
4. Provide plumbing walls large enough for wall-mounted water closet carriers – typically 11-inches minimum for single-wall carriers, and 16-inches for back-to-back carriers. Confirm dimensions with selected manufacturer.
5. Provide toilet rooms accessible from Pre-K–1st grade classrooms.
6. Provide sinks with ASSE 1017 tempering valves in classrooms for elementary grades.
7. Specify floor drains with trap primers.
8. Pitch all slabs to floor drains.
9. Avoid locating floor and roof drains over electrical and data system equipment.
10. Install floor drains next to air handlers.
11. Install floor drains next to all equipment that produces condensate.
12. Install floor drains next to fire sprinkler pumps if applicable and feasible.
13. Provide emergency eyewash, shower units, floor drains, and sloped slabs as required by Occupational Safety and Health Administration (OSHA) in science rooms, art rooms, shop and maintenance spaces, kitchens (when using chemical sanitizing), and any classroom where chemicals are used.
14. Provide tamper-proof hose bibs adequately spaced around the perimeter of the building, except in locations where water supply is limited.

15. Install hose bibbs with backflow protection in mechanical equipment rooms for equipment cleaning.

Provisional:

16. Consider installing plumbing fixtures on interior walls only.
17. Consider reducing potable water use by choosing low-flow water fixtures that meet these maximum flow rates:
    - Lavatories 0.5 gpm metered
    - Sinks 0.5 gpm
    - Water closet 1.28 gpf
    - Urinal 0.125 gpf
    - Showerhead 1.5 gpm
    - Kitchen sink (commercial kitchen sink excluded) 1.5 gpm
18. Consider restricting use of ultra-low flow or waterless water closets and urinals to only those locations where water supply is severely limited.
19. Consider providing floor drains in all restrooms regardless of number of fixtures.
20. Consider providing floor drains near janitor sinks and clothes washers.
21. Consider providing automatic controls at lavatories, water closets and urinals.
22. Consider specifying institutional/penal grade shower heads.
23. Consider providing bottle fill stations. ~~Avoid refrigeration on drinking fountains.~~
24. Consider providing multi-station wash fountains with automatic operation for elementary ganged restrooms.
25. Consider installing bubblers on elementary classroom sinks.
26. Consider providing large sinks – minimum 30" wide x 18" front-to-back – with solids interceptors in Alaska Native cultural studies classrooms.

Premium:

27. Garbage disposals are not an accepted fixture outside of commercial kitchens.

~~27.~~28. Refrigeration on drinking fountains. LCCA-1.

Best Practice/Lessons Learned

A. (Reserved)

0812 Plumbing Piping

(Reference *0151 Water Systems* for site work)

Baseline:

1. Meet the requirements of the National Sanitary Foundation International (NSF-61) for materials in contact with drinking water.
2. Provide furred out walls for plumbing fixtures installed on exterior walls. Do not install plumbing piping in the building thermal envelope.
3. Install isolation valves on piping serving rooms with ganged fixtures – such as restrooms, science rooms, and kitchens.

4. Provide recirculation loop for domestic hot water systems out to the furthest hot water fixture. Only operate during occupied hours.

Provisional:

5. (Reserved)

Premium:

6. (Reserved)

Best Practice/Lessons Learned

A. (Reserved)

0813 Plumbing Equipment

Baseline:

1. Provide grease interceptors in commercial kitchens. Coordinate additional grease traps or sampling ports outside of the facility with the Civil Designer and AHJ.
2. Store domestic hot water at minimum 140°F to prevent Legionella growth. Provide ASSE 1017 tempering valves to protect points of use for handwashing or.
3. Provide hot water in accordance with Alaska Food Code 18 AAC 31 for facilities with commercial kitchens. Provide separate hot water recirculation systems for each different temperature distribution system.

Provisional:

4. Consider providing above-floor grease traps with automatic grease skimming technology in commercial kitchens.
5. Consider install ceiling anchor points above lift stations, for mounting equipment to aid in removing pumps.
6. Consider choosing equipment and appliances with an Energy Star label.
7. Consider providing redundant sources of hot water where community sources are not available.
8. Consider providing supply temperature monitoring and alarm on hot water main.
9. Consider specifying variable speed, redundant pumps where domestic water pressure boosting systems are needed.
10. Consider water softener/treatment to reduce iron content where needed.

Premium:

11. (Reserved)

Best Practice/Lessons Learned

A. (Reserved)

0814 Waste & Vent Piping

(Reference *0152 Sanitary Sewer* and *0153 Storm Water* for site work)

Baseline:

1. For sites that use sewage lift stations, design waste and vent piping systems to use as few lift stations as practicable.

2. Locate plumbing vents away from air intakes, operable windows, roof edges, and snow drift locations. Place near the ridge of sloping roofs.
3. Locate cleanouts in locations readily accessible to maintenance personnel. Where practical, extend cleanouts into walls of areas with washable surfaces.
4. Provide solids interceptors (plaster traps) at art rooms.

Provisional:

5. Consider locating roof plumbing vents in visually discreet locations to the greatest extent practicable.
6. Consider specifying cast-iron waste piping for noise reduction and resistance to snaking damage.
7. Consider yard cleanout on waste piping at building exit.

Premium:

8. (Reserved)

Best Practice/Lessons Learned

A. (Reserved)

0815 Special Systems

Baseline:

1. None.

Provisional:

2. (Reserved)

Premium:

3. Grey water reclamation systems.

Best Practice/Lessons Learned

A. (Reserved)

082 HVAC

0821 Heating Equipment

Baseline:

1. Locate heating equipment away from educational spaces to avoid the transfer of noise and vibrations. Provide noise mitigation in walls of mechanical spaces.
2. Avoid placement of combustion air intakes, ventilation air intakes, mechanical room doors, and similar openings on leeward side of building where subject to snow drifting.
3. Use high efficiency 3-pass cast iron boilers for locations heating with fuel oil.

Provisional:

5. Consider providing a separate glycol system for just the ventilation heating and preheat coils and using water for the remainder of the heating system.
6. Consider providing glycol fill and storage tanks with integral pump, check valve, isolation valves, pressure switch, and alarm panel.

7. Consider using utility waste heat where available. Size plate-and-frame heat exchangers for future expansion.
8. Consider requiring extended warranties on major heating equipment items (e.g., boilers, hot water generators, etc.).
9. Consider locating heating equipment in mechanical rooms or penthouses, not on roofs, in most regions of Alaska.
10. Consider installing floor mounted equipment on 4-inch concrete housekeeping pads.
11. Consider using condensing boilers and low temperature (140°F and lower heating supply) hydronic heating systems when using natural gas or propane as heating fuel.
12. Consider installing BTU (British Thermal Unit) metering of hydronic heating.
13. Consider using utility load-shed electric heat where available. Provide sufficient storage/buffer capacity for electrothermal systems.
14. Consider installing bypass filtration on new hydronic heating systems connected to existing piping and equipment.

Premium:

15. Electrostatic precipitators for wood chip systems.
16. Provisions for future addition of alternative energy systems.

Best Practice/Lessons Learned

A. (Reserved)

0822 Terminal Heating and Distribution Systems

Baseline:

1. Locate isolation valves, control valves, and balancing valves to allow easy access for testing and balancing.
2. Provide isolation valves at key locations throughout building to be able to isolate portions of the building for maintenance (leaks) without having to drain entire system.

Provisional:

3. Consider installing radiant ceiling panels or radiant floors in restrooms and locker rooms, rather than fin tube.
4. Consider low temperature heating systems such as radiant floor.
5. Consider providing ceiling identification tags on ceiling grids where equipment, isolation valves and control valves are located.
6. Consider installing strainers upstream of all modulating control valves to reduce clogging from system debris.

Premium:

7. Snowmelt systems.

Best Practice/Lessons Learned

A. (Reserved)

0823 Ventilation Equipment

Baseline:

1. Coordinate with local electric utility for equipment motor sizes requiring variable frequency drives (VFD).
2. Control indoor air quality during construction, meeting SMACNA IAQ Guideline for Occupied Buildings under Construction 2007, Chapter 3.
3. Provide radon testing for buildings with slab-on-grade construction, below grade crawlspaces, and basements, particularly in locations known to have radon. Design radon mitigation systems as needed.
4. Locate equipment like make-up air units (MAU) for kitchens on the roof, where practicable due to climate.
5. Locate equipment in mechanical rooms or penthouses, not exposed on roofs, in most regions of Alaska.
6. Implement demand control ventilation where appropriate.
7. Utilize economizer cooling and natural ventilation to the greatest extent practicable.
8. Locate building air intakes away from sources of air pollution such as buses, exhaust vents, kitchens, and shop spaces.
9. Exceed minimum distances as needed between outside air intakes and pollution sources (such as plumbing vents and boiler flues) if subject to entrainment and carryover from wind. Consider weather effects such as cold air inversions when evaluating pollution sources.
10. Locate louvers at least 8'-0" above grade and keep plantings away from louvers.
11. Avoid using louvers on outside air intakes in locations with frequent wind driven snow and rain, and subject to heavy frosting. Use arctic-tee hoods or other proven means to address excess moisture intake instead.
12. Maintain outside air intake duct velocities below 500 feet per minute to reduce entraining rain and snow.
13. Provide deck-to-deck partitions, dedicated exhaust to the outdoors, and negative air pressure for spaces with hazardous materials (janitors' closets, chemical mixing areas, darkrooms, and high-volume copy rooms, etc.).
14. Operate exhaust fans with lighting controls in small restrooms.
15. Operate exhaust fans with dedicated wall switches in janitor closets to allow continuous operation.
16. Provide exhaust fans sized for 6 air changes per hour in spaces that allow access to below-floor sewage lift stations. Exhaust fans to have dedicated switches to allow continuous operation.
17. Avoid belt-driven equipment to reduce parts and maintenance.
18. Provide filter pressure gauges across each individual filter bank.

Provisional:

19. Consider preheat coils on outside air ducts in locations with winter design temperatures lower than 40°F to avoid condensation when mixing with return air. Provide preheat coils with summer filters.

20. Consider providing variable frequency drives (VFD) or electrically commutated motors (ECM) on all equipment for energy reduction, load matching, and system balancing.
21. Consider providing VFDs with integral disconnects.
22. Consider providing passive radon venting that can be converted to active ventilation when site soil test confirm radon mitigation is needed.
23. Consider using return air for kitchen hood makeup air in lieu of a dedicated makeup air unit (MAU).

Premium:

24. Humidification or dehumidification systems.

Best Practice/Lessons Learned

A. For sites prone to wind driven snow, identify predominant wind directions for the entire year and locate outside air intakes away from that side of the building. Identify this at the time of massing and concept design so that the mechanical rooms can be appropriately located. Avoid putting air intakes in corners that may be prone to wind eddies.

0824 Ventilation Distribution Systems

Baseline:

1. Locate balancing dampers to allow easy access for testing and balancing.
2. Cover and seal ventilation equipment and ductwork during construction to prevent dust and debris in ductwork and equipment.
3. Use sound attenuation for air handlers and ductwork serving classrooms, media centers, theaters, and administrative spaces.
4. Use minimum 3/4-inch birdscreen on outside air intakes to avoid frost build up.
5. Install duct access doors at inlet and outlet side of all indoor duct-mounted equipment.
6. Provide Minimum Efficiency Reporting Value (MERV) 13 filters at central equipment.
7. Provide ceiling identification tags on ceiling grids where equipment, isolation valves and control valves are located.

Provisional:

8. Consider including MERV 8 summer or pre-filters to prolong life of MERV 13 bank.
9. Consider using factory-fabricated, UL listed grease duct for Type 1 kitchen hoods.
10. Consider displacement ventilation for classrooms and larger spaces.
11. Consider destratification fans for gymnasiums (use units rated for high-impact conditions).

Premium:

12. Building flush-out following LEED requirements. CF-varies, LCCA-low.

Best Practice/Lessons Learned

A. (Reserved)

0825 Cooling Equipment

Baseline:

1. Provide appropriate air conditioning or heat removal system in computer rooms, computer labs, and data hub rooms. Utilize economizer cooling for server and data rooms and reject heat to return path of building ventilation system, to the greatest extent practicable.
2. Limit air conditioning to spaces used year-round: administrative offices, auditoriums, data, and equipment rooms with equipment that generates heat, and spaces needed for summer school programs.
3. Design dedicated space cooling systems to operate during unoccupied hours without the need for operation of the central ventilation system.

Provisional:

4. Consider providing direct expansion (DX) cooling coils in air handling units to reduce total airflow in the school during swing seasons under economizer mode.
5. Consider locating refrigerator and freezer condensing units in mechanical rooms as long as ventilation fans are sized appropriately to remove the heat from the space.

Premium:

6. Install variable refrigerant flow (VRF) or variable refrigerant volume (VRV) for interior spaces that need cooling, and reject heat in other portions of the building.

Best Practice/Lessons Learned

A. (Reserved)

0826 Cooling Distribution Systems

Baseline:

1. None.

Provisional:

2. None.

Premium:

3. (Reserved)

Best Practice/Lessons Learned

A. (Reserved)

0827 Heat Recovery Systems

Baseline:

1. Provide energy recovery on ventilation systems according to size, based on DEED requirements for compliance with ASHRAE 90.1. For 2016 version of 90.1, refer to section 6.5.6.1 Exhaust Air Energy Recovery, and associated tables for Zone 7/8.

Provisional:

2. Consider providing energy recovery on all ventilation systems.

Premium:

3. (Reserved)

Best Practice/Lessons Learned

A. (Reserved)

083 Integrated Automation

0831 Control Systems

Baseline:

1. Provide all electronic control devices by the same manufacturer to the greatest extent practicable.
2. Provide individual room temperature controls.
3. Provide programmable temperature controls in occupied spaces.
4. Provide On-Off heating temperature controls for unoccupied and utility spaces (e.g., storage rooms, mechanical rooms, electrical rooms, generator rooms, vestibules, cargo receiving areas, refuse storage, heated attics, crawlspaces, utilidors, etc.).
5. Provide On-Off cooling temperature controls for unoccupied spaces with cooling applications (e.g., mechanical rooms, electrical rooms, generator rooms, refrigerator/freezer condensing unit spaces, telecommunications rooms, server rooms, etc.).
6. Provide locking enclosures on temperature controls in common areas and public spaces (e.g., gymnasiums, restrooms, locker rooms, corridors, vestibules, auditoriums, multipurpose rooms, etc.), or use plate-type temperature sensors.
7. Temperature controls shall not contain mercury.
8. Programmable logic controller (PLC) based digital controllers operating equipment should be capable of providing 7-day, 24-hour scheduling, digital and analog inputs, and outputs (including alarms), user interface on the controller for manual control and programming.
9. Boiler control panels are preferred over aquastats for operating boiler plants and heating circulation pumps.
10. Provide standard controls components not custom designed specifically for the project.
11. Provide local-readout gages at each control system sensor location (at minimum).
12. Wired networks are preferred over wireless.
13. Locate controls components in dry, stable environments to reduce need for specialty enclosures.
14. Provide engraved identification tags on controls components.
15. When direct digital control (DDC) systems are provided:
    a. Include remote (web) access, alarms, graphics of all monitored and controlled equipment and systems, and programming tools for maintenance personnel.
    b. Provide for future expandability.
    c. Connect directly to equipment having integral (on-board) controls to provide a communication interface for remote monitoring and control.

d. Specify trending of critical points to facilitate troubleshooting and system performance evaluation.

Provisional:

16. Consider methods of putting after-hour spaces (gymnasiums, libraries, etc.) into temporary occupied mode. Also activate support spaces such as public restrooms if not on local control. Consider putting spring-wound timers with indicator lights in Administration area with labels noting what area will be in occupied mode to provide easy access to staff.
17. Consider requiring control contractor to inspect control system performance, confirm occupant comfort, and provide training 1 month prior to 1-year warranty date.
18. Consider a permanent metering system in the building management system to track water and energy consumption, manage use, and identify opportunities for additional savings.

Premium:

19. Integrating maintenance management software with building automation software.
20. Establishing service contracts with control contractor with clearly stipulated and measurable performance requirements.

Best Practice/Lessons Learned

A. ~~(Reserved)~~ Consider recommissioning system 2 months prior to 1-year warranty date. This will identify any failed actuators and sensors within warranty period and correct any mis-programming that the user may have accidentally done while learning the system.

0832 Other Automation

Baseline:

1. On Support buildings less than 5,000sf, provide temperature controls (thermostats, etc.) using stand-alone, low voltage systems.

Provisional:

2. Consider wireless versions where non-local control is needed.

Premium:

3. (Reserved)

Best Practice/Lessons Learned

A. (Reserved)

084 Fire Protection

0841 Riser & Equipment

Baseline:

1. Provide complete National Fire Protection Association (NFPA) 13 systems.
2. Do not recirculate fire sprinkler pump discharge to a potable water supply.
3. Provide a dedicated fire pump room with fire-rated construction, and door directly accessible to the outdoors or through a fire-resistant-rated corridor, per NFPA 20, for facilities with fire pumps.

4. Provide direct access from the fire sprinkler pump room.
5. Check with the AHJ for special requirements related to fire panel types/locations and fire department connections (FDC).
6. Design sprinkler systems in conformance with local sprinkler ordinances.
7. Use cross contamination protection (i.e., backflow prevention) when connecting fire sprinkler system to potable water supply, including fire pumps.
8. Avoid combining potable water and fire sprinkler water storage.

Provisional:

9. Consider using electric fire pumps if electric utility has sufficient capacity.
10. Consider installing diesel fire sprinkler pumps near other fuel-fired equipment for efficient fuel storage and distribution.
11. Consider fabricating all exterior building overhangs, walkways, balconies, porches, etc., of dimensions and/or materials to avoid fire sprinkler protection.
12. Consider nitrogen-generator for dry sprinkler systems, rather than air compressor only.

Premium:

13. (Reserved)

Best Practice/Lessons Learned

A. (Reserved)

0842 Sprinklers & Piping

Baseline:

1. Use Schedule 40 steel pipe for threaded fittings.
2. Use galvanized Schedule 40 steel pipe for dry pipe systems.
3. Avoid dry sprinkler systems as much as practicable. Use other NFPA 13 methods such as dry heads or detached entry canopies to eliminate the need for the systems.
4. Use dry heads at entry/exit vestibules, loading docks, and similar applications on wet fire sprinkler systems.
5. Conceal fire sprinkler piping to the greatest extent practicable in occupied spaces.
6. Do not install exposed sprinkler piping below 10 feet above finished floor to the greatest extent practicable. Provide sidewall heads in stairwell where possible.
7. Standardize on sprinkler heads throughout building.
8. Provide sprinkler head guards in areas subject to damage such as gymnasiums, mechanical spaces, utilitarian areas, or when located less than eight feet above floor.

Provisional:

9. Consider institutional/tamper-resistant heads in time-out rooms and similar locations.

Premium:

10. (Reserved)

Best Practice/Lessons Learned

A. (Reserved)

0843 Special Suppression Systems

Baseline:

1. (Reserved)

Provisional:

2. Consider water mist fire sprinkler protection system designed to NFPA 750, in lieu of an NFPA 13 sprinkler system.

Premium:

3. Clean agent suppression systems.

Best Practice/Lessons Learned

A. (Reserved)

085 Special Mechanical Systems

0851 Fuel Supply (Gas & Oil)

Also refer to *0154 (Site) Fuel Systems* for additional requirements.

Baseline:

1. Provide containment for fuel oil piping installed below ground including double-wall fuel-rated piping, corrugated carrier pipe, pipe transition and containment sumps.
2. Protect fuel oil storage tanks from vandalism and theft.
3. Provide minimum of Schedule 40 steel with welded, threaded, or mechanically pressed fittings for natural gas, propane, and fuel oil piping.
4. Avoid copper materials in fuel oil systems serving electric power generators.
5. Avoid routing gas piping up exterior of building where it could enable unwanted roof access.

Provisional:

6. Consider providing day tanks on fuel oil systems.
7. Consider installing a fuel leak detection system with alarms to monitor integrity of fuel storage tank and distribution piping.
8. Consider fuel level monitoring system with digital outputs for remote viewing and connection to building energy management system/control system.

Premium:

9. (Reserved)

Best Practice/Lessons Learned

A. (Reserved)

0852 Specialty Exhaust Systems

Baseline:

1. For facilities with equipment producing hazardous or combustible fumes or dust (vocational education, maintenance shop, etc.), provide dust collection / fume exhaust systems designed

to applicable Codes and NFPA Standards. Provide separate general room exhaust in addition to specialty exhaust system.

Provisional:

2. Consider using point-of-use HEPA (high efficiency particulate air [filter]) filters for welding exhaust.
3. Consider using recycled air system to reduce need for makeup air.

Premium:

4. Vehicle exhaust systems.

Best Practice/Lessons Learned

A. (Reserved)

0853 Compressed Air & Vacuum Systems

Baseline:

1. Compressed air and vacuum systems to have dedicated equipment rooms with limited access, constructed per the building code.

Provisional:

2. (Reserved)

Premium:

3. (Reserved)

Best Practice/Lessons Learned

A. (Reserved)

0854 Other Special Mechanical Systems

Baseline:

1. Provide lab exhaust hoods for labs and science rooms, with lighting, fan switch, and retractable sash. Install other accessories as required by school district.
2. Install HVAC systems for swimming pools to maintain space temperature and humidity levels between 82°F to 86°F, and 50 percent to 60 percent relative humidity.

Provisional:

3. Use outside air only for pool room dehumidification, if possible, based on site climate conditions.

Premium:

4. (Reserved)

Best Practice/Lessons Learned

A. (Reserved)

09. ELECTRICAL

A. Building System Summary

Electrical systems are required to support nearly every function and purpose of the school facility and support and provide key safety functions with the school. The systems are highly integrated and are often highly automated. The department recognizes five sub-categories in this building system: **Service & Distribution**, **Lighting**, **Power**, **Special Systems**, and **Other Electrical Systems**. The sub-systems under these categories include a large variety of fixtures, devices, and equipment combined with several types of distribution components including low-voltage and normal-voltage wiring, conduit, raceway, and control components. The Electrical functions within a facility require broad integration with other building systems such as **Site Electrical**, **Exterior Closure, Interiors**, and **Mechanical** systems.

B. Design Philosophy

Electrical systems shall be cost effective and will reduce initial construction costs as well as long-term energy consumption and operating costs. The systems shall be integrated with the design of the building plan and envelope to optimize performance and provide occupant comfort. The systems shall be durable, expandable, and easily maintained. Electrical systems shall comply with DEED-adopted energy codes.

Of all the building systems, a school facility's Electrical Systems have probably experienced the greatest increase in scope and cost over the last 20 years. With the integration of computers in education, first into the school and now into the classroom, the scope of network data systems has increased dramatically. A biproduct of the increased number of computers is a corresponding increase in the power systems required to operate the computers. An increase in the scope and complexity of other special electrical systems, in particular fire alarm and detection, and security systems, has also increased the overall cost of electrical systems.

Since many of the electrical systems are required by code (e.g., power, lighting, and fire alarms), a baseline cost for Electrical is part of all school facility projects. However, cost savings opportunities still exist in the scope of these systems beyond the minimums established by codes and in the materials specified. It is important for the cost effectiveness of electrical systems to be evaluated on a life cycle basis where the operating and maintenance cost of the system is considered. Often, a more expensive lighting fixture will more than pay for itself over time by a reduction in power consumption.

Other optional electrical systems (security systems, phone/data systems, intercom systems) should be evaluated in the same manner as code-required systems. In addition to a life cycle analysis of the systems and their components, the optional systems should also pass a commonsense test. For instance, is it necessary for a four-classroom school to have an intercom system? Does it make sense for a school designed to house 50 students to have 75 data outlets?

C. Design Criteria & Ratios

Criteria

- LED light fixtures should be utilized whenever possible in lieu of incandescent, fluorescent, or other lamp types.
- Lighting control options should be evaluated on a life cycle basis.
- Computer data ports and related outlets shall be laid out as they are to be used, not as they might be used in the future.
- Power wiring and service shall be sized per the present electrical demand of the facility rather than to meet perceived future demands.

Ratios

1. (Reserved)

D. General

Baseline:

Electrical systems shall comply with the version of ASHRAE Standard 90.1 currently required by DEED, including amendments by DEED.

1. The building electrical systems encompass lighting, power, telecommunications, and electronic safety and security systems. These systems are for the purposes of life safety, user convenience, building and user security, occupant comfort, and educational delivery.
2. Electrical systems shall be designed in accordance with applicable codes and standards and shall conserve energy while also meeting the needs of the building and users.
3. The systems shall be integrated with the building programming, floor plan, and local District requirements to enhance and support the building's usefulness and longevity.
4. The systems shall be robust, expandable where feasible, and easily maintained.
5. Design shall meet present needs, with consideration given to future. Spare capacity or the ability to expand in the future should be evaluated within budgetary constraints.
6. Electrical systems should be considered for replacement based on age, condition, availability of parts, availability of support, and obsolescence.
7. For Special Systems, in the absence of code requirements, design should follow Building Industry Consulting Service International (BICSI) or similar standards to the extent possible.

Provisional

8. (Reserved)

Premium

9. (Reserved)

Best Practice/Lessons Learned

A. (Reserved)

091 Service and Distribution

0911 Main Distribution Panels & Switchgear

Baseline:

1. Size equipment for all building and site systems.
2. Locate equipment as close to the service entrance as practical to minimize the length of large feeders.
3. Use secondary distribution panels to consolidate panels and reduce the number of feeders running throughout the building.

Provisional:

4. Consider limiting spare capacity to around 25 percent of physical breaker capacity or overall electrical capacity.
5. Consider providing surge protection and phase loss protection at the main distribution panel, particularly on grids with lower reliability.
6. Consider providing metering with a network connection at the main distribution panel and any large distribution panels for accurate energy monitoring.
7. Consider listed series-rated systems to lower rating and cost of downstream panels and breakers.
8. Consider aluminum conductors on large feeders to lower project costs, if local District maintenance personnel are in agreement.

Premium:

9. Provisions for future addition of alternative energy systems.

Best Practice/Lessons Learned

A. (Reserved)

0912 Panels & Motor Control Centers

Baseline:

1. Locate panels away from student-occupied areas unless unavoidable. Try to consolidate in electrical rooms, storage rooms, or similar spaces. Coordinate locations during design and monitor during construction to maintain working clearance. Provide an equipment grounding conductor in all conduits containing line voltage conductors.
2. Provide a dedicated neutral conductor for all circuits requiring a neutral.

Provisional:

3. Consider feeding lighting circuits from a single panel that can be monitored.
~~4. Limit spare capacity to around 25 percent of physical breaker capacity or overall electrical capacity.~~
~~5.~~4. Consider providing surge protection for panels primarily serving classroom and office receptacles, or telecom equipment.
~~6.~~5. Consider locating a panel in areas with high numbers of circuits required, such as the kitchen and mechanical rooms, to minimize the length of branch circuits and number of disconnects.

Premium:

~~7.~~6. Building-wide monitoring of all panels.

~~8.~~7. Spare ~~pare~~ capacity ~~to around~~beyond 25 percent of physical breaker capacity or overall electrical capacity.

Best Practice/Lessons Learned

A. (Reserved)

0913 Transformers

Baseline:

1. Size transformers for required load.
2. Avoid excessive transformer capacity and losses.
3. Coordinate with the electrical utility early in the project to identify delineation of work, particularly with respect to utility/medium-voltage transformers and circuits.
4. Vibration isolators are required where transformers may affect nearby spaces.

Provisional:

5. Consider using 120/208V where practical to avoid step-down transformers.
6. Consider utilizing wall-mount or suspended configurations to maximize floor space.
7. Consider time or occupancy-based control of these circuits feeding headbolt heaters.

Premium:

8. (Reserved)

Best Practice/Lessons Learned

A. (Reserved)

0914 Conduit & Feeders

Baseline:

1. Size conduit and feeders for the actual load designed.
2. Limit spare capacity to 25 percent on conduit and feeders.
3. Provide conduit at inaccessible portions of low-voltage systems.
4. Provide conduit sleeves for risers between telecom rooms if stacked. If not stacked, provide open cabling systems as much as possible between rooms.

Provisional:

5. Consider transitioning to cable tray or j-hooks wherever possible for low-voltage cabling.
6. Consider providing spare conduit stubs from recessed panels for future use; limit of two per 100A of panel capacity.
7. Consider electrical metallic tubing (EMT), metal clad (MC) Cable, and Flexible Metal Conduit where practical and code-compliant for savings over rigid metal conduit (RMC) or IMC systems.

Premium:

8. Duct bank systems.

Best Practice/Lessons Learned

A. (Reserved)

092 Lighting

Baseline:

1. Fixture types should be commodity level, commonly available, and cost effective to the extent possible. The use of custom/architectural fixtures, whether for general or decorative/accent lighting, should be limited to small areas of architectural interest and fit within budgetary constraints of the project.
2. Fixture source should be LED for efficiency and life expectancy unless design criteria justifies use of alternate sources.
3. Maintenance should be considered in fixture placement and selection. Fixtures should have field replaceable components, readily available replacement parts, and be installed in a manner that allows for access by local maintenance staff to clean, test, or repair.
4. Minimize the types of lamps to reduce inventory and replacement costs.
5. Provide fixtures that are easily cleaned and maintained.
6. Lighting levels shall be in accordance with Illuminating Engineering Society standards and Alaska Administrative Code (AAC). Lighting levels shall meet or exceed minimum recommended levels of the latest published version of the IES Handbook (25-65 age group) unless AAC requires higher light levels.
7. Emergency lighting/exit signs shall be provided in all code-required areas. Additional emergency lighting should be provided in areas with either increased risk of injury during an outage, or likelihood of persons unfamiliar with the space. These would include support spaces (electrical/mechanical/telecom rooms), large restrooms, conference/meeting rooms, kitchen, and similar.
8. Coordinate ceiling plan and lights with projectors and IT equipment.
9. Provide light emitting diode (LED) site lighting with full cut-off fixtures where light trespass is unwelcome.
10. Provide lighting controls for dimming or multi-level light switching in educational spaces.
11. Install task lighting at instructional area wall surfaces where necessary.
12. Install LED fixtures or extended life lamps in areas with high ceilings where relamping is difficult.
13. Lighting control shall meet current codes at a minimum. Additional energy savings may be achievable with a more complex system but should be balanced with local maintenance capabilities and project budget constraints.
14. Minimum lighting control elements should include exterior photocell control, interior occupancy sensor control of applicable spaces, dimming of fixtures either through manual interface, daylight sensor input, or occupancy sensors, and multi-zone layouts for more functional use of spaces. Examples would be a separate teaching wall zone in classrooms, or multiple zones in a gymnasium or multi-purpose room to allow for most lighting to be off while maintaining some visibility.
15. See *0163 (Site) Lighting & Equipment* for applicable requirements.

16. Coordinate fixtures and lamps with district and look to standardize within multiple facilities when possible and practical.

Provisional:

17. Consider control for site and corridor lighting systems with the direct digital control system or a lighting control system.
18. Consider direct/indirect fixtures in classrooms with 10'-0" ceilings or greater.
19. Consider track energy use through a building automation system or local metering of the lighting panel.
20. Consider use of dimmable site lighting with integral photocell/occupancy sensors to reduce energy use.
21. Consider use of fixtures with integral controls where practical to reduce device count and cabling.

Premium:

22. Building-wide lighting controls with extensive individual control of fixtures or connection with other systems. CF-3, LCCA-2.
23. Architectural fixtures outside of limited use noted above. CF-4 to 5, LCCA-3.

Best Practice/Lessons Learned

A. (Reserved)

093 Power

Baseline:

1. Provide adequate electrical capacity for future building expansion.
2. Specify variable speed/frequency drives or ECM motors on electrical motor applications. Coordinate requirements with Mechanical.
3. Specify a minimum of two (2) double duplex outlets (2 outlets per circuit) per classroom wall unless covered with cubbies/casework that makes them inaccessible.
4. Provide receptacle load control per energy code requirements. Switch receptacles with lighting occupancy sensor, by DDC, or by other code-compliant means.
5. Provide tamper resistant and GFCI receptacles where required by code.
6. Provide dedicated circuits for 120V equipment and appliances equal to or greater than 10 amps of draw.
7. Provide power and data for electronic whiteboards or digital TVs in classrooms.
8. Provide GFCI receptacles for rooftop equipment where required by code.
9. Coordinate power requirements and locations for control panels and control transformers with mechanical.

Provisional:

10. Consider using GFCI circuit breakers where maintaining ready access to GFCI receptacles may be difficult.
11. Consider limit general purpose circuits to 6 duplex outlets.
12. Consider limiting high-draw areas (kitchen, break room/lounge, workroom, etc.) to 2 duplex outlets per circuit in areas with high concentrations of equipment.

13. Consider use of floor boxes and power poles in areas where they serve a specific purpose, instead of general power distribution.
14. Consider providing locations with dedicated circuits for laptop charging stations if programmed.

Premium:

15. Excessive receptacle counts, including surface raceway with high quantities outside of labs or workbenches where required.

Best Practice/Lessons Learned

A. (Reserved)

094 Special Systems

0941 Fire Alarms

Baseline:

1. Code-minimum coverage for initiating and notification devices.
2. Code-required monitoring of mechanical equipment, generator, suppression systems, fire pump, duct smoke detectors if not part of fire alarm system.
3. 24-hour monitoring service in areas served with a fire department.
4. Automatic dialer with local contacts in areas without a fire department.

Provisional:

5. Consider additional detection in areas with elevated risk of fire, such as storage rooms, kitchen, mechanical/electrical spaces, public restrooms.
6. Consider exterior notification on at least two sides of the building.
7. Consider low-frequency sounder/horn and high-candela strobe in areas that may be used for sleeping, even if occupancy is not called out for itinerant housing.

Premium:

8. Pre-action systems.
9. Full coverage detection.

Best Practice/Lessons Learned

A. (Reserved)

0942 Data and Communications

Baseline:

1. Provide classroom ceilings with an outlet with voice/data capability and power for technology (if required, not needed if devises will be Power over Ethernet (PoE).
2. Provide for wireless connectivity. Coordinate with IT for number and location of needed devices.
3. Provide minimum CAT 6 cabling–all horizontal cabling to be less than 295ft in length.
4. Provide one (1) voice/data jack at each classroom wall unless inaccessible due to cubbies/casework.

5. During design development, provide layouts and cut sheets for all equipment requiring active electrical equipment to be built-in or purchased as part of movable equipment budget.
6. Provide cable pathways between all points.
7. Use plenum-rated cabling where distributed in open-air environments.
8. Coordinate data and communication requirements and locations with building controls system.
9. Coordinate with Section 0162.

Provisional:

10. Consider fiber optic backbone between telecom rooms even if close enough for copper.
11. Consider Category 6A cabling to wireless access points.
12. Use of J-hooks for smaller cable counts, consolidate into cable tray for larger counts.
13. Coordinate with Architect to minimize number of inaccessible conduit sleeves in cable pathway to telecom rooms.

Premium:

14. Raised floor raceway systems.
15. Oversize cable tray systems.
16. Passive Optical Network or similar fiber distribution systems.

Best Practice/Lessons Learned

A. (Reserved)

0943 Security Systems

Baseline:

1. Access Control: If a system is used, limit number of doors to main entry points, including front, playground, staff entry, and loading dock/kitchen. Office area may be controlled.
2. Intrusion Detection: Verify need/want with School District.
3. Video Surveillance System: Verify need/want with School District.
4. Secure Entry/Lockdown: Verify need/want with School District.

Provisional:

5. Use card Access readers or combination card reader/keypad.
6. Minimize use of keypad only, and if so, assign unique codes to individuals. Do not assign a common code to a given door.
7. Consider a lockdown device in the main office and security office. Lockdown should re-lock all doors, and release any magnetic door holders to seal off corridors, Multipurpose Room, Gymnasium, etc.
8. System should function independently if network connection is lost.
9. System should use standard readers, locks, and hardware to the extent possible to allow for migration to a different software.
10. Consider utilization of a combination of door contacts, glass break sensors, motion sensors for intrusion detection.
11. Consider locating an intrusion detection keypad at main entry and staff or kitchen entry.

12. Consider providing either a 24-hour monitoring service or automatic dialer with local contacts (particularly if no local law enforcement agency exists).
13. Connect to lighting controls if used to switch on corridor/site lighting upon alarm.
14. System can monitor industrial alarms, but avoid redundancy with building control system.
15. Consider providing surveillance cameras at all major entry points and corridor intersections, with traffic in and out of the office covered.
16. Consider providing a workstation in the Principal's office for review/download of video, and a monitor in the main office.
17. In schools with a security officer, Assistant Principal, or other similar party, consider providing additional workstations for effective monitoring.
18. IK10 impact resistance is recommended, but IK08 impact resistance should be the minimum allowed for cameras that can be touched, or objects thrown at them from less than 10ft away.
19. Consider monitoring playgrounds via video surveillance to ensure adequate coverage of all play structures and areas.
20. Consider use of multi-sensor or wide-angle cameras wherever possible to replace multiple cameras with a single camera.
21. Video system can integrate with access control/intrusion detection to assist those systems.
22. If lockdown is only used for duress (as opposed to abundance of caution such as non-custodial parent), button should call local law enforcement and/or alert District.
23. If lockdown and duress functions differ, provide two buttons.
24. Consider broadcasting a coded message to classroom paging zone upon activation of button to alert teachers to lock doors.
25. Consider a controlled point at main entry to screen visitors, including intercom/camera.

Premium:

26. Card readers on interior doors except for the office area, particularly when used widely to eliminate keys.
27. Cabinet locks and similar where keys would normally be used.
28. Proprietary hardware (such as wireless locksets, hubs, etc.) that cannot migrate in case of software replacement.
29. Badging printers at every school in a District instead of centralized credentials.
30. Surveillance cameras at locations other than exterior doors, office, playgrounds, or corridors.
31. Interior cameras that exceed the ratio of 1 camera per 5,000 sf
32. Security camera systems that exceed 20 cameras for schools under 50,000 sf. For schools over 50,000 sf, add 2 cameras (one inside, one outside) per 5,000 sf.
33. Pan-tilt-zoom cameras, particularly without an active security officer.
34. Video walls, analytics packages if not justified, thermal or other specialty cameras.

Best Practice/Lessons Learned

A. (Reserved)

0944 Clock Systems

Baseline:

1. Provide clocks in all educational and administrative spaces. Coordinate with District standards for battery vs. central clock system. If battery, no work required.
2. Provide intertie between clock system and intercom system for communication where needed for bell schedules.

Provisional:

3. Consider synchronized central clock system.
4. Consider wireless clock systems to minimize cabling needs.

Premium:

5. (Reserved)

Best Practice/Lessons Learned

A. (Reserved)

0945 Intercom Systems

Baseline:

1. Provide general paging throughout the building, with ability to page via phone system or master station.

Provisional:

2. Consider providing multiple paging zones, including classrooms, corridors, exterior, support spaces. Consider a network-based solution with individual zones for each classroom.

Premium:

3. (Reserved)

Best Practice/Lessons Learned

A. (Reserved)

0946 Other Special Systems

Baseline:

1. Provide power and data for electronic whiteboards or digital TVs in classrooms.
2. Provide HDMI connection at teacher's desk for electronic media.
3. Provide sound system in Gymnasium/Multipurpose Room/Student Commons with speakers, microphones, media input (CD optional/Aux input), amplifier and digital signal processor/mixer.
4. Provide small sound system in Band/Orchestra/Choir for support of program.
5. Coordinate location of motorized screen controls with sound input, basketball hoops, stage controls, lighting, etc.

Provisional:

6. (Reserved)

Premium:

7. Augmented/Virtual Reality systems.
8. Multiple fixed projectors in large spaces.
9. TV Walls instead of projector screens.
10. Digital signage, graphic walls for decorative/accent purposes.

Best Practice/Lessons Learned

A. (Reserved)

095 Other Electrical Systems

0951 Power Generation & Distribution

Baseline:

1. None.

Provisional:

2. Consider use of battery backup instead of an emergency generator. If a generator is included, design it for standby functions.
3. Consider a standby generator to support safety, security, and core building systems including heating systems and building controls.
4. Consider locating the generator inside of the building; alternatively, to preserve square footage, consider installing an equipment enclosure instead of a walk-in module.

Premium:

5. Photovoltaic arrays or systems.
6. Electrical wind generators.
7. Standby generator beyond critical systems.
8. Walk-in generator modules or buildings unless square footage allows.
9. Excessive capacity, either electrically or physical.
10. Redundant generators or bypass isolation automatic transfer switches.
11. Combined heat and power systems.

Best Practice/Lessons Learned

A. (Reserved)

0952 Electrical Heating Systems

Baseline:

1. Provide electrical heating systems only where necessary; coordinate with Mechanical for system needs and justification.
2. Size conduits, feeders, and branch circuits to load served, not future spare capacity.

Provisional:

3. Consider other heating methods and use if more cost-effective or efficient.

Premium:

4. Electrical heated floor systems.

Best Practice/Lessons Learned

A. (Reserved)

0953 Grounding Systems

Baseline:

1. Provide grounding system for each electrical service per NEC requirements.
2. Provide bonding of all systems and metallic parts per NEC requirements.
3. Provide grounding and bonding of telecom/data systems to meet industry standards and connect to building ground system.
4. Use code required or standards-based conductor sizes.
5. Use ground rods, with minimum quantity needed to meet NEC requirements.

Provisional:

6. Consider routing telecom/data bonding backbone in cable pathways instead of conduit where possible.
7. Consider ground rings instead of ground rods if site soils allow.

Premium:

8. Redundant grounding systems.
9. Oversized grounding and bonding with no specific need.

Best Practice/Lessons Learned

A. (Reserved)

10. EQUIPMENT & FURNISHINGS

A. Building System Summary

The **Equipment & Furnishings** of school buildings consist of the educational program and support equipment physically connected to the facility or its support systems. It also includes furnishings that are fixed or integral to the building. The department recognizes two sub-categories in this building system: **Equipment** and **Furnishings**. Equipment in this category is normally incorporated into load calculations by engineering disciplines and installed by a contractor using one or more trades. Furnishings in this category are of traditional types (chairs, bookcases, tables, etc.) but that are built-in or affixed to the facility. The **Furnishings** category fits in a niche between **Specialties** in **06. Interiors** and moveable fixtures, furnishings, and equipment (FF&E). Lockers, casework, display cases, bleachers and window coverings are all examples or items covered in **Specialties**. For additional information and standards on FF&E, see the department's publication ***Guidelines for School Equipment Purchases***.

B. Design Philosophy

Cost-effective school construction requires detailed design coordination between the school's building systems and the **Equipment** and **Furnishings** needed to deliver and support education. Items in this section include those that have proven to need a moderate to high level of integration to meet their intended function, and to avoid changes during construction. The building technology and educational technology elements deserve a special note as components related to these areas are changing rapidly from year to year with new technology resulting in faster, lightweight, affordable, and portable "plug-in" equipment. The State expects schools to take advantage of the latest technology that can simplify building systems and lower installed technology costs. For additional design parameters see the **Design Ratio** section of this system.

101 Equipment

1011 Food Service & Kitchen Equipment

Baseline:

1. Provide equipment for basic food preparation and cleanup for student lunch preparation of up to 40 meals/day in all school facilities to include appropriately sized items from the following categories:
    - Reach-in refrigerator
    - Reach-in freezer
    - Combi steam/convection oven
    - Commercial range
    - Wall-mounted shelving
    - Dishwashing machine
    - Mop sink cabinet
    - Type 1 exhaust hood

    (Ref. *0811 Plumbing Fixtures* for code required handwash, prep and cleanup sinks.)
2. Provide equipment for full-service food preparation and cleanup for student lunch preparation of over 40 meals/day. Size and select equipment based on DEED-reviewed kitchen design from the basic equipment list and the following categories:
    - Walk-in refrigerator
    - Walk-in freezer
    - Steam kettle
    - Braising pan

- Production steamer
- Fryer
- Ice maker
- Type ~~2~~1 exhaust hood(s)

(Ref. *0811 Plumbing Fixtures* for code required handwash, prep and cleanup sinks.)

3. Provide other support equipment that is mobile/moveable and plugs into standard receptacles as FF&E. Items below are considered FF&E; see Building System Summary preceding:
   - Prep appliances (mixer, slicer, etc.)
   - Cooking appliances (microwave, toaster)
   - Mobile hot/cold serving tables
   - Mobile heating cabinets
   - Multi-tier shelving units
   - Mobile prep/~~work tables~~worktables
   - Mobile transport carts
   - Pots/pans/utensils

Provisional:

4. Consider only providing equipment for a warming/cooking kitchen (when the district provides a central kitchen) to include:
   - Reach-in refrigerator
   - Reach-in freezer
   - Convection oven
   - Wall-mounted shelving
   - Mop sink cabinet
   - Type ~~1~~2 exhaust hood

   (Ref. *0811 Plumbing Fixtures* for code required handwash, prep and cleanup sinks.)

Premium:

5. Equipment for full-service food preparation in districts that operate a central kitchen.

Best Practice/Lessons Learned

A. (Reserved)

1012 Athletic Equipment

Baseline:

1. Provide ceiling or wall-mounted basketball backboard/hoops at competition court; motor-operated raise/lower.
2. Provide floor inserts for volleyball standards/nets.
3. Provide a multi-sport wall-mounted score board opposite each set of bleachers.

Provisional:

4. Consider secondary, wall-mounted basketball backboards/hoops at recreational courts; motor operated raise/lower.
5. Consider mat hoists where wrestling programs are established.
6. Consider ceiling mounted gymnasium curtains to support multiple concurrent programs; motor-operated raise/lower.
7. Consider ceiling-mounted climbing ropes.
8. Consider chinning bar(s), peg climbing board, and other wall-mounted fitness equipment requiring structural support.
9. Consider a motor-operated projection screen.
10. Consider a high-capacity washer and dryer.

Premium:

11. Whirlpools or ice-bath equipment.
12. Saunas

Best Practice/Lessons Learned

A. (Reserved)

1013 Career & Technology Equipment

Baseline:

1. Provide the following woodworking equipment in floor-standing models: 10in table saw with 'saw stop' technology, 12in band saw, 1hp drill press. (Other benchtop and plug-in equipment will be provided as FF&E)
2. Provide the following metal working equipment: welding station/booth, 1hp milling machine/lathe.

Provisional:

3. Consider additional woodworking equipment to include: lathes, router/joiner, and belt/disc sanders.
4. Consider additional metal working equipment to include: sheet metal brake, and grinders.
5. Consider moving all equipment to portable, tabletop, 110v for small programs and additional flexibility. All such equipment would be provided as FF&E.
6. Consider "fabrication lab"/ "maker space" equipment including 3D printer(s), small to medium format 4ftx8ft Computer Numerical Control routing and laser/plasma cutting machines.
7. See Section *0721 Elevators and Lifts* for provisions associated with vehicle lifts.

Premium:

8. See Section *0733 Hoists and Cranes* for premium limitations.
9. Paint booths.

Best Practice/Lessons Learned

A. (Reserved)

1014 Science Equipment

Baseline:

1. See Section *0652 Casework/Millwork* for fixed lab tables.
2. Provide one 36in fume hood, if required for educational program.

Provisional:

3. Consider a 48in fume hood for larger programs; demonstration type or double sided.
4. Consider a commercial undercounter dishwasher at Science Storage/Prep.

Premium:

5. Fume hoods larger than 48in.

Best Practice/Lessons Learned

A. Many standard size hazardous/flammable storage cabinets are not designed to fit under standard-height counter tops or with standard base cabinet depths. Select this FF&E item early and in coordination with Designers.

1015 Library Equipment

Baseline:

1. Provide a book drop with catch bin; free standing or built-in to casework.
2. Provide book stacks in a combination of wall perimeter (5-6 shelf) and freestanding (2-3 shelf) for approximately 50 volumes/student capacity. Laminate finish. [Note: Other book display shelving to be FF&E; all seating, tables, and other loose furnishings to be FF&E.]
3. Provide a motor-operated projection screen.

Provisional:

4. Consider wood veneer on book stacks in libraries serving any secondary grades.

Premium:

5. (Reserved)

Best Practice/Lessons Learned

A. The preceding standards are based on centralized library and media display/use. This Equipment may not be needed if books and media are distributed throughout a school.

1016 Theater Equipment

Baseline:

1. Provide motor-operated projection screen.
2. Provide motor-operated stage curtain.

Provisional:

3. Consider fixed overhead rigging for stage curtains, sets, and lighting.
4. Consider stage lighting system including fixtures and control board.
5. Consider auditorium audio/visual system including building-mounted elements such as speakers, projectors, etc. (Note: all rack-mounted components and hand-helds will be FF&E.)

Premium:

6. Orchestra pit equipment

Best Practice/Lessons Learned

A. (Reserved)

1017 Art Equipment

Baseline:

1. None.

Provisional:

2. Consider up to two gas-fired kilns.

3. Consider heavy-duty clay mixer.
4. Consider electric pottery wheels; quantity for anticipated class size.

Premium:

5. Darkrooms for chemical film/print processing.
6. Paint booths.

Best Practice/Lessons Learned

A. (Reserved)

1018 Loading Dock Equipment

Baseline:

1. None.

Provisional:

2. Consider bin-size recyclable baler and multi-waste compactor.
3. Consider providing fixed commercial compactor chute (to align with vendor provided compactor and waste service).
4. Consider dock bumpers where elevated truck loading/unloading occurs.

Premium:

5. Dock leveler systems.

Best Practice/Lessons Learned

A. (Reserved)

1019 Other Equipment

Baseline:

1. None.

Provisional:

2. Consider kitchenette at special needs life skills areas with residential type refrigerator, range, over range microwave, and dishwasher.
3. Consider high-capacity washer and dryer at Intensive Needs program area.
4. Consider ceiling mounted plates/eye bolts at OT/PT program area.

Premium:

5. Plumbed and hardwired commercial equipment at 'student store' unless specifically supported by curriculum in an approved educational specification.

Best Practice/Lessons Learned

A. (Reserved)

102 Furnishings

1021 Fixed Furnishings

Baseline:

1. Provide benches at building entry vestibules/lobby in the parent pick-up/drop-off zones; secure to floor.

Provisional:

2. Consider built-in benches/seating at Library and Elementary Classroom.

Premium:

3. (Reserved)

Best Practice/Lessons Learned

A. (Reserved)

1022 Mats

Baseline:

1. Provide walk-off grates/mats at entry vestibules.

Provisional:

2. (Reserved)

Premium:

3. (Reserved)

Best Practice/Lessons Learned

A. (Reserved)

1023 Other Furnishings

Baseline:

1. (Reserved)

Provisional:

2. (Reserved)

Premium:

3. (Reserved)

Best Practice/Lessons Learned

A. (Reserved)

11. SPECIAL CONDITIONS

A. Building System Summary

The **Special Conditions** related to school buildings consist of both special purpose facilities and project conditions that bridge across, rather than fitting within, several of the core building systems. The 'system' deals with the installation, removal, or relocation of integrated or self-contained support buildings, and with site conditions that, while altering the site, do not install utility or improvement features. Generally, all elements related to hazardous materials and conditions are included within this system. The department recognizes three sub-categories in this building system: **Special Construction**, **Special Demolition**, and **Special Site Conditions**. Special Construction includes three specific use-types. Special Demolition includes all demolition work from entire buildings to selective building elements and utilities. It also captures hazmat associated with that demolition. **Special Site Conditions** deals with management of site conditions for both effective construction execution and long-term building operations. Remediation work for sites is also captured. **Special Construction** will overlap nearly all building system sections **02** through **09** depending on complexity, as will **Special Demolition**. The **Special Site Conditions** category abuts **01. Site & Infrastructure** categories but should not have much, if any, overlap.

B. Design Philosophy

Cost-effective school construction can sometimes be enhanced by isolating special facility uses such as greenhouses or various types and combinations of utility modules and providing them as separate facilities. These solutions, while more common in remote school locations, are not automatic for any project and should be based on solid value analysis. Similarly, selective, and whole building demolition work occurs across a range of scope and possibility. Final project solutions should be driven by options analysis supported by accurate life-cycle costing. Site conditions can have a significant impact on cost-effective school construction. Factors such as topography, erosion, proximity to natural hazards, wetlands, site drainage, and flooding must be properly evaluated in the project planning phase. The department's publication ***Site Selection Criteria and Evaluation Handbook***, provides guidance and tools in these areas. DEED expects school districts to thoroughly evaluate **Special Conditions** that can simplify building systems and lower construction costs. For additional design parameters see the **Design Ratio** section of this system.

111 Special Construction

1111 Packaged Utility Modules

Baseline:

1. Provide packaged utility module supporting any of the following functions in locations where site-constructed solutions are less cost effective: fire suppression, heating plants (e.g., oil and wood-fired boilers, etc.), power generation, walk-in refrigerator/freezers. CF-3, LCCA-1.
2. Packaged modules that provide water and/or wastewater treatment systems in locations where no community utility support is available to the school site and where utility extension solutions are less cost effective. CF-4, LCCA 3.

Provisional:

3. Consider including electrical services in conjunction with utility modules providing heating plants. CF-3, LCCA-1.

Premium:

4. Packaged utility modules with utility runs to the supported facility that exceed 40ft.

Best Practice/Lessons Learned

A. (Reserved)

1112 Swimming Pool

Baseline:

1. Swimming pools are supported as school space under AS 14.11 under certain conditions. Refer to the most current department publication *Swimming Pool Guidelines for Educational Programs*.

Provisional:

2. Consider construction of swimming pools in support of the educational program where the capacity exists to meet the above average operations and maintenance costs of such facilities over time.
3. Consider partnering with related municipal and borough entities in sharing the cost of initial capital, O&M, and capital renewal costs through a joint use agreement (ref. 4 AAC 31.020(g)).

Premium:

4. Swimming pool tank sizes, amenities, and resulting facilities not supported under statute and regulation.

Best Practice/Lessons Learned

A. (Reserved)

1113 Greenhouse

Baseline:

1. None required. [Note: Greenhouses are considered school space under 4 AAC 31.020.]

Provisional:

2. Consider building-attached greenhouse spaces when such spaces can meet the educational program being provided (ref. *0142 Attached Shelters*).
3. Consider freestanding greenhouses in support of the educational program where the capacity exists to meet the above average operations and maintenance costs of such facilities.
4. Consider providing hydroponic systems in place of greenhouses to provide year-round production and educational benefits.

Premium:

5. Greenhouse space which is beyond the allowable gross square footage in the attendance area (ref. 4 AAC 31.016 and 4 AAC 31.020).

Best Practice/Lessons Learned

A. (Reserved)

112 Special Demolition

1121 Structure Demolition

Baseline:

1. Provide demolition of existing schools which are no longer cost effective to repair or transfer to another entity when approved for replacement as part of an application for state-aid under AS 14.11. CF-3, LCCA-1.
2. Provide structure demolition at state-owned abandoned school sites as part of the development of new schools, replacement schools, or additions/renovations to existing schools.
3. Secure permits for local disposal (i.e., one-time monofill on state-owned or district-owned property), on property owned by others by agreement, or in approved local landfills.

Provisional:

4. Consider the demolition of education support facilities that have exceeded their useful life and cannot be renovated for additional use(s).
5. Consider removal of demolition waste to a landfill in Alaska or outside of Alaska when local disposal options have been exhausted. CF-3, LCCA-1.

Premium:

6. Demolition of any structure not accepted as an education related facility and approved by the department.

Best Practice/Lessons Learned

A. (Reserved)

1122 Building Selective Demolition

Baseline:

1. Provide selective demolition in support of approved new work or rehabilitation.
2. Secure permits for local disposal in approved local landfills.

Provisional:

3. Consider removal of demolition waste to a landfill in Alaska or outside of Alaska when local disposal options have been exhausted. CF-3, LCCA-1.

Premium:

4. Any selective demolition not accepted as part of an education related facility and approved by the department.

Best Practice/Lessons Learned

A. (Reserved)

1123 Site and Utility Demolition

Baseline:

1. Provide demolition of site improvements associated with education related facilities approved for replacement or those in conflict with approved new work or rehabilitation (ref. *013 Site Improvements* for acceptable site features).
2. Provide for demolition of utilities supporting education related facilities approved for replacement or those in conflict with approved new work or rehabilitation (ref. *015 Civil/Mechanical Utilities* and *016 Electrical Utilities* for acceptable utility elements).

Provisional:

3. Consider opportunities to transfer site improvements or utilities to another entity when approved for replacement under AS 14.11.
4. Consider vacating and capping underground utilities in-place when the cost to excavate and remove due to obstructions or geotechnical considerations substantially exceed normal removal. CF-3, LCCA-1.

Premium:

5. Any site and utility demolition not accepted as supporting an education related facility and approved by the department.
6. Underground utility demolition where the cost exceeds normal removal by more than 100 percent.

Best Practice/Lessons Learned

A. (Reserved)

1124 Hazardous Material Removal

Baseline:

1. Provide for removal of hazardous materials in work under *1121 Structure Demolition* associated with education related facilities approved for replacement.
2. Provide for removal of hazardous materials in work under *1122 Building Selective Demolition* when hazardous materials will be disturbed during approved rehabilitations.
3. Secure permits for local disposal, if possible, on state-owned or district-owned property, on property owned by others by agreement, or in approved local landfills.

Provisional:

4. Consider fully documenting hazardous materials present in existing facilities in preparation for opportunities to transfer education related facilities to another entity when approved for replacement under AS 14.11. [Note: standards for some hazardous materials, such as asbestos, diminishes with changes in building occupancy and use.]

Premium:

5. Any hazardous material removal not accepted as supporting an education related facility and approved by the department.
6. Removal of hazardous materials for which a potentially responsible party (PRP) or responsible party has been identified other than the Department of Education & Early development.

Best Practice/Lessons Learned

A. (Reserved)

1125 Building Relocation

Baseline:

1. Relocate education related facilities to other locations on the school parcel when required by expansion projects approved by the department.
2. Relocate education related facilities to parcels off the school site under control of the state or a political subdivision of the state when required as part of excess building disposition approved by the department.
3. Relocate non-education related facilities owned by the school district to other locations on the school parcel when required by expansion projects approved by the department (this will primarily consist of teacher housing units).

Provisional:

4. Consider relocating an education related facility when an alternate location will improve the efficiency of school operations. CF-3, LCCA-1.

Premium:

5. Building relocation to parcels not under the site control of a state or a political subdivision of the state.

Best Practice/Lessons Learned

A. (Reserved)

113 Special Site Conditions

1131 Site Shoring & Dewatering

Baseline:

1. Provide site shoring required to support construction operations on school sites.
2. Provide dewatering required to support construction operations on school sites.
3. Provide site shoring and dewatering that might be generally required to support all site improvement and utility work and not associated with any particular one of these subsystems.

Provisional:

4. Consider selecting school sites where site shoring and dewatering are not required.

Premium:

5. Site shoring and dewatering that exceeds 0.3 percent of the total estimated construction cost.

Best Practice/Lessons Learned

A. (Reserved)

1132 Site Earthwork

Baseline:

1. Provide excavation, fill, geotextiles, and other similar elements required to support construction operations on school sites.
2. Provide site earthwork that might be generally required to support all site improvement and utility work and not associated with any particular one of these subsystems.

Provisional:

3. None. All other earthwork should be in support of approved work in *013 Site Improvements*, *015 Civil/Mechanical Utilities*, or *016 Site Electrical*.

Premium:

4. Site earthwork that exceeds 0.5 percent of the total estimated construction cost.

Best Practice/Lessons Learned

A. (Reserved)

1133 Site Remediation

Baseline:

1. Provide for remediation of contaminated site materials for work not covered in *1121 Structure Demolition* that is associated with education related facilities approved for replacement.
2. Secure permits for local remediation (soil farming, etc.), if possible, on state-owned or district-owned property, on property owned by others by agreement, or in approved local landfills.
3. Provide and place clean backfill from local sources as necessary to return site to a safe and functional condition.

Provisional:

4. Consider working with the Alaska Department of Environmental Conservation on options for contaminated site materials to remain under Institutional Controls (ICs).
5. Consider imported backfill when local sources are not available or can be demonstrated to be not cost-effective. CF-3, LCCA-1.
6. Consider removing and disposing of contaminated site materials to approved landfills in Alaska or outside of Alaska on a cost-benefit basis. CF-3, LCCA-1.

Premium:

7. Any contaminated site material removal not accepted as supporting an education related facility and approved by the department.
8. Removal of contaminated site materials for which a potentially responsible party (PRP) or responsible party has been identified other than the Department of Education & Early development.

Best Practice/Lessons Learned

A. (Reserved)

Appendix A: Cost Model's Escalation Model Alaska

The following describes the "State of Alaska Escalation Cost Study - Model School Building". This cost study model is used by the contracted cost estimator that updates the DEED *Program Demand Cost Model for Alaskan Schools* to develop concept-level gross square footage construction costs based on educational program and to index historical construction cost escalation.

The model school conforms to the Standards in this publication. It is not a prototype design or basis of design for schools in Alaska.

01 Site and Infrastructure

The Model Alaskan School includes site improvements typical for the less remote locations including paved parking and drives, appropriate catch basins and culverts for drainage, concrete walks, vegetative landscaping, playgrounds with equipment, and fencing. A variety of minor elements such as bike racks and flag poles round out the developed school site. Utility distribution piping from municipal connection points is provided for heating fuel, water, wastewater, electrical power, and data/communications. Exterior pole-mounted lighting is also included. No **Site Structures** or **Off-site Work** is anticipated with the model school.

02 Substructure

The Model Alaskan School includes Substructure elements typical of sites with high-quality soils which are suitable for building construction. These elements include a standard concrete foundation, and a concrete slab on grade—both with typical steel reinforcing. Insulation, vapor retarder, and dampproofing are the only minor elements needed to support these sub-systems. No **Special Foundations** elements are anticipated with the model school.

03 Superstructure

The Model Alaskan School includes a main floor structure of reinforced concrete slab on grade and includes a small portion of elevated floor with steel columns, beams, joists, metal decking and concrete. The roof structure uses a combination of wood frame bearing wall, steel columns, beams, joists, and metal decking. Steel angle bracing and light-gauge steel shear walls provide lateral support.

04 Exterior Closure

The Model Alaskan School includes exterior load-bearing walls with light-gauge steel members and structural wood panel sheathing. Insulation is a combination of fiberglass in the wall cavity and 2in of continuous board at the exterior. Air and vapor barriers complete the assembly. Siding is a primarily metal panel with some phenolic panel in a rain-screen assembly as an accent. Vents, flashings, and sealants complete the exterior. Gypsum wall board is used on the interior side of the assembly. Soffits are framed with nominal lumber, treated plywood and siding finishes were visible. Windows are metal-clad dual-pane insulating units with operable sections. Doors are hollow metal with insulated frames and high-quality hardware including motor operated doors where required.

05 Roof Systems

The Model Alaskan School includes a pitched roof system consisting of concealed fastener metal roofing over fire-treated plywood sheathing and 8 in of rigid insulation. Vapor barriers, ice and water shield, and flashing complete the assembly.

06 Interiors

The Model Alaskan School includes light-gauge steel framing members enclosed with gypsum wall board, or other substrates suitable to the finish applied. Solid core wood doors in hollow metal frames are standard, complete with hardware. Vertical coiling grilles are used in select locations. Glazing consists of relites in hollow metal frames, and specialties include partitions in toilet rooms, lockers, whiteboards, tackboards and signage. Fire extinguishers and cabinets are provided when required. Finishes include carpet, tile and rubber flooring, paint, tile, and FRP walls, and suspended and glue-on acoustic ceilings.

07 Conveying Systems

The Model Alaskan School, a single-story structure, does not include any Conveying Systems elements.

08 Mechanical

The Model Alaskan School includes cast-iron waste piping, hot and cold domestic water distributed in insulated copper piping, bathroom fixtures, stall showers, classroom sinks, exterior hose bibs, commercial food prep and clean up sinks and hot water generating equipment. Heating systems are oil/gas fired boilers and hydronic heat distribution to terminal devices. Cooling is a 10T DX (direct expansion) air conditioner supplying fan coils. Ventilation is a single AHU with distributed ducting and VAV boxes for classroom and administration areas, and a variable speed AHU for gymnasiums and/or multipurpose rooms; both central and localized exhausting is provided via fans and ducting. Heat and /or energy recovery for ventilation systems. Controls include a DDC system and thermostats. Fire protection is wet pipe system with appropriate risers and valves. Heating fuel is stored in an exterior tank and interior day tank and is distributed via steel piping.

09 Electrical

The Model Alaskan School includes a service disconnect, a main distribution panel, and subpanels all fed via various size conductor and both rigid, IMC, and flexible conduit. Lighting systems include pendent and surface mounted area lighting, task lighting, and emergency lighting. Lighting is controlled via occupancy sensors, manual, and automated controls. Power is distributed through sub-panels to feed receptacles of varying amperages, motors, and equipment. Special Systems include addressable fire alarm, data/telecom, public address intercom and at gymnasium/stage, security to include intrusion detection and video surveillance, and hearing-impaired classroom audio assist. Emergency backup power is provided via diesel generator complete with fuel storage and system interties.

10 Equipment & Furnishings

The Model Alaskan School includes a selection of athletic equipment (main and secondary basketball goals, volleyball floor inserts, chinning bar, pegboard), food preparation (refrigerator, freezer, convection oven, range and hood, under-counter fridge), laundry equipment (stacked washer and dryer), classroom equipment (projection screens, window blinds), and entry mats. Associated with special electrical systems, the model also provides for classroom and gymnasium/stage audio visual systems. Associated with plumbing systems, the model provides for three-compartment sink, handwash sink, and grease interceptor. Acceptable additional items and alternatives are detailed in the construction standards that follow.

11 Special Conditions

The Model Alaskan School includes site preparation work that aligns with Special Site Conditions of this section to include clearing and grubbing, survey, and layout, SWPPP, excavation, geotextiles, fill, and compaction work. While the full *Program Demand Cost Model for Alaskan Schools* does include estimating elements for demolition and hazardous materials conditions, its Model School Escalation file does not. Primarily this is due to these elements being dependent on specific project environments and conditions.

Program Demand Cost Model Update

The proposed changes to update the DEED's Program Demand Cost Model (21st edition) model school elements will be issued as supplemental material prior to the meeting.

Department of Education & Early Development
Division of Finance & Support Services/Facilities

Work Topics for the BR & GR Committee

Proposed As Of: ~~December 9, 2021~~April 19, 2022

BR&GR 2022 Work Items	Responsibility	Due Date
1. CIP Grant Priority Review – [(b)(1)]		
1.1. FY23 MM & SC Grant Fund Final Lists (4 AAC 31.022(a)(2)(B))	Committee	Apr 2022
1.2. FY24 MM & SC Grant Fund Initial List	Committee	Dec 2022
2. Grant & Debt Reimbursement Project Recommendations – [(b)(2)]		
2.1. Six-year Capital Plan (14.11.013(a)(1); 4 AAC 31.022(2))	Dept	Annually, Nov
3. Construction Standards for Cost-effective Construction – [(b)(3)]		
3.1. Model School Costs (DEED Cost Model)		
3.1.1. Model School Analysis & Updates (Allowable Elements)		Annually, Jan-May
3.1.1.1. Solicit, Award, And Manage Model School Update	Dept	Annually, Jan
3.2. Model School Standards		
3.2.1. State Building Systems Standards		Mar 19- Feb 22
3.2.1.1. Review Final Draft for Approval to Seek Public Comment	Committee	Sep 2021
3.2.1.2. Review Public Comment Assign Responsibility	Committee	Dec 2021
3.2.1.3. Validate/Incoporate Comments	Subcommittee	Jan 2022
3.2.1.4. Review Updated Draft for 2nd Public Comment	Committee	Feb 2022
3.2.1.5. Complete and publish standards [See 6.2 New Publications]	Dept	Apr 2022
3.2.1.6. Implement New Standards [See 6.3 Regulations]	Dept	TBD
3.2.1.7. Review/Approve Plan for Biennial Updates	Committee	Apr 2022
3.3. Design Ratios		
3.3.1. Development of Design Ratios O:EW, V:GSF, V:ES		
3.3.1.1. Amended/Corrected Final Ratios	Dept	Feb 2021
3.3.1.2. Final All Ratios – 1st Review	Committee	Apr 2021
3.3.1.3. Validation Study	Dept	Dec 2021
3.3.1.4. Validation Study Review/Recommendations	Subcommittee	Jan 2022
3.3.1.5. Recommendations Review, Release for Comment	Committee	~~Feb~~ Jun 2022
3.3.1.6. Evaluate Public Comment, Make Recommendations	Committee	~~Apr~~ Sep 2022
3.3.1.7. Manage Regulation Development & Implementation	Dept	~~Jun~~ Sep22 – ~~Dec~~ Apr ~~2022~~23
3.3.2. Develop Test Method for Ratios	Subcommittee	~~Jul~~ Oct 2022
3.4. School Space Allocation Issues		
3.4.1.Space Guidelines Accuracy		
3.4.1.1. K-12 Allocation Calculation/Formula Issue	Subcommittee	Feb 2022
3.4.1.2. Variance Allowances Review	Subcommittee	Mar 2022
3.4.1.3. Exclusions and GSF Definition Review	Subcommittee	Apr 2022
3.4.1.4. Recommend Accuracy Adjustments	Subcommittee	Jun 2022
3.4.1.5. Review Subcommittee, Make Recommendations to SBOE	Committee	Jun 2022
3.4.2. Space Guidelines Adequacy		
3.4.2.1. GSF Definition Review (incl ASHRAE)	Subcommittee	Apr 2022
3.4.2.2. Electrical/Mechanical (incl ASHRAE) Space	Subcommittee	Sep 2022
3.4.2.3. Storage in Remote Locations	Subcommittee	Oct 2022
3.4.2.4. Space Related to Security	Subcommittee	Nov 2022
3.4.2.5. Community Use & Education Adequacy	Subcommittee	Dec 2022
3.4.2.6. Recommend Adequacy Adjustments	Subcommittee	Dec 2022
3.4.2.7. Review Subcommittee, Make Recommendations to SBOE	Committee	Dec 2022
3.4.3. Regulation Actions	Dept	TBD
4. Prototypical Design Analysis – [(b)(4)]		
4.1. Update 2004 Prototypical Design Committee Position Paper	Committee	Sep 2021
4.1.1. Draft Update to Position Paper	Dept	May 2022
4.1.2. Review/Finalize Position Paper	Committee	Jun 2022

BR&GR 2022 Work Items	Responsibility	Due Date
5. CIP Grant Application & Ranking – [(b)(5) & (6)]		
5.1. FYXX CIP Briefing – Issues and Clarifications	Dept	Annually, Dec
5.2. FY24 CIP Draft Application & Instructions	Dept	Apr 2022
5.2.1. Life Safety/Code/POS Matrix Weighting Review	Cmte	2022
5.3. FY24 CIP Final Application & Instructions	Committee	Apr 2022
5.4. Future CIP Application Issues		TBD
5.4.1. Space Allocation Issues	Dept	TBD
5.4.1.1. Analyze and Make Recommendation to Committee	Dept	TBD
5.4.1.2. Manage Regulation Development and Implementation	Dept	TBD
5.4.2. Projected Unhoused (erosion/environmental factors)	Dept	TBD
5.4.3. Total Point Balance Review	Committee	TBD
5.4.3.1. Analyze and Make Recommendation to Committee	Dept	Dec 2022
6. CIP Approval Process Recommendations – [(b)(7)]		
6.1. Publication Updates		
6.1.1. Program Demand Cost Model for Alaskan Schools	Dept	Annually, May
6.1.2. Alaska School Facilities PM Handbook		Dec 17–Dec 21
6.1.2.1. Preventive Maintenance Handbook – Progress	Dept	Dec 2021
6.1.2.2. Preventive Maintenance Handbook – Public Comment	Committee	Apr 2022
6.1.2.3. Preventive Maintenance Handbook – Final	Committee	Sep 2022
~~6.1.3. Capital Project Administration Handbook~~		
~~6.1.3.1. Capital Project Administration Handbook – Validation~~	~~Dept~~	~~Dec 2021~~
~~6.1.3.2. Capital Project Administration Handbook – Initial~~	~~Dept~~	~~Jan 2022~~
~~6.1.3.3. Capital Project Administration Handbook – Public Cmt~~	~~Committee~~	~~Feb 2022~~
~~6.1.3.4. Capital Project Administration Handbook – Final~~	~~Committee~~	~~Apr 2022~~
~~6.1.4.~~6.1.3. Project Delivery Method Handbook		
~~6.1.4.1.~~6.1.3.1. Project Delivery Method Handbook – Validation	Dept	Feb 2022
~~6.1.4.2.~~6.1.3.2. Project Delivery Method Handbook – Initial	Dept	Mar 2022
~~6.1.4.3.~~6.1.3.3. Project Delivery Method Handbook – Public Cmt	Committee	Apr 2022
~~6.1.4.4.~~6.1.3.4. Project Delivery Method Handbook – Final	Committee	Sep 2022
6.2. New Publications		
~~6.2.1. School Construction Standards Handbook (see 3.3)~~		~~May 17-Apr 21~~
~~6.2.1.1. Construction Standards Handbook – Progress~~	~~Committee~~	~~Apr 2021~~
~~6.2.1.2. Construction Standards Handbook – Progress~~	~~Dept/Subcmte~~	~~Jul 2021~~
~~6.2.1.3. Construction Standards Handbook – Pub Cmt~~	~~Committee~~	~~Sep 2021~~
~~6.2.1.4. Construction Standards Handbook – Progress~~	~~Dept/Submte~~	~~Jan 2022~~
~~6.2.1.5. Construction Standards Handbook – Pub Cmt~~	~~Committee~~	~~Feb 2022~~
~~6.2.1.6. Construction Standards Handbook – Final~~	~~Committee~~	~~Apr 2022~~
6.3. Regulations		
6.3.1. Baseline Design Ratios (see item 3.5.2)	Dept (w/Cmte)	
6.3.1.1. Draft Regulation	Dept (w/Cmte)	TBD
6.3.1.2. SBOE Public Comment on Regulation	Dept	TBD
6.3.1.3. Review Public Comments from SBOE Comment Period	Committee	TBD
6.3.2. Reuse of School Plans and Systems (see item 4.2)	Dept (w/Cmte)	
6.3.2.1. Draft Regulation	Dept (w/Cmte)	TBD
6.3.2.2. SBOE Public Comment on Regulation	Dept	TBD
6.3.2.3. Review Public Comments from SBOE Comment Period	Committee	TBD

7. Energy Efficiency Standards – [(b)(8)]

No current items.

BR&GR 2022 Work Items **Responsibility** **Due Date**

Projected Meeting Dates

~~February 28, 2022 – Teleconference~~
- ~~FY24 CIP Application Review~~
  - ~~Sec. 4 Code/Life Safety/Protection of Structure Condition Matrix~~
  - ~~Sec. 9 PM Matrices~~
- ~~Design Ratios Review for Public Comment~~
- ~~Capital Project Administration Handbook – Initial Draft~~
- ~~Construction Standards Handbook – 2nd Public Comment Draft~~

~~April (1 ½ Days) (TBD), 2022 – In-Person (Juneau)~~
- ~~Approve FY24 Application and Support Materials~~
- ~~Cost Model Alaska Model School Analysis~~
- ~~Design Ratio Recommendations~~
- ~~Preventive Maintenance Handbook – Draft for Public Comment~~
- ~~Capital Project Administration Handbook – Final~~
- ~~Project Delivery Method Handbook – Draft for Public Comment~~
- ~~Construction Standards Handbook – Final~~
- ~~Review/Approve Plan for Construction Standards Biennial Update~~

June (TBD), 2022 – Teleconference
- Space Guidelines Accuracy Review/Recommendation
- Prototypical Design Committee Position Paper Update
- Briefing Paper: Insufficient/Additional Project Funding (follow up from Dec. 9, 2021)

September (TBD), 2022 – Teleconference
- Project Delivery Method Handbook – Final Draft
- Preventive Maintenance Handbook – Final Draft

December (TBD), 2022
- FY24 Initial CIP Lists
- Space Guidelines Adequacy Review/Recommendation
- CIP Application Total Points Balance Review

Department of Education & Early Development
Division of Finance & Support Services/Facilities

Work Topics for the BR & GR Committee
AS 14.11.014
Updated: 3/17/2021

BR&GR Work Items – Master List	Responsibility	Due Date
1. CIP Grant Priority Review – [(b)(1)]		
1.1. FYXX MM & SC Grant Fund Initial Lists (4 AAC 31.022(a)(2)(B))	Committee	Annually
1.2. FYXX MM & SC Grant Fund Reconsideration Lists	Committee	TBD
1.3. FYXX MM & SC Grant Fund Final Lists	Committee	TBD
2. Grant & Debt Reimbursement Project Recommendations – [(b)(2)]		
2.1. Six-year Capital Plan (14.11.013(a)(3); 4 AAC 31.022(2)(A))	Dept	Annually
2.1.1. Statewide Inventory	Dept	TBD
2.1.2. Statewide Facility Appraisal	Dept	TBD
2.1.3. Statewide Condition Survey	Dept	TBD
2.1.4. Renewal & Replacement Database	Dept	TBD
2.1.5. Presentation by ASD on Facility Condition Indexing	Committee	TBD
2.2. School Capital Funding	Dept (w Cmte)	TBD
2.2.1. Review Process & Funding Streams for Rural & Urban Projects	Dept	TBD
2.3. State's Role in Design & Construction		
2.3.1. In Organized City/Boroughs	Dept	TBD
2.3.2. In REAAs	Dept	TBD
3. Construction Standards for Cost-effective Construction – [(b)(3)]		
3.1. DEED Cost Model	Dept	2018
3.1.1. Model School Analysis (Allowable Costs)	Committee	Annually, Apr
3.2. Cost Standards	Dept	TBD
3.2.1. Cost/Benefit, Cost Effectiveness Guidelines	Dept	TBD
3.2.2. Life Cycle Cost Guidelines	Dept	TBD
3.3. Commissioning	Committee	2018
3.3.1. Project Categories Requiring Commissioning	Committee	2018
3.3.2. Commissioning Agent Qualifications	Committee	2018
3.3.3. System Requirements for Commissioning	Committee	2018
3.4. Materials/Systems Analysis	Committee	TBD
3.4.1. Model School Building Systems	Dept	2018
3.4.2. School District Building Systems	Dept	TBD
3.5. Design Ratios	Committee	TBD
3.5.1. Building System Ratios ("Micro Ratios") TBD		
3.6. Construction	Committee	TBD
3.6.1. Construction Duration		
3.6.2. Value Analysis		
3.6.3. Component Use and Specifications		
4. Prototypical Design Analysis – [(b)(4)]		
4.1. SB87 – Amendments to 14.11.014(b)(4)	Committee	TBD
5. CIP Grant Application & Ranking – [(b)(5) & (6)]		
5.1. FYXX CIP Draft Application & Instructions (14.11.013)	Dept	Annually
5.2. FYXX CIP Final Application & Instructions	Committee	Annually

5.3.	Separate School Construction and Major Maintenance Applications	Committee	
5.4.	Separate Grant and Debt Applications	Committee	2019
5.5.	Appendix D Update – Type of Space Added or Improved	Committee	2019
5.5.1.	New Classifications & Terminology		
5.6.	Review Issues with "Primary Purpose" Designations		
5.6.1.	Playgrounds, Parking Lots, etc.		
5.7.	Rural Definition For Art (see Instructions, Appx C)	Committee	TBD
5.8.	Space Allocation Issues (4 AAC 31.020(c))	Committee	TBD
5.8.1.	Career Tech		
5.8.2.	Resource Rooms and Special Ed		
5.8.3.	Space Related to Security		
5.8.4.	Net vs. Gross		
5.8.5.	Electrical/Mechanical Space		
5.8.6.	Storage in Remote Areas		
5.8.7.	"Found Space" (cost-effectiveness test)		
5.8.8.	Replacement Schools Clarifications		
5.8.9.	Non-school Facilities		
5.8.10.	Educational Adequacy/Space Increase		
5.8.11.	Community Use Space		
5.8.12.	Pre-school		
5.8.13.	Out-of-District Enrollment (vocational/charters, etc.)		
5.8.14.	Second Attendance Area Schools		
5.8.15.	Enrollment Projection Models		
5.8.16.	Standard Gym Size		
5.8.17.	Projected Unhoused (environmental/erosion timeline)		
5.9.	Rater's Guide Matrices		
5.9.1.			
5.9.2.	Emergency Points Matrix	Dept (w/Cmte)	TBD
5.10.	Scoring Category & Weighting Factors		
5.10.1.	Weighting for Maintenance	Dept (w/Cmte)	TBD
5.10.2.	Weighting for Type of Space	Dept (w/Cmte)	TBD
5.10.3.	Weighting for Emergency	Dept (w/Cmte)	TBD
5.10.4.	Weighting for Life Safety/Code	Dept (w/Cmte)	TBD

6. CIP Approval Process Recommendations – [(b)(7)]

6.1.	Publication Updates (4 AAC 31.020(a))		
6.1.1.	Program Demand Cost Model for Alaskan Schools	Dept	Annually
6.1.2.	Capital Project Administration Handbook	Dept	2022
6.1.3.	Alaska School Facilities Preventive Maintenance. Handbook	Dept (w Cmte)	2021
6.1.4.	Project Delivery Method Handbook	Dept	2022
6.1.5.	Cost Format – *EED Standard Construction Cost Estimate*	Dept	2025
6.1.6.	Space Guidelines Handbook	Dept (w Cmte)	TBD
6.1.7.	Life Cycle Cost Analysis Handbook	Dept (w Cmte)	2023
6.1.8.	Swimming Pool Guidelines	Dept (w Cmte)	2024
6.1.9.	Guide for School Facility Condition Surveys	Dept (w Cmte)	2025
6.1.10.	A Handbook to Writing Educational Specifications	Dept (w Cmte)	2025
6.1.11.	Site Selection Criteria and Evaluation Handbook	Dept	2021
6.1.12.	Facility Appraisal Guide	Dept	TBD
6.1.13.	Guidelines for School Equipment Purchases	Dept (w Cmte)	2021
6.1.14.	Architectural and Engineering Services for School Facilities	Dept	2023
6.2.	New Publications		
6.2.1.	*School Design & Construction Standards*	*Dept (w Cmte)*	*2021*
6.2.2.	Outdoor Facility Guidelines for Secondary Schools	Dept	TBD
6.2.3.	Renewal & Replacement Guideline	Dept	TBD
6.3.	Regulations		
6.3.1.	CIP "Primary Purpose" (see 5.6 Primary Purpose)	Dept (w Cmte)	TBD

6.4.	Online Application	Dept	TBD
6.5.	Database Review		
6.5.1.	Consolidate Into Single Database	Dept	TBD
6.5.2.	Coordination With Unity Project	Dept	TBD
6.5.3.	ADM By Grade Level	Dept (SERRC)	TBD

7. Energy Efficiency Standards – [(b)(8)]

7.1.	Reporting Requirements	Dept (w Cmte)	TBD
7.2.	Energy Modeling	Dept (w Cmte)	TBD
7.3.	Retro-Commissioning Evaluation Tool	Dept (w Cmte)	2020

Bond Reimbursement and Grant Review Committee

As of: March 23, 2021

Member	Appointed	Re-appointed	Term Expires
Heidi Teshner — Chair Commissioner or Commissioner's Designee	Commissioner's Designee	--	--
Rep. Dan Ortiz House of Representatives Member	Appointed by Speaker	--	--
Sen. Roger Holland Senate Member	Appointed by President	--	--
Randy Williams Professional Degrees & Experience in School Construction	03/01/2019		02/28/2023
Dale Smythe Professional Degrees & Experience in School Construction	03/01/2017	03/01/2021	02/28/2025
James Estes Experience in Urban or Rural School Facilities Management	03/01/2019		02/28/2023
Kevin Lyon Experience in Urban or Rural School Facilities Management	03/01/2021		02/28/2025
David Kingsland Public Representative	03/01/2019		02/28/2023
Branzon Anania Public Representative	03/01/2021		02/28/2025

Members appointed by commissioner unless noted. See AS 14.11.014 and 4 AAC 31.087.