



April 10, 2023

Alaska Dept. of Education and Early Development  
Division of School Finance and Facilities  
801 West 10<sup>th</sup> Street, Suite 200  
Juneau, Alaska 99811-0500

Attn: Joe Willhoite, Facilities Manager

Re: Program Demand Cost Model - Model School Summary of Proposed Changes

Dear Mr. Willhoite,

Attached please find our summary of changes to the Model School Escalation Study. The first six items correspond to the DEED requested modifications. The rest are updates to pricing. After review should you have questions, require additional information, or have suggestions, we would be pleased to discuss them.

Sincerely,

A handwritten signature in black ink, appearing to read 'Kent Gamble', written over a light gray diamond-shaped background.

Kent Gamble, Principal

A handwritten signature in black ink, appearing to read 'Rob Brown', written over a light gray diamond-shaped background.

Rob Brown, Estimator



1. Geographic Area Cost Factor Study – Changes include updates to the location, general requirements, per diem rates, and fuel costs. Updates to freight costs have yet to be received from industry sources and these changes should be incorporated upon receipt.
2. Kenai Peninsula district has been broken down to include the west side of Cook Inlet and the small communities on the Eastern Peninsula. After review, dividing the Bering Strait region into two regions as requested was not worthwhile. The difference in costs in this particular area was negligible between the island communities and the mainland communities.
3. Superstructure and Roofing Divisions – It must be remembered that the Model School represents costs that may be found in many construction projects, but it has not gone through the design process. These divisions were checked against current pricing quotes, current labor pricing, and for logic of the quantities and assemblies. In doing so the current pricing was first updated and then the labor pricing. When we looked at the logic of the quantities and assemblies involved, we found that these prices differ in that the type of roof, a metal clad, pitched roof is naturally more expensive than an EPDM flat roof or many other typical roof assemblies. As a pitched roof the quantity of steel in the superstructure is going to be different than a flat roof. When compared with a flat EPDM roof the assembly itself is very similar until the final covering, metal panels or EPDM, is applied. At that point the metal panel price shows through as being the more expensive option at a much higher square footage cost. Also, this roof is pitched, adding to the labor cost versus working on a flat roof. For these reasons, the roof used in the model school does stand out as a higher percentage of the project cost than perhaps other types, a flat EPDM roof having been used for basic comparison here.
4. Gym Allowable Square Footage – To bring the Model School in alignment with the Construction Standards, we chose to follow the course suggested in reducing the gym to 3,500 square feet and absorbing the 100 square feet into circulation and community spaces. This allows consistency of the overall square footage of the Model School and will help to keep the continuity of pricing between editions of the Program Cost Demand Model.
5. Reduction in Doors – The requested change was made in the Model School to reduce the door leaves to a total of 14.
6. Gym Flooring Type – The requested change was made in the Model School to remove the wood sports flooring and replace it with resilient gym flooring.
7. A notable increase in the price of concrete was seen this year in obtaining quotes. An approximately 12% increase in the price resulted in higher costs in the site and substructure sections using concrete. A similar price increase of approximately 9% in the cost of gravel and soils also drove these sections up.



8. Changes in the superstructure and roofing sections were seen due to reasons outlined in Item 3 above.
9. Mechanical and electrical pipe, conduit, and conductors all moderated following intense price growth last year. In these sections the labor units were adjusted to conform to RS Means 2023 as well.
10. Mechanical units and equipment continue to see significant price increases for a variety of reasons. All prices were updated based on recent quotes for boilers, air handling units, pumps, tanks, and similar. These items pushed the growth of this section past any moderation of copper and other piping prices that may have been realized from the previous point.
11. An overall growth in the Model School of approximately 4.5% is well within the inflation rate seen since it was last updated in 2022. Moderating copper and other material prices have helped to keep the growth of the Model School well under the 6% to 7% inflation rate increase that was typical for the time period.

STATE OF ALASKA  
ESCALATION COST STUDY

MODEL SCHOOL BUILDING  
SUMMARY COST COMPARISON REPORT

APRIL 2023



STATE OF ALASKA ESCALATION COST STUDY - SUMMARY COST COMPARISON REPORT  
 ANCHORAGE, ALASKA (BASE)  
 APRIL 2023



HMS Project No.: 23013

**SUMMARY COST COMPARISON**

	<i>2022 Total</i>	<i>2023 Total</i>	<i>Delta</i>	<i>Comments</i>
01 - SITE	\$ 1,762,121	\$ 1,887,741	7.13%	Material price updates
02 - SUBSTRUCTURE	927,287	983,004	6.01%	Material price updates
03 - SUPERSTRUCTURE	3,645,882	3,294,699	-9.63%	Material price and labor unit updates
04 - EXTERIOR CLOSURE	1,471,960	1,513,710	2.84%	Material price updates
05 - ROOF SYSTEMS	1,388,638	1,449,935	4.41%	Material price and labor unit updates
06 - INTERIORS	2,243,292	2,256,792	0.60%	Material price updates
07 - CONVEYORS	0	0	N/A	
08 - MECHANICAL	2,568,008	3,184,719	24.02%	Material price and labor unit updates
09 - ELECTRICAL	1,803,158	1,824,399	1.18%	Material price and labor unit updates
10 - EQUIPMENT AND FURNISHINGS	140,948	141,109	0.11%	Material price updates
11 - SPECIAL CONDITIONS	0	0	N/A	
<b><i>SUBTOTAL:</i></b>	<b><i>\$ 15,951,294</i></b>	<b><i>\$ 16,536,108</i></b>	<b><i>3.67%</i></b>	
12 - GENERAL CONDITIONS	3,451,460	3,724,490	7.91%	Minor updates
<b><i>SUBTOTAL:</i></b>	<b><i>\$ 19,402,754</i></b>	<b><i>\$ 20,260,598</i></b>	<b><i>4.42%</i></b>	
13 - CONTINGENCIES	1,940,275	2,026,060	4.42%	No changes
<b><i>TOTAL ESTIMATED CONSTRUCTION COST:</i></b>	<b><i>\$ 21,343,029</i></b>	<b><i>\$ 22,286,658</i></b>	<b><i>4.42%</i></b>	
<b><i>COST PER SQUARE FOOT:</i></b>	<b><i>\$ 515.53 /SF</i></b>	<b><i>\$ 538.33 /SF</i></b>		
<b><i>GROSS FLOOR AREA:</i></b>	<b><i>41,400 SF</i></b>	<b><i>41,400 SF</i></b>		

## **TABLE NO. 1 – GEOGRAPHIC AREA COST FACTOR (APRIL 2023)**

This is an estimate of geographic area cost factors based on averages for materials, freight, equipment costs, and current Title 36 labor rates. The cost factors are based on an institutional building in Alaska using a standard AIA contract or similar contract. This is merely a guide. Actual costs will vary.

This is only a guide and not necessarily correct for any specific need. It represents only a collection of costs normally found on some construction projects, rather than the custom requirements of a particular project.

This is not an index. This is a geographic area cost factor which includes not merely cost changes and logistical consideration, but also design criteria and how it is applied in different locations. Such design considerations would normally include standard concrete footings used mostly in Southcentral and Southeastern Alaska, to piling requirements in arctic and sub-arctic, however, as this is a line item in the cost model, it has not been included in these calculations.

The calculation used in developing these cost factors is based on reasonable assumptions. For example, barge freight, where appropriate, is mostly included rather than air freight for all materials and equipment. It is also assumed that local labor can be used to the fullest general availability, rather than all imported workers.

Village-to-village costs will vary by plus or minus 5%. When using this geographic cost factor, consider how the location for which the estimate is being prepared is different from other surrounding places.

Regional cost factors are based on general and approximate calculations for anticipated conditions generally found in the area and logistic considerations. The more specific area factors are more subjective and based on opinion rather than any detailed analysis.

Cost factors are based on the methodology described in the document entitled 'Department of Education and Early Development Geographic Cost Factors' as prepared by HMS Inc. dated April 2023.

**Table 1 - Geographic Area Cost Factor June 2019 to April 2023**

<b>LOCATION</b>	<b>2019 INDEX</b>	<b>2023 INDEX</b>	<b>2019 PERCENT-AGE</b>	<b>2023 PERCENT-AGE</b>	<b>ACTUAL CHANGE</b>	<b>% CHANGE</b>
Alaska Gateway	117.25	128.89	17.25%	28.89%	11.64	67.5%
Aleutian Region	163.31	157.63	63.31%	57.63%	-5.68	-9.0%
Aleutians East Borough	136.74	126.29	36.74%	26.29%	-10.45	-28.4%
Anchorage (Base)	100.00	100.00	0.00%	0.00%	0	0.0%
Annette Island	129.75	122.09	29.75%	22.09%	-7.66	-25.7%
Bering Strait	156.78	157.09	56.78%	57.09%	0.31	0.5%
Bristol Bay Borough	135.12	132.76	35.12%	32.76%	-2.36	-6.7%
Chatham	126.96	116.97	26.96%	16.97%	-9.99	-37.1%
Chugach	138.50	133.44	38.50%	33.47%	-5.06	-13.1%
Copper River	113.56	125.97	13.56%	25.97%	12.41	91.5%
Cordova City	140.96	143.77	40.96%	43.77%	2.81	6.9%
Craig City	128.40	114.61	28.40%	14.61%	-13.79	-48.6%
Delta/Greely	117.21	124.33	17.21%	24.33%	7.12	41.4%
Denali Borough	117.31	125.11	17.31%	25.11%	7.8	45.1%
Dillingham City	132.10	138.33	32.10%	38.33%	6.23	19.4%
Fairbanks North Star Borough	105.80	118.92	5.80%	18.92%	13.12	226.2%
Galena City	144.00	141.76	44.00%	41.76%	-2.24	-5.1%
Haines Borough	113.69	112.87	13.69%	12.87%	-0.82	-6.0%
Hoonah City	125.66	129.37	25.66%	29.37%	3.71	14.5%
Hydaburg City	131.41	121.14	31.41%	21.14%	-10.27	-32.7%
Iditarod Area - Yukon River Village	146.62	155.63	46.62%	55.63%	9.01	19.3%
Iditarod Area - Kuskokwim River Village	150.34	153.53	50.34%	53.53%	3.19	6.3%
Iditarod Area - Landlocked Village	153.39	160.81	53.39%	60.81%	7.42	13.9%
Juneau City/Borough	114.49	116.11	14.49%	16.11%	1.62	11.2%
Kake City	131.55	128.56	31.55%	28.56%	-2.99	-9.5%
Kashunamiut	157.61	162.91	57.61%	62.91%	5.3	9.2%
Kenai Peninsula - Kenai/Soldotna	104.98	114.18	4.98%	14.18%	9.2	184.7%
Kenai Peninsula - Homer Area	108.78	119.77	8.78%	19.77%	10.99	125.2%
Kenai Peninsula - Eastern Area	New	122.77	New	22.77%	New	New
Kenai Peninsula - Western Area	New	128.57	New	28.57%	New	New
Ketchikan Gateway Borough	121.01	115.06	21.01%	15.06%	-5.95	-28.3%
Klawock City	128.36	118.07	28.36%	18.07%	-10.29	-36.3%
Kodiak Island Borough - Kodiak	126.45	125.55	26.45%	25.55%	-0.9	-3.4%
Kodiak Island Borough - Village	139.13	137.80	39.13%	37.80%	-1.33	-3.4%
Kuspuk	151.45	160.21	51.45%	60.21%	8.76	17.0%
Lake & Peninsula Borough - Gulf of Alaska Village	156.34	149.97	56.34%	49.97%	-6.37	-11.3%
Lake & Peninsula Borough - Bristol Bay Village	156.75	152.42	56.75%	52.42%	-4.33	-7.6%

Lake & Peninsula Borough - Landlocked Village	153.56	150.78	53.56%	50.78%	-2.78	-5.2%
Lower Kuskokwim - Bethel	129.08	129.13	29.08%	29.13%	0.05	0.2%
Lower Kuskokwim - Villages	154.56	164.26	54.56%	64.26%	9.7	17.8%
Lower Yukon	167.50	180.54	67.50%	80.54%	13.04	19.3%
Mat-Su Borough – Palmer/Wasilla	98.92	104.94	-1.08%	4.94%	6.02	-557.4%
Mat-Su Borough - Other Areas	106.54	120.16	6.54%	20.16%	13.62	208.3%
Nenana City	110.32	128.87	10.32%	28.87%	18.55	179.7%
Nome City	134.85	139.29	34.85%	39.29%	4.44	12.7%
North Slope Borough - Utqiagvik (Barrow)	153.40	160.08	53.40%	60.08%	6.68	12.5%
North Slope Borough - Villages	180.86	182.63	80.86%	82.63%	1.77	2.2%
North Slope Borough - Atkasuk/Point Lay	183.81	183.28	83.81%	83.28%	-0.53	-0.6%
Northwest Arctic - Kotzebue	145.17	140.75	45.17%	40.75%	-4.42	-9.8%
Northwest Arctic – Villages With Barge Service	159.17	179.22	59.17%	79.22%	20.05	33.9%
Northwest Arctic – Villages Without Barge Service	171.49	181.50	71.49%	81.50%	10.01	14.0%
Pelican City	135.88	128.52	35.88%	28.52%	-7.36	-20.5%
Petersburg Borough	128.28	127.70	28.28%	27.70%	-0.58	-2.1%
Pribilof Island	143.65	141.43	43.65%	41.43%	-2.22	-5.1%
Sitka City/Borough	120.15	106.24	20.15%	6.24%	-13.91	-69.0%
Skagway Borough	113.68	118.26	13.68%	18.26%	4.58	33.5%
Southeast Island	127.85	123.40	27.85%	23.40%	-4.45	-16.0%
Southwest Region	152.20	158.60	52.20%	58.60%	6.4	12.3%
St. Mary's City	145.44	158.07	45.44%	58.07%	12.63	27.8%
Tanana City	131.29	145.35	31.29%	45.35%	14.06	44.9%
Unalaska City	127.04	124.00	27.04%	24.00%	-3.04	-11.2%
Valdez City	128.11	145.98	28.11%	45.98%	17.87	63.6%
Wrangell City/Borough	126.15	124.21	26.15%	24.21%	-1.94	-7.4%
Yakutat City/Borough	142.57	152.40	42.57%	52.40%	9.83	23.1%
Yukon Flats - Village on Road System	119.11	127.68	19.11%	27.68%	8.57	44.8%
Yukon Flats - Village on River	154.79	156.98	54.79%	56.98%	2.19	4.0%
Yukon Flats - Landlocked Village	158.43	157.70	58.43%	57.70%	-0.73	-1.2%
Yukon-Koyukuk - Village on Road System	121.64	132.11	21.64%	32.11%	10.47	48.4%
Yukon-Koyukuk - Village on Yukon River	157.50	162.33	57.50%	62.33%	4.83	8.4%
Yukon-Koyukuk - Village on Koyukuk River	171.51	177.07	71.51%	77.07%	5.56	7.8%
Yupiit	145.51	145.71	45.51%	45.71%	0.2	0.4%



**TABLE NO. 3 – ALASKAN CONSTRUCTION INDEX APRIL 2023  
(ANCHORAGE, ALASKA)**

These cost estimates are an index based on average costs for materials, freight and equipment, and estimated Title 36 labor rates. The index is based on an institutional building in Anchorage using a standard AIA contract or similar contract.

Always remember that an index is only a useful guide and not necessarily correct for any specific need. It represents only a collection of costs normally found on some construction projects, rather than the custom requirements of a particular project.

The COVID-19 pandemic has now entered its fourth year on the world scene and although many have seen a return to a more normal day-to-day life, the effects are still being felt in workforces and supply chains. Labor shortages seen in the initial two years of the pandemic have been somewhat mitigated by vaccines and other similar measures, however the effects of the changes to the labor force are ongoing. During the initial lockdowns and shelter in place periods the construction industry began losing many workers to other sectors of the labor market that allowed alternative work locations and schedules. Another loss was to retirement as many workers close to the retirement age simply decided to retire early. Similar problems occurred in the manufacturing industries that supply construction materials and components. This labor shortage has affected both general and subcontractors' ability to perform the work that they are awarded. For manufacturers and vendors, it has meant longer lead times and more volatile prices. Both issues have resulted in disrupted project timelines which compound into project cost overruns. These also increase the perceived risk in the construction industry which contractors compensate for by pushing up their bids.

The ongoing war between Russia and Ukraine with the related sanctions continue to cause problems with production and transport of a number of commodities. In turn, this contributes to the volatile pricing of many materials. Russian and Ukrainian exports that would normally be going into Europe are limited or unavailable, creating a need filled by other markets. Markets filling that need are now limited and the ripples are felt globally.

In Alaska oil production, and along with it the population, have continued to slowly decline. Higher oil prices have helped to offset the lower production, helping the State fund many projects that have been on a waiting list. The decline in population has meant that many employers, including contractors, are unable to fill needed, and sometimes key, positions.

Some employers have turned to hiring out of state workers to temporarily fill out crews to complete work under contract. Others have raised wages to entice workers to change companies or come back from the early retirement already mentioned. Labor unions are also negotiating for higher wages. A recent negotiation resulted in a \$15.00 per hour raise over the next three years for one union. All this comes at a least fortuitous time as both State and Federal construction dollars are flowing in for infrastructure and other improvements and putting many delayed projects out for bid.

For these reasons, HMS Inc. has continued to use a unique market conditions contingency on all projects of 3.50% over and above all typical industry accepted contingencies. As conditions and their impact on construction costs becomes more predictable, we may choose to adjust or eliminate this contingency, however for the time being lacking reliable cost modeling for this situation, this is our recommendation. In addition, for planning purposes the 22nd Edition will continue to use an increased annual escalation rate of 5.00%.

Back-up data for this analysis is held at HMS Inc., 4103 Minnesota Drive, Anchorage, Alaska.

### Alaskan Construction Index April 2020

<u>BASE YEAR 1980</u>	<u>INDEX (100.00)</u>	<u>INCREASE</u>
1980	100.00	N/A
1981	104.40	4.40%
1982	107.70	3.30%
1983	115.60	7.90%
1984	118.60	3.00%
1985	117.70	-0.90%
1986	121.40	3.70%
1987	123.00	1.60%
1988	124.80	1.80%
1989	126.40	1.60%
1990	131.80	5.40%
1991	134.30	2.50%
1992	138.80	4.50%
1993	143.30	4.50%
1994	144.40	1.10%
1995	143.40	-1.00%
1996	146.20	2.80%
1997	146.70	0.50%
1998	149.12	2.42%
1999	150.96	1.84%
2000	152.60	1.64%
2001	154.53	1.93%
2002	162.54	8.01%
2003	166.34	3.80%
2004	176.57	10.23%
2005	188.55	11.98%
2006	198.41	9.86%
2007	205.73	7.32%
2008	208.59	2.86%
2009	209.55	0.96%
2010	212.37	2.82%
2011	216.26	3.89%
2012	218.67	2.41%
2013	222.87	4.20%
2014	223.78	0.91%
2015	228.32	4.54%
2016	227.96	-0.36%
2017	229.91	1.95%
2018	236.16	6.25%
2019	237.58	1.42%
2020	239.49	1.91%
2021	246.92	7.43%
2022	261.29	14.37%
2023	266.57	4.34%
2024	Estimated	5.00%

## TABLE NO. 6 – STATEMENT OF SPECIFICATIONS

Consideration for pricing of unit costs in the Program Demand Cost Model for Alaskan Schools is based on superior level of specifications generally applied to new construction throughout the state. The reason being is that these schools are subject to hard usage, by day for educational use housing a significant number of students, faculty, and support staff, and at other times schools are also used by the communities for a variety of functions.

To place the standard of specifications used on Alaskan schools in every day words, it will be reasonable to say that the quality of materials, workmanship, and equipment specified is well above residential facilities, above a standard office building, likely similar to an airport and a little lower than a medical center.

Since the early 1970s, Alaska has tried to consider future operations and maintenance cost impacts in the funding of new school programs in the hope that a better funded project would allow for a more economic facility in terms of Life Cycle Cost. For this reason, schools have been designed to a superior level of specification.

In recent years, some significance has been placed on ecological concerns that are both earth friendly and include long-term cost savings.

### *Concrete:*

Strength of concrete often is specified to a minimum of 4,000 psi.

### *Masonry:*

Many areas in Alaska are Seismic Zone 4. Design of masonry work calls for significant reinforcing and support.

### *Metals:*

Many areas in Alaska are Seismic Zone 4. Design of structural elements have enhanced strength connections and cross bracings.

### *Woods and Plastics:*

Rough carpentry lumber at a minimum No. 2 grade, plywood (structural I) and good quality finish work with plastic laminate finish.

Wood framed buildings designed for Seismic Zone 4.

### *Thermal and Moisture Protection:*

Thermal insulation in the building envelope complies with the requirements of ASHRAE 90.1 for commercial buildings. Roofing material is EPDM or Klip-Rib metal, the building sealed with air barrier and joint sealants.

### *Openings:*

Superior quality doors, frames, and hardware. Windows Low E and insulated.

*Finishes:*

Standard school finishes. Gypboard walls, including impact protection where appropriate, acoustical tile ceilings, carpet, and vinyl flooring with ceramic tile in bathroom toilets. Rigid vinyl wall covering at janitor closets and kitchens.

*Specialties:*

Higher quality toilet partitions and toilet accessories, painted metal lockers, and comprehensive signage.

*Equipment:*

Superior quality kitchen equipment, stainless steel worktops, good quality sports equipment.

*Furnishings:*

Plastic laminate finish to casework. Solid surface countertops. Window coverings and entry mats. Smart boards.

*Mechanical:*

Copper water piping, insulated cast iron waste, American Standard fixtures.

Weil McLane high efficiency boilers, hydronic heating, air handling with computer room only cooling and exhaust system with digital controls.

Fully sprinklered fire suppression system throughout the school.

*Electrical:*

Good quality switchgear, panels and transformers, copper wiring all in conduit backed up with a standby generator. Lighting with energy saving lamps (LED), and good quality devices. Fire alarm system and all low voltage system currently used in modern Alaskan schools.

An allowance has been provided to include a school lockdown system.