



SCHOOL BOARD ACTION REPORT

DATE: October 9, 2017
FROM: Dr. Larry Nyland, Superintendent
LEAD STAFF: Dr. Lester Herndon, Associate Superintendent, Facilities and Operations
(206) 252-0644, ltherndon@seattleschools.org

For Introduction: November 15, 2017
For Action: December 06, 2017

1. TITLE

BEX IV: Wing Luke Elementary School Replacement Project: Value Engineering Report State Funding Assistance

2. PURPOSE

The Office of Superintendent of Public Instruction (OSPI) Form D-7, Application to Proceed with Bid Opening, requires the School Board's acceptance of the Value Engineering Report, and the Architect's Response and Recommendation Matrix.

3. RECOMMENDED MOTION

I move that the School Board accept the Value Engineering Report dated June 2017, and the Architect's Response and Recommendation Matrix, for the Wing Luke Elementary School Replacement project.

4. BACKGROUND INFORMATION

1. Background

During the month of May, 2017, SAZAN group performed an independent Value Engineering study of the Schematic Design drawings for the Wing Luke Elementary School project, as designed by NAC Architecture.

The study was undertaken by a team of professional architects, engineers, and cost estimators who analyzed the design and developed suggestions for adding value to the project. Value Engineering is defined by the Washington Administrative Code (WAC) 392-343-080 as a: *cost control technique which is based on the use of a systematic, creative analysis of the functions of the facility with the objective of identifying unnecessary high costs or functions and/or identifying cost savings that may result in high maintenance and operation costs.*

The Value Engineering study suggestions were accepted if they added value and/or reduced costs without negatively affecting the educational program and goals or the long-term operation of the building. The study provided the design team and District with information and strategies necessary to keep construction costs within budget.

The Value Engineering consultant made 56 different value recommendations, of which 21 were accepted or partially accepted and had potential cost savings, and 35 were rejected for various reasons, including not meeting District educational and program goals, District maintenance goals, or District sustainability goals. The total anticipated cost savings from the suggested proposals that the design team and District accepted is approximately \$887,419. The potential savings will be retained within the project design budget for further development of the design as the design was approximately 30% complete at the time of the study.

2. Alternatives

Do not accept the Value Engineering Report and implementation of the report: This is not recommended. If Board acceptance is not approved, it would delay the issuance of the D-8 form which allows the District to open bids and could impact the District's ability to receive State Funding Assistance. Not having the ability to open bids could potentially negatively impact the schedule for the Wing Luke Elementary School project.

3. Research

Research was performed by the SAZAN group which consists of professional architects, engineers, and cost estimators, Findings were reviewed by NAC Architecture and Heery International Inc. Criteria for research and review consisted of design, budgeting, scheduling, bidding, construction and construction management best practices from all firms involved.

Also adhered to and consulted were the following:

- WAC 392-343-080
- WAC 392-344-065
- American Institute of Architects (AIA): www.aia.org

5. FISCAL IMPACT/REVENUE SOURCE

This action helps to secure up to \$2 million in state funding assistance for the project.

The revenue source for this motion is BEX IV Capital Levy and anticipated state assistance funding.

Expenditure: One-time Annual Multi-Year N/A

Revenue: One-time Annual Multi-Year N/A

6. COMMUNITY ENGAGEMENT

With guidance from the District's Community Engagement tool, this action was determined to merit the following tier of community engagement:

Not applicable

Tier 1: Inform

Tier 2: Consult/Involve

Tier 3: Collaborate

The development of the BEX IV projects list underwent extensive community engagement. The community involvement in the Wing Luke Elementary School follows the Community Outreach Plan published in the BEX IV monthly report.

7. EQUITY ANALYSIS

This motion was not put through the process of a full racial equity analysis. The list of projects to be funded in the BEX IV Program was developed with the goal of providing a safe and functional learning environment to school facilities across the District. The replacement is primarily due to deficiencies within the existing buildings.

8. STUDENT BENEFIT

It is the goal of the District to continue the process of implementing the BTA and BEX Capital Levy programs and provide students with safe and secure school buildings.

9. WHY BOARD ACTION IS NECESSARY

Amount of contract initial value or contract amendment exceeds \$250,000 (Policy No. 6220)

Amount of grant exceeds \$250,000 in a single fiscal year (Policy No. 6114)

Adopting, amending, or repealing a Board policy

Formally accepting the completion of a public works project and closing out the contract

Legal requirement for the School Board to take action on this matter

Board Policy No. 6100, Revenues from Local, State, and Federal Resources provides the Board shall approve this item

Other: Requirement of the State's D-Form application process

10. POLICY IMPLICATION

This action is consistent with School Board Policy No. 6100, Revenues from Local, State, and Federal Resources. This is a requirement of the State D-7 Application for Assistance.

11. BOARD COMMITTEE RECOMMENDATION

This motion was discussed at the Operation Committee meeting on November 2, 2017. The Committee reviewed the motion and moved this forward to the full Board for approval.

12. TIMELINE FOR IMPLEMENTATION

Implementation of the accepted recommendations is immediate. The Value Engineering study does not specifically require community review.

13. ATTACHMENTS

- Value Engineering Summary (for full report please contact the Board Office)
- Architect's Response and Recommendation Matrix

Key Findings

- The completion of the construction and startup of the school in August 2020 appears workable, pending satisfactory permitting efforts and demo/abatement of the existing school facilities.
- It may be feasible to permit, bid and complete the demo/abatement work under an early-start, Phase 1 contract. Depending upon the permitting approvals, an early start contract package could be bid in late 2017. The main building construction project could then bid in early spring 2018 assuming a 16-month construction schedule. This schedule option would accelerate the demo/abatement effort and allow for some flexibility in the bidding and award of the building. It also would hopefully eliminate some of the risk exposure from the permitting/abatement issues so that more accurate budget management measures could be implemented.
- The estimate appears to be appropriate in most areas, but does not address the regional market conditions currently facing projects in the greater Seattle area. Communication with contractors in the area reveal that they are experiencing increases in prices primarily from:
 - Lack of skill tradesman, including plumbers, electricians, brick masons and IT/communications specialists
 - Increases in prime and sub-contractor overhead and profit due to many newer and less experienced staff members.
 - Lack of experienced construction managers, superintendents and project engineers to staff contractor in-house and field operations.
 - Inexperienced subcontractor office and field personnel due to a high volume of construction in the area.
- Estimated cost of \$320/sf for a new elementary school is appropriate based upon historical as well as recent school bid prices, but results in the project being more than \$3.3 million over the project budget of \$31.7 million.
- The cost estimate prepared by The Robinson Company does not identify any allowance for market conditions other than a standard 4%/year escalation factor. However, budget risk exposures exist from the factors noted above. To clarify the risk event impacts, a Monte Carlo risk model was prepared using 3-point range estimates on each estimate line item, augmented with several global risks for schedule and market conditions. The analysis generated a P50 (50% probability) of \$36.9 million, yielding a budget shortfall of \$5.2 million.
- The Learning Commons areas are 1,169SF more than the Space Program.
- There is some opportunity to optimize the exterior skin by modifying the material palette, i.e. brick, etc.
- The removal of unsuitable soil appears to add cost to the project; alternatives including FFE grade and structural fill adjustments should be explored to optimize the earthwork quantities and foundation improvements.
- There are pockets around the building exterior on the pods which may create security problems.
- It may be possible to reuse unsuitable soil to raise the grade of the playfield.
- Glazing appears to be reasonable in consideration to percentage of exterior surface; however, the storefront by the Gym appears to be excessive as it extends down to the floor level.

Key Recommendations

- Allow 18 months for Phase 1 and 6 months for Phase 2
- Split the phasing of the gym building improvements between Summer 2018 and Summer 2019
- Change from three 2-story pods to two 3-story pods to reduce structural fill requirements.
- Relocate the Mech. Room 260 and move it under the Commons/Stage.
- Increase the number of boiler rooms from one to two; place the second under the basement area under the south Pod, between col. lines R-S/N1 - C3.
- Move Mechanical Room 302 and 303 under basement space under the south classroom pod.
- Consider VRF on the HVAC system and controls.
- Shift the building complex approximately 10ft to the north to minimize earthwork.

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- Relocate the Child Care space to a stand-alone wood structure on the NW corner; shift the Gym/Commons further north.
 - Reduce the main electrical service size from 2,000A to 1,600A.
 - Reduce the number of data drops in the classrooms from 14 + 2, to a maximum of 8 data drops.
 - Delete the fire alarm voice annunciation.
 - Use a 3-inch domestic water tap for the site and a 2-inch meter.
 - Use the playfield as repository for unsuitable material, but improve the surface soils to facilitate drainage and usability in the winter.
 - Develop a workable traffic control plan along both Kenyon and 37th to manage truck traffic.
 - Optimize the exterior skin palette to retain the aesthetic qualities but optimize the capital cost.
 - Reduce and simplify window system.
 - Eliminate horizontal brick courses between glazing units.
 - Eliminate brick courses between glazing units and use composite access panels.
 - Use double hung windows in lieu of awning windows for the full height of the window.
 - Reconfigure the ceiling at the Commons/Stage area to reflect sound out into the audience area.
 - Reduce distance between modules; reconfigure the circulation ramps.
 - Allow temporary sedimentation ponds in lieu of Baker Tanks as assumed in the project cost estimate.
 - Use the penthouse walls as shear walls rather than extending the BRB's up into the penthouse.
 - Before implementing any significant design changes to reduce cost, revisit the cost estimate and consider adding a risk allowance for market conditions.
 - Utilize additive bid alternates to manage the bid results relative to the available budget.



Architect's Response and Recommendation Matrix

Architect's Response and Recommendation Matrix

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For questions and more information about this document, please contact the following:

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Project Assistant Capital Projects
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The Value Engineering Recommendation Matrix is the culmination of the study undertaken by a team of professional architects, engineers, and cost estimators who analyzed the design and developed suggestions for adding value to the project. Value Engineering is defined by the Washington Administrative Code (WAC) 392-343-080 as a: cost control technique which is based on the use of a systematic, creative analysis of the functions of the facility with the objective of identifying unnecessary high costs or functions and/or identifying cost savings that may result in high maintenance and operation costs.

VALUE IMPROVEMENT MATRIX

Wing Luke Elementary School
Seattle, WA

June 2017

Function Idea No	Idea	Potential	VE Team Recommendation & Proposed Amt	Owner Implementation & Accepted Amt	Comments
Control --					
CB-79A	Exterior material changes 20% Masonry / 80% CFB	-209,916	-		PA -150,119 This reduced the square footage of masonry and replaced it with prefinished sheet metal panels. The district prefers prefinished materials over field painted ones.
CB-79B	Delete classroom shades	-91,526	-		R 0 The sunshades will reduce solar heat gain, an important consideration given that there is no mechanical cooling
CB-79C	Substitute fiberglass nail flange windows	-75,896	-		A -1,800 Our estimator believes that the price of fiberglass windows is higher than initially estimated. They believe the cost of fiberglass windows is comparable to aluminum windows. The indicated savings comes from eliminating the labor and materials associated with window flashing materials and installation.
CB-79D	Delete Library Hallway	-107,292	-		A -74,000 Glazing reduction savings pulled out and included in ES-59
CB-79E	Lower ceilings to 9'-0" / Reduce building height 1' per floor	-385,013	-		A -306,000 Glazing reduction savings pulled out and included in ES-59
CB-79F	50% effective flat plate heat recovery	-256,324	-		R 0 The district believes the long-term operational energy savings with the 90% heat recovery has value outweighs the first costs.
CB-79G	Core and shell 1 classroom cluster (6 classrooms)	-905,385	-		A 0 These savings are listed separately as a possible bid alternate. Reduced savings for some basic mechanical and emergency lighting costs
CB-79H	Delete childcare suite	-843,238	-		R 0 The district believes it is important to incorporate the Childcare into the new construction but this could be bid as an alternate
CB-97	Remove ceilings from MDF, electrical rooms and compute storage rooms.	-4,000	A	-4,000	A -4,000 -

Control Climate

CC-53	Use a Type 2 hood in lieu of a Type 1 Hood in the Kitchen.	-9,000	A		R 0 The district standard is to install Type 1 hoods in the Kitchen for future flexibility
CC-69	Use double hung windows in lieu of awning windows for the full height of the window.	-28,000	C	-28,000	C 0 The design team will review this option with the district to determine which is the more durable operable sash for an academic setting in their experience.
CC-110	Consider VRF on the HVAC system and controls.	-235,000	C	-235,000	R 0 The district has concerns about the life cycle costs of this mechanical system relative to the anticipated lifespan of the facility (50-75 years). Additionally, they have concerns about their ability to operate and maintain this mechanical system with current staff.
CI-86	Eliminate the gate on the east end of the parking lot, adjacent to the service road; replace with removable bollards.	+1,000	A		R 0 This access will be used regularly for kitchen deliveries, supply deliveries, and trash/recycling/compost removal. A gate is easier to operate for this purpose.

Construct Project

CP-51	Develop a workable traffic control plan along both Kenyon and 37th to manage truck traffic.	+71,000	A	+71,000	PA 27,800 Adjust cost for 6 weeks and \$45 for 2 flaggers and 8 hr/day.
CP-108	Allow temporary sedimentation ponds in lieu of Baker Tanks as assumed in the project cost estimate.	-155,000	A	-155,000	PA -77,500 Use 1/2 the number of Baker Tanks and use Rain Gardens as Temp Sediment Ponds.

Circulate Students

Function Idea No	Idea	Potential	VE Team		Owner implementation &		Comments
			Recommendation &	Proposed Amt	Accepted Amt		
CS-22	Eliminate the elevator stop at the Mechanical Mezzanine and continue Stair 118 and 134 to the mechanical penthouses.	-29,000	A	-29,000	R	0	The elevator stop is more useful and more safe compared to stairs/roof hatches for bringing tools and equipment to the mechanical penthouses.
CS-80	Reduce distance between modules; reconfigure the circulation ramps.	-158,000	A	-158,000	PA	-39,700	We are not able to reduce the width between the classroom pods by 12 feet without significantly reducing the amount of daylight into academic spaces. Additionally, the narrower courtyards would not longer be usable for biofiltration, a low impact design (LID) strategy required by the stormwater code. We are able to reduce the width of the courtyards by 3
CS-88	Add a covered walkway to delineate the building entry point.	+117,000	A	+117,000	R	0	The entry is clear from the exterior. The second floor overhangs the first floor at the entry so there is ample covered space at the entry already.

Distribute Power

DP-33	Use aluminum feeders in lieu of copper for 200A and above.	-13000	A	-13000	R	0	The district standard is to use copper.
DP-34	Use aluminum bus bars for switchboard panels and transformers.	-11000	A	-11000	R	0	The district standard is to use copper.
DP-35	Reduce the main electrical service size from 2,000A to 1,600A.	-8,000	A	-8,000	C	0	The project requires more development to know if accepting this VE item is advisable.
DP-37	Use MC cable in lieu of conduit and wire.	-43,000	A	-43,000	R	0	The district standard is to use conduit and wire.
DP-38	Use MC cable for branches in classrooms.	-8,000	A	-8,000	R	0	The district standard is to use conduit and wire.
DP-39	Use a central battery inverter in lieu of battery packs.	-14,000	A	-14,000	C	0	The project requires more development to know if accepting this VE item is advisable.
DP-42	Reduce the number of data drops in the classrooms from 14 + 2, to 8 data drops.	-77,000	A	-77,000	R	0	The district standard is to have full data drops and data cabling for WAPs.
DP-43	Delete the fire alarm voice annunciation.	-33,000	A	-33,000	C	0	The state only recently eliminated this requirement. If Seattle AHJs eliminate this requirement as well, the design team will accept this VE item.

Enclose Space

ES-1	Change from three 2-story pods to two 3-story pods.	-641,000	A	-641,000	R	0	The design team has previously reviewed a three story option with the district. Due to the scale of the building and the impact that exiting requirements have on the academic spaces and the impact that rated shafts and dampers would have on facilities maintenance, the district does not accept this option.
ES-12	Take Mech. Room 260 and move it under the Commons/Stage.	+96,000	R	+0	R	0	This option adds cost and does not have value.
ES-14	Increase the number of boiler rooms from one to two; place the second under the basement area under the south Pod, between col. lines R-S/N1 - C3.	+133,000	R	+0	R	0	This option adds cost and does not have value.
ES-15	Move Mechanical Rooms 302 and 303 under basement space under the south classroom pod.	+14,000	A	+14,000	R	0	This option adds cost. Because a penthouse mechanical space is considered a part of the floor below it, ductwork runs currently do not require fire dampers when exiting the unrated mechanical chases. Because basements count as a separate level, this VE item would add fire dampers and rated mechanical shafts to the
ES-17	Reconfigure the Learning Commons core to look like Rm. 214, eliminate Stair #4; maintain access to mechanical penthouse.	-56,000	A	-56,000	PA	-17,000	This VE item will not allow for a decision point to two separate exits along a non-converging path within 75 feet of all points of the redesigned classroom pod. The design team has eliminated the Stair 4 run from level 2 to the mechanical penthouse in lieu of alternating tread stair access.

Function Idea No	Idea	Potential	VE Team Recommendation & Proposed Amt		Owner Implementation & Accepted Amt		Comments
ES-25	Cantilever the 2nd floor over the Admin area, move the whole building approximately 12ft north.	-3,000	R	+0	R	0	-
ES-32	Move Child Care into a stand-alone wood structure on the NW corner; shift the Gym/Commons further north.	-175,000	C	-175,000	C	0	As with CB-79H, the design team explore if it is possible to leave the existing Childcare in the SW corner of the site as a VE strategy.
ES-49	Use galvanized steel handrails in lieu of painted galvanized.	-47,000	A	-47,000	A	-10,000	Savings reduced based on input from estimator.
ES-57	Optimize the exterior skin palette.	-311,000	A	-311,000	A	0	The cost savings for this VE item have been included with those for CB-79A.
ES-59	Reduce and simplify the amount of glazing.	-85,000	A	-85,000	PA	-229,100	The glazing has been redesigned from horizontal strips to vertical punched openings. Along with reducing the building height and eliminating the hallway on the North side of the Library, the total cost savings for reducing glazing are substantial.
ES-61	Use cement board siding instead of a mix of cement board lap siding and metal panel.	-364,000	A	-364,000	PA	0	The savings for this VE item have been included in CB-79A.
ES-89	Consider lowering the FFE of the middle Kindergarten Pod by 2ft and the FFE of the lower south Pod by 4ft.	-113,000	A	-113,000	C	0	The play field will be redesigned to provide additional hard surface play area and to better balance cut and fill
ES-94	Move the covered play function to under the Stage Area (as a basement area).	-270,000	A	-270,000	R	0	There is a concern about creating a "cave" that is not easily monitored during or after school hours. Additionally, the savings do not account for the need to provide a dry sprinkler system, insulated soffit or drainage in the design.

Improve Site

IS-46	Use the playfield as repository for unsuitable material, but improve the surface soils to facilitate drainage and usability in the winter.	-123,000	A	-123,000	R	0	No additional unsuitable soils will be available for this use on site. The geotechnical report states that soils can be reconditioned and used as structural fill, which is incorporated in the current design.
IS-47	Reduce the amount of landscaping and shrubs by 50% and replace with grass.	-96,000	A	-96,000	R	0	Non-lawn landscaping has been planted in areas with biofiltration requirements, or grades steeper than 1:4 in slope.
IS-50	Replace existing curb/gutter on 37th.	+23,000	A	+23,000	R	0	The curb and gutter were installed 10 years ago and appeared to be in good condition to the design team.

Maximize Daylight

MD-62	Eliminate horizontal brick courses between glazing units.	-18,000	A	-18,000	PA	0	The savings for this VE item have been included in CB-79A.
MD-63	Eliminate brick courses between glazing units and use composite accent panels.	-12,000	A	-12,000	PA	0	The savings for this VE item have been included in CB-79A.
MD-64	Eliminate the trapezoidal windows and change to rectangular windows.	-6,000	A	-6,000	PA	0	The trapezoidal windows have been simplified so that there is only a sloping sill. The savings for this VE item have been included in ES-59.
MD-65	Use storefront in lieu of curtain-wall.	-41,000	A	-41,000	A	0	The savings for this VE item have been included in ES-59.
MD-67	Eliminate the "odd" offset windows.	-11,000	A	-11,000	PA	0	The glazing has been redesigned from horizontal strips to vertical punched openings. The savings for this VE item have been included in ES-59.
MD-72	Use window frame mounted sunshades, in lieu of custom sunshades.	-86,000	A	-86,000	R	0	The glazing has been redesigned from horizontal strips to vertical punched openings. The windows have been changed from aluminum windows to fiberglass windows. Frame mounted sunshades come in discrete sizes that do not align with window spacing. Frame mounted sunshades are not suitable for fiberglass windows.

Maximize --

Function Idea No	Idea	Potential	VE Team Recommendation & Proposed Amt		Owner Implementation & Accepted Amt		Comments
MF-73	Include roof walk pads with parapet ramps in the baseline.	+17,000	A	+17,000	C	0	The SD estimate included an allowance for roof walk pads and ladders. The design team will consider the best approach to roof transit within the allowance.

Support Loads

SL-101	Use the penthouse walls as shearwalls rather than extending the BRB's up into the penthouse.	-16,000	A	-16,000	C	0	The design team will weigh the costs in more detail and use the most efficient system to laterally support the penthouses. Steel HSS braces may end up being more cost effective than BRB's or shearwalls to laterally support the mezzanine.
SL-21	Provide an access hatch and overhead support for the mechanical penthouses.	+42,000	A	+42,000	R	0	This option adds cost. The mechanical penthouses are accessible by alternating tread stair. Overhead supporting beam is not required since equipment can be walked to/from a penthouse from the penthouse elevator.

Support Occupants

SO-45	Use a 3-inch domestic water tap for the site and a 2-inch meter.	-42,000	A	-42,000	A	-42,000	Confirmed with Mech' Engineer that a 2" meter will be sufficient.
SO-54	Use a gas water heater in lieu of electric in Child Care Center.	+27,000	R	+0	R	0	
SO-95	Add a 200 gal. storage tank for the domestic hot water.	+7,000	A	+7,000	R	0	VE item adds cost and the additional capacitance of a storage tank is not required due to the lack of gymnasium showers and other high flow fixtures that would operate simultaneously.
SO-96	Add drinking fountains near the Library and Gym spaces.	+6,000	A	+6,000	A	6,000	Two drinking fountains added in the gymnasium. Deleting the Library hallway puts the entry to the library close to a drinking fountain located in the adjacent classroom pod.

Educate Students

ST-74	Reconfigure the ceiling at the performance/Commons area to reflect sound out into the audience area.	+64,000	C	+64,000	R	30,000	Acoustic shaping and absorption will be added to the design to make the Commons space functional for performances.
TOTAL SAVINGS						-887,419	

Implementation Code

- A Accept
- PA Partially Accept
- C Consider Further
- R Reject

VALUE IMPROVEMENT MATRIX

Wing Luke Elementary School

Seattle, WA

June 2017

Function Idea No	Idea	Potential	VE Team Recommendation & Proposed Amt	Owner Implementation & Accepted Amt	Comments
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Control Climate

CC-69	Use double hung windows in lieu of awning windows for the full height of the window.	-28,000	C	-28,000	+0
CC-110	Consider VRF on the HVAC system and controls.	-235,000	C	-235,000	+0

Construct Project

CP-51	Develop a workable traffic control plan along both Kenyon and 37th to manage truck traffic.	+71,000	A	+71,000	+0
CP-108	Allow temporary sedimentation ponds in lieu of Baker Tanks as assumed in the project cost estimate.	-155,000	A	-155,000	+0

Circulate Students

CS-80	Reduce distance between modules; reconfigure the circulation ramps.	-158,000	A	-158,000	+0
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Distribute Power

DP-35	Reduce the main electrical service size from 2,000A to 1,600A.	-8,000	A	-8,000	+0
DP-42	Reduce the number of data drops in the classrooms from 14 + 2, to 8 data drops.	-77,000	A	-77,000	+0
DP-43	Delete the fire alarm voice announcement.	-33,000	A	-33,000	+0

Enclose Space

ES-1	Change from three 2-story pods to two 3-story pods.	-641,000	A	-641,000	+0
ES-12	Take Mech. Room 260 and move it under the Commons/Stage.	+96,000	R	+0	+0
ES-14	Increase the number of boiler rooms from one to two; place the second under the basement area under the	+133,000	R	+0	+0
ES-15	Move Mechanical Rooms 302 and 303 under basement space under the south classroom pod.	+14,000	A	+14,000	+0

Function	Idea	Potential	VE Team Recommendation & Proposed Amt	Owner Implementation & Accepted Amt	Comments
ES-25	Can'tilever the 2nd floor over the Admin area, move the whole building approximately 12ft north.	-3,000	R +0	+0	
ES-32	Move Child Care into a stand-alone wood structure on the NW corner. shift the Gym/Commons further north.	-175,000	C -175,000	+0	
ES-57	Optimize the exterior skin palette.	-311,000	A -311,000	+0	
ES-59	Reduce and simplify the amount of glazing.	-85,000	A -85,000	+0	
ES-89	Consider lowering the FFE of the middle Kindergarten Pod by 2ft and the FFE of the lower south Pod by 4ft.	-113,000	A -113,000	+0	
ES-94	Move the covered play function to under the Stage Area (as a basement area).	-270,000	A -270,000	+0	

Improve Site

IS-46	Use the playfield as repository for unsuitable material, but improve the surface soils to facilitate drainage and usability in the winter.	-123,000	A -123,000	+0	
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Maximize Daylight

MD-62	Eliminate horizontal brick courses between glazing units.	-18,000	A -18,000	+0	
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Support Loads

SL-101	Use the penthouse walls as shearwalls rather than extending the BRB's up into the penthouse.	-16,000	A -16,000	+0	
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Support Occupants

SO-45	Use a 3-inch domestic water tap for the site and a 2-inch meter.	-42,000	A -42,000	+0	
SO-54	Use a gas water heater in lieu of electric in Child Care Center.	+27,000	R +0	+0	

Educate Students

ST-74	Reconfigure the ceiling at the performance/Commons area to reflect sound out into the audience area.	+64,000	C +64,000	+0	
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Implementation Code

Function Idea No	Idea	Potential	VE Team Recommendation & Proposed Amt	Owner Implementation & Accepted Amt	Comments
A	Accept				
PA	Partially Accept				
C	Consider Further				
R	Reject				