

PROJECT - Belmont Middle and High School  
 CLIENT - Town of Belmont  
 LOCATION - Belmont, MA  
 5/3/2019  
 Design Development VE List

Current Project Estimate \$ 262,712,341

Action Item #	Description	Comments	DISCUSSIO	Priority	REVISIT	Estimated Impact
<b>GENERAL</b>						
#001	Reduce Floor to Floor/Building height	Reduce by 8"/floor; includes reduction in interior partitions; will impact steel package; finishes, etc..(ceiling height ~8'-10"). Total material SF reduction = ~7,400sf		1		\$ (998,346)
#002	Remove trailer (do not use for equipment)			3		\$ (35,250)
#003	Reduce Mock-ups	Reduce Budget by 20%		1		\$ (52,875)
#004	Eliminate Green roof	Delete Hot Fluid Applied Membrane & Green Roof/ Add TPO		1		\$ (217,348)
#005	Eliminate Roof Terrace	Delete Roof Pavers, CW Doors, Planters, Raised boxed planters, mtl picked fence. THIS OPTION IS SOMETHING THAT CAN BE EASILY BROUGHT BACK		2		\$ (332,537)
#005A	Reduce Roof Terrace by 25%			1		\$ (83,134)
#006	Target Logistics/phasing cost reductions					\$ -
#006a	Eliminate groundbreaking allowance			1		\$ (11,750)
#006b	Reduce trailer budget and trailers by 25 percent	Remove (1) OPM Trailer and (1) CM Trailer		1		\$ (176,250)
#006c	Reduce allowances in BP#2					\$ -
<b>MASONRY</b>						
#007A	Replace CMU backup wall by cavity wall (if cheaper)	Pricing is based on the following Stud Cavity Wall Assemble: (5/8" Sheathing, 6" LGMF, 6" acoustical Batt insulation, 6" Mtl Stud & 5/8" GWB)		3		\$ 92,690
#007B	Replace CMU backup wall by cavity wall (if cheaper) (Cavity wall based 1-row of 6" LGMF & 1-row of 3-5/8" Mtl Stud)	Pricing is based on the following Stud Cavity Wall Assemble: (5/8" Sheathing, 6" LGMF, 3.5" acoustical Batt insulation, 3-5/8" Mtl Stud & 5/8" GWB)		1		\$ (72,069)
#008						\$ -
#009						\$ -
#010						\$ -
<b>GEOHERMAL</b>						
#011	Reduce geothermal wells (320 wells based on 50 year bldg) reduce to 300			1		\$ (364,250)
#012	Changing loops from 1.5" to 1.25"	Clarify w/CDMSmith		3		\$ -
#013	Reduce vaults from 7 to 2	Clarify w/CDMSmith		2		\$ (88,125)
#014						\$ -
#015						\$ -
<b>SITE/LANDSCAPE</b>						
#016	Clarify traffic mitigation to reduce cost	See Item #046 & #047		3		\$ -
#017	Elimination of the ornamental grasses and groundcover at the upper and lower school arrival areas. Substitute with seeded lawn w/ Irrigation.	Need area; Target \$200K. 4/30/19 Review w/planning board. May have additional maintenance impacts. Easy to Add back in.(5/3) Contingent Upon approval of Planning Board		1		\$ (235,000)
#018	Elimination of the shrubs and groundcovers in the 'Park' area south of the building facing Concord Avenue. Substitute with seeded lawn	Need area; included above. Review w/planning board		1		\$ (146,875)
#019	Reduce Tree planting by 30%	Per Sketch #019 by P+W: Delete 15 ea - 3.5" trees; Add 5 5" Trees; "JB" Shrubs @ generator were not on DD Drawings and are not in estimate				\$ (3,525)

POTENTIAL SAVINGS DISTRIBUTION BY PRIORITY		
\$ 1	\$ 2	\$ 3
Accepted Value Engineering Items	Proposed Savings POSSIBLE Needs more discussion	Proposed Savings UNLIKELY at this time
\$ (998,346)	\$ -	\$ -
\$ -	\$ -	\$ (35,250)
\$ (52,875)	\$ -	\$ -
\$ (217,348)	\$ -	\$ -
\$ -	\$ (332,537)	\$ -
\$ (83,134)	\$ -	\$ -
\$ -	\$ -	\$ -
\$ (11,750)	\$ -	\$ -
\$ (176,250)	\$ -	\$ -
\$ -	\$ -	\$ -
\$ -	\$ -	\$ 92,690
\$ (72,069)	\$ -	\$ -
\$ -	\$ -	\$ -
\$ -	\$ -	\$ -
\$ -	\$ -	\$ -
\$ (364,250)	\$ -	\$ -
\$ -	\$ -	\$ -
\$ -	\$ (88,125)	\$ -
\$ -	\$ -	\$ -
\$ -	\$ -	\$ -
\$ -	\$ -	\$ -
\$ -	\$ -	\$ -
\$ (235,000)	\$ -	\$ -
\$ (146,875)	\$ -	\$ -
\$ -	\$ -	\$ -

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#020	Eliminate the bollards at the upper and lower school drop offs.			1		\$ (111,625)
#021	Elimination of the (2) bike shelters near the rugby field			1		\$ (23,500)
#022	Eliminate the full-depth granite treads on the two stairs leading to the dining terrace. Substitute with CIP concrete stairs	Two 10' Wide x 15' Long Granite Steps - Dwg L109.		2		\$ (23,500)
#023	Eliminate the stainless steel illuminated handrails at the stairs leading down from the dining terrace. Substitute with aluminum or painted steel pipe rails with no integral lighting	Two Rails at Granite Stairs - Dwg L109		1		\$ (5,875)
#024	Eliminate the granite cladding on the terrace walls and the two free-standing seatwalls at the outdoor classrooms. Substitute with CIP concrete walls	Assuming Granite cap stays?		1		\$ (113,592)
#025	Eliminate the special concrete paving at the upper and lower school drops-offs (including integral color, retardant finish and/or sandblasting, and sawcut joints). Substitute with standard pedestrian concrete paving			1		\$ (93,971)
#026a	Eliminate the concrete unit pavers at the dining terrace and outdoor classrooms. Substitute with special concrete paving			1		\$ (138,944)
#026b	Eliminate the Special Concrete Paving at the dining terrace and outdoor classrooms. Substitute with standard pedestrian concrete	Includes reducing scale		1		\$ (38,571)
#027	Maximize the amount of porous asphalt vs vehicular concrete paving	Took 100% of vehicular concrete		1		\$ (171,679)
#028	Reduce parking count by 36 spaces (from current count)			1		\$ (15,402)
#029	Eliminate the two free-standing seatwalls at the outdoor classrooms			1		\$ (141,881)
#30A	Reduce Duplicated Site Liting items			1		\$ (325,837)
#030	Increase site lighting pole heights throughout the project, thereby reducing the number of poles and fixtures	Reduced by (5)		1		\$ (23,332)
#031	Eliminate synthetic turf	<b>Change to grass 4/30: Additional Maintenance cost and capital cost to be considered for grass vs turf. Other Fields on East Side of site will require maintenance program. Easy to Add back in at a later date</b>		3		\$ (740,250)
#032	Reduce Aluminum benches	Target 50%		1		\$ (33,781)
#033	Reduce concrete benches by 50%			1		\$ (41,125)
#034	Keep MBTA fencing, replace only at retaining wall	(50%, skanska to review)		1		\$ (98,776)
#035	Reuse (2) batting cages	Reuse existing Batting cages. Cost of Relocation included.		1		\$ (7,000)
#036	Reuse (2) score boards			1		\$ (14,805)
#037	Eliminate flag poles: (2) at middle school & (2) at high school. Keep (1) at HS & (1) at MS			1		\$ (13,395)
#038	Replace 100% granite curbs w/asphalt	Skanska to revise based on SK Received		3		\$ (217,375)
#039	Eliminate anchored furnishing at exterior terrace			1		\$ (80,000)
#040	Waterline coordination at the culvert & taping on existing line	To be evaluated & included in bulletin #1 EBP2		2		\$ -
#041	Eliminate curb edgers (Skanska Item #1384, 1385)	Warner Larson Does NOT RECOMMEND		3		\$ (27,143)
#042	Reduce extent of fencing around play fields (Skanska item #2578, 2579, 2580)	Warner Larson Does NOT RECOMMEND. P&W to provide Sketches.		3		\$ -
#043	Eliminate irrigation at multi-sport field (Skanska item #2622)	Mislabeled in Estimate -Not related to synthetic turf		3		\$ (322,538)

POTENTIAL SAVINGS DISTRIBUTION BY PRIORITY		
\$ 1	\$ 2	\$ 3
Accepted Value Engineering Items	Proposed Savings POSSIBLE Needs more discussion	Proposed Savings UNLIKELY at this time
\$ (111,625)	\$ -	\$ -
\$ (23,500)	\$ -	\$ -
\$ -	\$ (23,500)	\$ -
\$ (5,875)	\$ -	\$ -
\$ (113,592)	\$ -	\$ -
\$ (93,971)	\$ -	\$ -
\$ (138,944)	\$ -	\$ -
\$ (38,571)	\$ -	\$ -
\$ (171,679)	\$ -	\$ -
\$ (15,402)	\$ -	\$ -
\$ (141,881)	\$ -	\$ -
\$ (325,837)	\$ -	\$ -
\$ (23,332)	\$ -	\$ -
\$ -	\$ -	\$ (740,250)
\$ (33,781)	\$ -	\$ -
\$ (41,125)	\$ -	\$ -
\$ (98,776)	\$ -	\$ -
\$ (7,000)	\$ -	\$ -
\$ (14,805)	\$ -	\$ -
\$ (13,395)	\$ -	\$ -
\$ -	\$ -	\$ (217,375)
\$ (80,000)	\$ -	\$ -
\$ -	\$ -	\$ -
\$ -	\$ -	\$ (27,143)
\$ -	\$ -	\$ -
\$ -	\$ -	\$ (322,538)

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#044	Reduce plantings to less expensive alternatives (that are still on the town list)	Target 25% reduction. (P&W need to provide sketches or clarification to value date the 25% reduction)		1		\$ (293,750)
#045	Reduce South Plaza hardscape area	Target 30% reduction (Seeded Lawn is provided ilo of hardscaped areas)		1		\$ (96,314)
#046	Eliminate Concord Ave raised bicycle path westbound and match reconfiguration on eastbound side			1		\$ (722,625)
#047	Eliminate Concord Ave & Cottage Intersection signalization	Per BL Email dated 4-26-19		3		\$ (235,000)
#048	Review the need to complete landscaping Phase 3 West Fields	Potential Coordination with Hockey Rink (No irrigation system per Reconciliation)		3		\$ (2,221,333)
#048A	Reduce Landscaping West of Harris Field By 20%	4/30: BL requested 20% of item 48 & Item 47 (Skanska has reviewed the scope per BL email & without a proposed sketches Skanska has located \$200K worth of Traget reduction.		1		\$ (235,000)
<b>STRUCTURAL</b>						
#050	Structural Steel: Reduce tonnage, more columns, beam sizes, complex shapes reduction	Included based on Reconciliation. Target 1Lbs/sf reduction				\$ -
#051	Structural Steel: Reduce Spans & add columns	Refer to Item 056 and 109				\$ -
#052	Reduce piles by (32)			1		\$ (233,555)
#053	Auditorium Structure: add columns at ramp	Reference SK-VE070. Need structural sizing. Only shows added columns not reduced structure. P&W to advise.		3		\$ -
#054	Remove PV supporting structure at mechanical well	Structure above pool only. Structure over auditorium not on DD Drawings		1		\$ (144,055)
#055	Eliminate band room clerestory windows not located on line A	Structural modification only. For material (roof/coping, etc..) see item #175.		1		\$ (12,925)
#056	Move the south side canopy columns forward to reduce the cantilevered structure. Deduce 30 tons of WF steel, 12 tons of HSS steel and add 12 tons of WF steel	Sketch Provided by PW VE056. Need dimiensions & sizing.		1		\$ (200,925)
#057	Reduce number of columns at Middle School entrance - structural solution is efficient so no change	No Cost Change		1		\$ -
#058	Replace 7,700 sf of framed slab at west arcade with sidewalk slab	The West Arcade shown in Building section A is calculated @ 3,835sf not 7,700sf. Design to advise on where the additional area is coming from?		1		\$ (153,891)
#059A	Revise beam sizes for typical purlins and reduce steel tonnage by 65 tons			1		\$ (274,950)
#059B	Revise girder sizes by inducing camber and reduce steel tonnage by 35 tons			1		\$ (148,050)
#434	Reduce HSS bracing and connections by 49 tons			1		\$ (230,300)
#435	Reduce level 2 framing area B by 25 tons and 5,000 sf of concrete slab and deck	P&W Need to confirm where the 5,000sf is being reduced? Cost only represent Structural Steel Deduct.		1		\$ (155,688)
#436	Eliminate 18 moment connections at area B west cantilever overhang			1		\$ (15,863)
#437	Eliminate 186 moment connections at perimeter girts			1		\$ (163,913)
#438	Reduce 105 tons of HSS columns and add 105 tons of WF columns			1		\$ (50,760)
#439	Reduce cantilever framing for support of Maker spaces and reduce 41 tons of steel framing	Saving based on structural reduction only. Sketches are needed to understand any supplemental changes.		1		\$ (173,430)

POTENTIAL SAVINGS DISTRIBUTION BY PRIORITY		
\$ 1	\$ 2	\$ 3
Accepted Value Engineering Items	Proposed Savings POSSIBLE Needs more discussion	Proposed Savings UNLIKELY at this time
\$ (293,750)	\$ -	\$ -
\$ (96,314)	\$ -	\$ -
\$ (722,625)	\$ -	\$ -
\$ -	\$ -	\$ (235,000)
\$ -	\$ -	\$ (2,221,333)
\$ (235,000)	\$ -	\$ -
\$ -	\$ -	\$ -
\$ -	\$ -	\$ -
\$ (233,555)	\$ -	\$ -
\$ -	\$ -	\$ -
\$ -	\$ -	\$ -
\$ (144,055)	\$ -	\$ -
\$ (12,925)	\$ -	\$ -
\$ (200,925)	\$ -	\$ -
\$ -	\$ -	\$ -
\$ (153,891)	\$ -	\$ -
\$ (274,950)	\$ -	\$ -
\$ (148,050)	\$ -	\$ -
\$ (230,300)	\$ -	\$ -
\$ (155,688)	\$ -	\$ -
\$ (15,863)	\$ -	\$ -
\$ (163,913)	\$ -	\$ -
\$ (50,760)	\$ -	\$ -
\$ (173,430)	\$ -	\$ -

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#440	Reframe the area over the pool roof by introducing story deep trusses which decreases steel framing by 12 tons and eliminates 3 mini piles and adds 2 PC piles			1		\$ (124,198)
#442a	Façade of field house and little gym to remain, no new façade, no demo if existing façade, no new grade beam support, no CMU reinforcement, no new steel clips or new bracing above the wall, add 10 percent repointing of existing	To be include Reroofing FH and Insulation. Need info on re roofing, Kallwall & other requirements to properly price. (\$100k precast reduction) <b>NOT additive to 442b or 442c</b>		3		\$ (3,172,500)
#442b	Façade of field house and little gym to remain. New Kall-wall	Materials at exterior wall (Kall-wall) <b>NOT additive to 442 or 442c</b>		1		\$ (2,791,800)
#442c	Façade of field house and little gym to remain. New roofing.	Roofing. Energy Code TB reviewed. <b>NOT Additive to 442 or 442b</b>		3		\$ (2,093,321)
#443	Change auditorium flat structural slab and geofoam infill with stepped topping slab to sloped structural slab with steps – eliminate 2,100 cubic feet of geofoam fill and 1,400 feet of 3" concrete topping slab			1		\$ (14,100)
#444	Reframe auditorium balcony with two hangers to roof to eliminate excessive vibrations, reduce steel weight by 20 tons			1		\$ (84,600)
#445	Anticipated Structural Revisions	Items 50 - 440 Assume 1.0 #/sf deduct		3		\$ (1,035,525)
<b>DOORS</b>						
#060	Potential reduction of accordion fire doors & coiling overhead fire shutters. Two potential locations have been identified (Stair 4, Level 3 and Stair 3, Level 4) where fire shutter and accordion door may be reduced. Cost savings for proposed alternates should be evaluated.	Ref Sketch #060 for location of accordion and overhead fire shutter and proposed alternates at 2 locations. Reduction of fire doors and shutters at most locations will have extensive design change implications.		2		\$ (320,305)
#060A	Partial Reduction of #060 Above	Target \$100,000 in savings		1		\$ (100,000)
#061	Reduce Qty of Operable Partitions	<b>4/30 - May need to add more in west wing</b>		3		\$ (194,839)
#062	Art Room exterior doors: Reduce to single glazed door			1		\$ (300,000)
#064	Eliminate door film on FG designated doors (Skanska items #314, 1874)			3		\$ (49,632)
#065	Reduce number of entry doors	Based on reducing 1 exterior & 1 Interior HS vestibule door. PW to advise		2		\$ (29,375)
#066	Eliminate typical classroom door hold-opens on automatic closures. Updated 5-01-19 hardware #58 are included at scheduled conference room.	Skanska price Hardware per the Hardware schedule. Per the hardware schedule HW#58 is the only hardware schedule to receive Hold opens. VM is based on the Eliminated the Hold open only at HW#58.		3		\$ (18,330)
#067	Add Automatic Release Opens per Cost tracking log	<b>4/30: May be challenging to add back in after the fact. Priority 1 reflects adding the Hold Opens back into the project/ Priority 2 or 3 reflects this item not be included in the project budget</b>		2		\$ 118,440
#068						\$ -
#069						\$ -
<b>INTERIORS</b>						
#071	Simplify Ceilings: reduce GWB ceiling	Sketch Provided by PW (11,492 sf)		1		\$ (93,650)
#072	Remove GWB ceilings at bathrooms (min 10') , replace with 2x2 AC1 & anchoring clips	Reference SK 71 (6,915 sf)		1		\$ (52,813)

POTENTIAL SAVINGS DISTRIBUTION BY PRIORITY		
\$ 1	\$ 2	\$ 3
Accepted Value Engineering Items	Proposed Savings POSSIBLE Needs more discussion	Proposed Savings UNLIKELY at this time
\$ (124,198)	\$ -	\$ -
\$ -	\$ -	\$ (3,172,500)
\$ (2,791,800)	\$ -	\$ -
\$ -	\$ -	\$ (2,093,321)
\$ (14,100)	\$ -	\$ -
\$ (84,600)	\$ -	\$ -
\$ -	\$ -	\$ (1,035,525)
\$ -	\$ (320,305)	\$ -
\$ (100,000)	\$ -	\$ -
\$ -	\$ -	\$ (194,839)
\$ (300,000)	\$ -	\$ -
\$ -	\$ -	\$ (49,632)
\$ -	\$ (29,375)	\$ -
\$ -	\$ -	\$ (18,330)
\$ -	\$ 118,440	\$ -
\$ -	\$ -	\$ -
\$ -	\$ -	\$ -
\$ (93,650)	\$ -	\$ -
\$ (52,813)	\$ -	\$ -



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#073	Remove GWB ceilings at bathrooms, leave open ceiling	Reference SK 71 (6915 sf)		3		\$ (134,144)
#074	Reduce scope of AC-1 Arktura Ceiling Baffle @ Maker/Innovation (Skanska items #682, 2082)	Reference SK 71 - PW Recommends exploring alternative products. Target: reduce cost by 25%.		1		\$ (219,067)
#075	Floor mounted bathroom partitions in lieu of ceiling mounted	Skanska already carried Floor mounted partitions in estimate		2		\$ -
#076	Simplify Ceilings: reduce metal perforated panels	Reduce 50% and use 2x2 ACT ceiling		1		\$ (443,892)
#077	Simplify Ceilings: reduce decorative acoustic ceilings (corridors)	Reduced costs by 25% and use 2x2 ACT ceiling Duplicate see 074		3		\$ -
#078a	Rubber tiles (RF-1 thru 4) to Marmolium floor (Based on 3MM)	PW to provide pros & cons of products (full color) (Skanska: Cost is pending Product Model Selection. Cost is base on \$8/sf)		1		\$ (817,860)
#078b	Rubber tiles (RF-1) 3mm to 2mm	(PW to check that a 2mm item would not be proprietary). SKANSKA not recommending. No Cost Savings		2		\$ -
#079a	OPTION A: Terrazzo (liquid product) to Marmolium			3		\$ (995,870)
#079b	OPTION B: All epoxy Terrazzo to be large format Porcelain Tile (including bench, desk, stairs)	Can't be taken if changing to marmolium above taken. PW to porcelain tile over heated slab.		1		\$ (263,060)
#081	No glass railing at auditorium	PW SK070 Provided (Based on Painted metal Mesh) Revised to SK#100 4-29-19 per P&W		1		\$ (90,240)
#082	Reduce interior glazing - rail & full height	Target 30% reduction. (glass wall to be gwb with wood cap)		1		\$ (847,283)
#083	Interior glazing: Replace all 1/2" tempered glazing to 3/8" tempered except at C290 Media Center			1		\$ (494,152)
#084	Change glazing to woven wire mesh panels at Orchestra/balcony level	See Item 81		3		\$ -
#085	Reduce back painted glass by 50%	Wall surface - Sketch received VE085		1		\$ (169,376)
#086						
#087	Eliminate shades at Skylights			1		\$ (11,750)
#088	Eliminate sidelight shades	@ Classrooms		1		\$ (192,888)
#089	Reduce electric Shades (at curtain wall) by 50%	(Remove at north facing MS		1		\$ (126,975)
#090	Reduce tackable wall surfaces by 50%			1		\$ (124,274)
#091	Reduce interior (acoustical) wood panels (general areas)	Reduced costs by 25%		1		\$ (223,062)
92a	Reduce Casework (see options by PW) High School. <b>OPTION A:</b> Remove (2) wardrobes, plastic lam panels	Revisit Options Per SK's by PW - Quality of Material to be reviewed		1		\$ (187,289)
92b	Reduce Casework (see options by PW) High School. <b>OPTION B:</b> Remove (2) wardrobes, plastic lam panels; remove open shelving base cabinets			3		\$ (646,232)
#094a	Simplify fixed wood plywood at classroom (at soffit)	Target \$20 PSF savings. Painted drywall w/access panels. Cannot be accepted with VM# 092.93,95&96		1		\$ (75,670)
95a	Reduce Casework (see options by PW?) Middle School. <b>OPTION A:</b> Remove upper cabs, plam panels & countertop, remove (2) tall casework cabs	Per sketches provided by PW		1		\$ (377,933)
95b	Reduce Casework (see options by PW?) Middle School. <b>OPTION C:</b> Remove upper cabs, plam panels, remove (2) single wardrobes, base cabinets under countertop	Per sketches provided by PW		3		\$ (329,758)

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\$ 1	\$ 2	\$ 3
Accepted Value Engineering Items	Proposed Savings POSSIBLE Needs more discussion	Proposed Savings UNLIKELY at this time
\$ -	\$ -	\$ (134,144)
\$ (219,067)	\$ -	\$ -
\$ -	\$ -	\$ -
\$ (443,892)	\$ -	\$ -
\$ -	\$ -	\$ -
\$ (817,860)	\$ -	\$ -
\$ -	\$ -	\$ -
\$ -	\$ -	\$ (995,870)
\$ (263,060)	\$ -	\$ -
\$ (90,240)	\$ -	\$ -
\$ (847,283)	\$ -	\$ -
\$ (494,152)	\$ -	\$ -
\$ -	\$ -	\$ -
\$ (169,376)	\$ -	\$ -
\$ (11,750)	\$ -	\$ -
\$ (192,888)	\$ -	\$ -
\$ (126,975)	\$ -	\$ -
\$ (124,274)	\$ -	\$ -
\$ (223,062)	\$ -	\$ -
\$ (187,289)	\$ -	\$ -
\$ -	\$ -	\$ (646,232)
\$ (75,670)	\$ -	\$ -
\$ (377,933)	\$ -	\$ -
\$ -	\$ -	\$ (329,758)

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#098	Remove K-13 insulation at Small Gym & Field house	PW to review w/Acentech		1		\$ (467,873)
#099	Simplify/reduce monumental stairs	Taken in other Items (See underside of stairs/Handrails/etc.)		3		\$ (28,024)
#100	Change auditorium base from architectural concrete to large format porcelain tiles. (Added 4/29/19 with SS Edging)	Large porcelain tile.match floor tile. Ref SK#100 4/29/19 SKA to review. It is presumed that the half height Concrete wall will be replace with half Height Stud Walls.		1		\$ (10,176)
#101	Reduce height of interior porcelain tile	Target 20% reduction (reduce from 10ft to 8ft, child reach)		1		\$ (126,536)
#102	Reduce Acoustic panels: in Ensemble Room	Additional informaiton is needed - reduce by 425 sf per P&W 4/29/19		1		\$ (12,484)
#103	Eliminate AWP-11 Acoustic Fabric Panel at Office, Admin (Skanska line #617, 2045)	Skanska to review (need to deduct paint)		1		\$ (236,144)
#104	Change ACT-6 ceilings to ACT-2	See Sketch 071		1		\$ (334,812)
#105	Eliminate Bio wall WC-1 coverings to painted walls, keep level 5 finish	PW to review locations		3		\$ -
#106	Reduce stair wall finishes	target		3		\$ (58,750)
#106A	Reduce Stair Wall Finishes 2' Above Rail	Based on the atrium side of the wall only receiving AWP-1.		1		\$ (18,800)
#107	Catwalk only at Physics not other maker spaces	Revise size?		1		\$ (30,198)
#108	MS Maker Space: Ceiling & lights double counted	Skanska Confirm the Ceiling was not double counted & the Lighting double count was correct at reconciliation		1		\$ -
#109	Add columns to media and maker space to reduce long span beams at lvl 3. See line #00X	Included in Structure		3		\$ -
#110	IT closets; shorten utility runs by rethinking the locations of these spaces floor to floor			3		\$ (23,500)
#111	Music room HVAC units; Move them to the Auditorium roof, eliminate the 2nd level slab; (add Acoustical panels)	Included in Structure		3		\$ (58,750)
#112	Change exterior base trim; Change stainless steel trim to cheaper alternative	SS currently acts as flashing		3		\$ (23,500)
#113	Provide alternate finish to W1D Flush GFRC Panels – standard at Gym (Skanska line #148)	Dependent on Item 442 (Can not take both)		3		\$ (352,500)
#114	Paint HSS in lieu of GFRC columns at Outdoor Terrace (Skanska line #151)	Code Implications - Not Recommended		3		\$ -
#115A	Eliminate area of impact resistant GWB – use regular gyp (Skanska line #253, 270, 274, 279, 282, 1831,1834, 1837, 1843, 1849)	Currently Specified - Clarified in SK by PW Targeting 60% Reduction		1		\$ (20,000)
#116	Reduce height/extent of FRP in Janitor Closets (Skanska items #547, 587, 2016, 2038)	4' height		1		\$ (65,495)
#117	Eliminate GWB and paint to underside of stairs – leave underside of stair pan exposed (Skanska line items #246, 563, 1820, 2027)			1		\$ (53,217)
#118	Reduce Magnetic Marker Boards. (Teaching Wall only in Classrooms).	SK provided by PW		3		\$ -
#119	Eliminate the "kiosk" in main hs entry.			3		\$ -

POTENTIAL SAVINGS DISTRIBUTION BY PRIORITY		
\$ 1	\$ 2	\$ 3
Accepted Value Engineering Items	Proposed Savings POSSIBLE Needs more discussion	Proposed Savings UNLIKELY at this time
\$ (467,873)	\$ -	\$ -
\$ -	\$ -	\$ (28,024)
\$ (10,176)	\$ -	\$ -
\$ (126,536)	\$ -	\$ -
\$ (12,484)	\$ -	\$ -
\$ (236,144)	\$ -	\$ -
\$ (334,812)	\$ -	\$ -
\$ -	\$ -	\$ -
\$ -	\$ -	\$ (58,750)
\$ (18,800)	\$ -	\$ -
\$ (30,198)	\$ -	\$ -
\$ -	\$ -	\$ -
\$ -	\$ -	\$ -
\$ -	\$ -	\$ (23,500)
\$ -	\$ -	\$ (58,750)
\$ -	\$ -	\$ (23,500)
\$ -	\$ -	\$ (352,500)
\$ -	\$ -	\$ -
\$ (20,000)	\$ -	\$ -
\$ (65,495)	\$ -	\$ -
\$ (53,217)	\$ -	\$ -
\$ -	\$ -	\$ -
\$ -	\$ -	\$ -

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Action Item #	Description	Comments	DISCUSSIO	Priority	REVISIT	Estimated Impact
#120	Auditorium Lobby & Corridor finishes: Reduce finish cost approach	Captured Above		3		\$ -
#121	Eliminate classroom door sidelights	To be reviewed with Item 66 - Door Hold Opens		2		\$ (98,906)
#122	Change operable Nana glazing wall to standard fixed storefront (inside at keyboarding & music areas)	Excluded Doors at these locations - Not in DD Estimate. (To be full height glazing and reduce the width by 50%)		1		\$ (24,088)
#123	Interior CW? Remove interior glass curtain wall system (~30ft height) at Middle school / ADD steel to support storefront system at mid height. To be changed to storefront	P&W to provide Steel information for VM to be priced. Skanska to review estimate and remove		1		\$ (449,965)
N/A	Refinish small gym floor v/s new	Skanska to check if taken out of estimate already				\$ -
#125a	AWP-6 @ BOH Aud Vestibule/Corridors above 8' & 8' high CT			1		\$ (77,534)
#125b	\$15/sf cost Reduction for AWP-7 @ Aud Vestibule/Corridor			1		\$ (34,686)
#126	Control Room Windows (384 SF @ \$70/SF). Correct area of Aud control rooms + BB control room to 328 SF			1		\$ (6,251)
#127	\$15/sf cost Reduction for AWP-7 @ Black Box			1		\$ (96,409)
<b>AUDITORIUM:</b>						
#130	Remove balcony at level 3; resolve storage and make space at level 2	Redundant		3		\$ -
#131a	Simplify auditorium catwalks A; Integrate ramps into catwalks + eliminate extra slab; replace stage stair w.caged ladder	Catwalks Option A		3		\$ -
#132	Auditorium structure; add columns at ramps	Redundant with Item Above		3		\$ -
131b	Simplify auditorium catwalks B; Integrate ramps into catwalks + eliminate extra slab; caged ladder from stage to gallery catwalk; 22" wide switchback stair connecting catwalk levels above stage (or spiral stair if code-permitted and cheaper)	Catwalks Option B, was #133		3		\$ -
131c	Auditorium Catwalks C: Simplify ramped access, lower catwalks (keep stage stair to catwalks)	SELECTED OPTION (either 131a, 131b, 131c, OR 131d) Reference Sketch #131c		1		\$ (4,459)
131d	Simplify auditorium catwalks C; Add lift to Follow/Spot room; only 1 ramp; replace stair w. caged ladder	Catwalks Option D, was #134		3		\$ -
#135	Reduce physical space and equipment required for mech and elec rooms by combining them	Moved to a different category Carried in Line Item Above		3		\$ (35,250)
#136	Remove grid iron platform at stage			1		\$ (223,250)
#137	Refine scope at auditorium/blackbox: Option1: DDSK-01 removes the wires grid but retains the perimeter catwalk	4/30: 5' x 5' Pipe Grid. Attachments to be made from lift		2		\$ (79,900)
#138	Refine scope at auditorium/blackbox: Option2: DDSK-02 removes both the wires grid & the perimeter catwalk	Sketch provided		3		\$ (152,750)
139a&b	Refine scope at auditorium/blackbox: Option2: simplify grid iron walking surface			2		\$ (132,804)
#139C	Eliminate Blackbox Catwalk & provide 4x 430/sf pipe grid system that are retractable by winch.			3		\$ 37,130
#139D	Provide Accessible Perimeter & Crossing Catwalk in Blackbox ILO Wire Grid			1		\$ (100,000)
#140	Refine scope at auditorium/blackbox: Option2: correct black box seating platform quantity			1		\$ (64,625)
#141	No acoustical shell in base (at stage) BlackBox -	4/30: Reuse Existing Acoustic Shell		1		\$ (235,000)
#142	Grid at Auditorium stage - Eliminate	Same as 136		3		\$ -

POTENTIAL SAVINGS DISTRIBUTION BY PRIORITY		
\$ 1	\$ 2	\$ 3
Accepted Value Engineering Items	Proposed Savings POSSIBLE Needs more discussion	Proposed Savings UNLIKELY at this time
\$ -	\$ -	\$ -
\$ -	\$ (98,906)	\$ -
\$ (24,088)	\$ -	\$ -
\$ (449,965)	\$ -	\$ -
\$ -	\$ -	\$ -
\$ (77,534)	\$ -	\$ -
\$ (34,686)	\$ -	\$ -
\$ (6,251)	\$ -	\$ -
\$ (96,409)	\$ -	\$ -
\$ -	\$ -	\$ -
\$ -	\$ -	\$ -
\$ -	\$ -	\$ -
\$ -	\$ -	\$ -
\$ -	\$ -	\$ -
\$ -	\$ -	\$ (35,250)
\$ (223,250)	\$ -	\$ -
\$ -	\$ (79,900)	\$ -
\$ -	\$ -	\$ (152,750)
\$ -	\$ (132,804)	\$ -
\$ -	\$ -	\$ 37,130
\$ (100,000)	\$ -	\$ -
\$ (64,625)	\$ -	\$ -
\$ (235,000)	\$ -	\$ -
\$ -	\$ -	\$ -

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Action Item #	Description	Comments	DISCUSSIO	Priority	REVISIT	Estimated Impact
#143	Proscenium wall AWP-12 reduced. Top of proscenium wall to be painted GWB. Eliminated area to be painted GWB	Sketch Provided by PW		1		\$ (41,606)
#144	Thrust Stage at Auditorium	4/30: Not a functionally viable solution for Theater Dept.		1		\$ (88,125)
#145	AUDITORIUM: Finish ceiling simplified to be flat (curved panels eliminated) and to be 80% open wire mesh in Auditorium.	4/30: Flat panels have no impact acoustically vs curved		1		\$ (70,500)
#146	AUDITORIUM: Overhead reflectors simplified to flat painted GWB panels (hung above finish ceiling, shaded purple)	4/30: Not visible. Fully Functional		1		\$ (52,875)
#147	AUDITORIUM: Acoustic shell ceiling panels simplified to flat painted GWB panels faced with metal mesh (shaded pink)	4/30: Simplified Ceiling in Auditorium - Sketch Provided by PW.		2		\$ (22,325)
#148	Capture Saving in Auditorium	4/30: Captured in Items above		3		\$ (200,000)
#149	Metal guardrails @ Ramp 3, Area B. Reduce to just wall-mounted handrails. Do not need guardrails at ramps between grid lines 6 & 6.3 nor between grid lines 8.7 & 9.			1		\$ (70,500)
#601	Orchestra Pit (Without stage & Wheelchair Lift) w/ fixed framed floor			2		\$ 511,688
#602	Orchestra Pit: Replace Fixed floor and replace with pit lift, wheelchair lift and thrust stage.			2		\$ 358,375
<b>ARCHITECTURAL EXTERIORS:</b>						
#150	Reduce 10'-0" wide granite dimensions at base to 5' Wide	Must be removed if items selected below from 152 series.		1		\$ (70,021)
151a	Keep granite in specific locations per sketch; use precast concrete at remaining base locations (north Elevation only). Finish precast concrete to resemble granite	Cannot be accepted with 151b		2		\$ (51,759)
#151b	Use precast concrete in lieu of Granite at all base locations. Finish precast concrete to resemble granite	Cannot be accepted with 151a		1		\$ (145,876)
152.1A	Provide Skewed Taktl & 10'-0" Wd Granite Panels w/ Flush Glazed Windows @ Ground level			3		\$ (45,402)
152.1B	Provide Skewed Equitone & 10'-0"wd Granite Panels w/ Flush Glazed Windows @ Ground level			3		\$ (583,458)
152.1C	Provide Skewed Reider Fiberc Panels & 10'-0" Wd Granite Panels w/ Flush Glazed Windows @ Ground level			3		\$ -
152.1D	Provide Skewed Procelanosa Panels & 10'-0" Wd. Granite Panels w/ Flush Glazed Windows @ Ground level			3		\$ -
#XXX	<del>Eliminate the Slant at the Ground Floor CW</del>	Redundant VE #152		3		\$ (19,023)
152.2A	Provide Skewed Taktl & 5'-0" Wd Granite Panels w/ Flush Glazed Windows @ Ground level	Cannot be taken with item #150 or the othe 152 options		3		\$ (115,423)
152.2B	Provide Skewed Equitone & 5'-0"wd Granite Panels w/ Flush Glazed Windows @ Ground level	Cannot be taken with item #150 or the othe 152 options		1		\$ (653,479)
152.2C	Provide Skewed Reider Fiberc Panels & 5'-0" Wd Granite Panels w/ Flush Glazed Windows @ Ground level			3		\$ -
152.2D	Provide Skewed Procelanosa Panels & 5'-0" Wd. Granite Panels w/ Flush Glazed Windows @ Ground level			3		\$ -

POTENTIAL SAVINGS DISTRIBUTION BY PRIORITY		
\$ 1	\$ 2	\$ 3
Accepted Value Engineering Items	Proposed Savings POSSIBLE Needs more discussion	Proposed Savings UNLIKELY at this time
\$ (41,606)	\$ -	\$ -
\$ (88,125)	\$ -	\$ -
\$ (70,500)	\$ -	\$ -
\$ (52,875)	\$ -	\$ -
\$ -	\$ (22,325)	\$ -
\$ -	\$ -	\$ (200,000)
\$ (70,500)	\$ -	\$ -
\$ -	\$ 511,688	\$ -
\$ -	\$ 358,375	\$ -
\$ (70,021)	\$ -	\$ -
\$ -	\$ (51,759)	\$ -
\$ (145,876)	\$ -	\$ -
\$ -	\$ -	\$ (45,402)
\$ -	\$ -	\$ (583,458)
\$ -	\$ -	\$ -
\$ -	\$ -	\$ -
\$ -	\$ -	\$ (19,023)
\$ -	\$ -	\$ (115,423)
\$ (653,479)	\$ -	\$ -
\$ -	\$ -	\$ -
\$ -	\$ -	\$ -



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152.3A	Provide Flush Taktl & Granite Panels w/ Flush Glazed Windows @ Ground level	Cannot be taken with item #150 or the othe 152 options		3		\$ (453,820)
152.3B	Provide Flush Equitone & Granite Panels w/ Flush Glazed Windows @ Ground level	Cannot be taken with item #150 or the othe 152 options		3		\$ (929,543)
152.3C	Provide Flush Reider Fiberc Panels & Granite Panels w/ Flush Glazed Windows @ Ground level			3		\$ -
152.3D	Provide Flush Procelanosa Panels & Granite Panels w/ Flush Glazed Windows @ Ground level			3		\$ -
#153	Simplify detail and change material from TAKTL to 4"x16" Ground Face Silica block. OPTION B			3		\$ (1,900,692)
#154	Simplify detail and change material from TAKTL to reinforced porcelain rainscreen			3		\$ (568,148)
	Reduce Ground Floor Façade Materiality Change	Target \$1M		3		\$ (1,000,000)
#155	Overflow roof drains: substitute perimeter roof scuppers for overflow roof drains	PW not recommended		3		\$ -
#156	Roofing: EPDM in lieu of TPO roofing	Not recommended and may not be a real cost savings. Based on a 60Mil EPDM. .		3		\$ (180,347)
#157A	Reduce exterior cantilevered brick fins at stair ends. (Areas A,B,D,F). Brick fin walls may shorten by 2'-0". See sketch #157			1		\$ (56,459)
#157B	Remove exterior cantilevered brick fins at stair ends. (Areas A,B,D,F).			3		\$ (112,918)
#161	Canopy roof drain and formed metal gutter have a high risk of long-term failure due to trapped debris and freeze/thaw cycles. Provide alternative using conventional membrane roof and roof drain products. (A32-A3)	External Gutter not included in reconciled estimate.		3		\$ -
#162	Eliminate CW window at North Side Auditorium	VM included the removal of the 1 CW Window and provide a W1A panel in place of the window.		1		\$ (20,000)
#163A	Review Material Selection of Auditorium Wall (VM is base on 10'-0" high Panels ilo of the Auditorium Panels that are 26'0" & 15'-0" High	See detail 6/A20-11 the		2		\$ (29,287)
#163B	Review Material Selection of Auditorium Wall (VM is base on removing all GRFC Panels and Provided non-Skewed metal panels at are standard sized.	See detail 6/A20-11 the		2		\$ (117,148)
#164	Eliminate operable windows in classrooms	(classrooms only)		2		\$ (107,865)
#165A	Carry TPO and Rubber pavers at Canopies ILO Metal Panel			1		\$ (347,875)
#165B	Carry TPO Roofing at all Canopies (Without Rubber Pavers)			3		\$ (456,586)
166a	Simplify fins panel at CW/Stairs with Mullion Cap	See SK (no sketch provide at this time Pricing is based on Provide a 10" Knife Edge Vertical Shade ilo of VF2.5 & 2.6 perforated metal vertical sunshades.		1		\$ (100,956)

POTENTIAL SAVINGS DISTRIBUTION BY PRIORITY		
\$ 1	\$ 2	\$ 3
Accepted Value Engineering Items	Proposed Savings POSSIBLE Needs more discussion	Proposed Savings UNLIKELY at this time
\$ -	\$ -	\$ (453,820)
\$ -	\$ -	\$ (929,543)
\$ -	\$ -	\$ -
\$ -	\$ -	\$ -
\$ -	\$ -	\$ (1,900,692)
\$ -	\$ -	\$ (568,148)
\$ -	\$ -	\$ (1,000,000)
\$ -	\$ -	\$ -
\$ -	\$ -	\$ (180,347)
\$ (56,459)	\$ -	\$ -
\$ -	\$ -	\$ (112,918)
\$ -	\$ -	\$ -
\$ (20,000)	\$ -	\$ -
\$ -	\$ (29,287)	\$ -
\$ -	\$ -	\$ -
\$ -	\$ (107,865)	\$ -
\$ (347,875)	\$ -	\$ -
\$ -	\$ -	\$ (456,586)
\$ (100,956)	\$ -	\$ -

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Action Item #	Description	Comments	DISCUSSIO	Priority	REVISIT	Estimated Impact
#166b	Eliminate vertical fins on curtainwall			3		\$ (348,711)
#168	Sunscreen part of Curtain Wall Assembly (Design assist)	Skin Supported in locations which overhang: To be Coordinated with CW Classroom Evaluation		2		\$ (215,730)
#169	Soffits at Canopies (building overhang Alucobond/metal panels MCM at canopies)	Need to validate based on SK		3		\$ -
#170	CW to window system. Reduce complexity;	Sketch #174 (Pricing Based on a single pane vs double pane window system) Cannot be accepted with item #188A		2		\$ (193,875)
#175	Eliminate band room clerestory windows not located on line A	Need to validate based on SK. Material only, for structural modification see item #		1		\$ (10,575)
#176	Eliminate Design Assist			1		\$ (205,625)
#177	Change soffit panel from Alucobond to flat seam panels	See Item Above - Not Recommended		3		\$ (507,506)
#178	Wood Benches to be removed from all classroom fenestrations	Cannot be accepted with item #188A		1		\$ (380,700)
#179a	Reduce 1 of the 2 innovation space skylights by 40%	Need to validate based on SK		1		\$ (45,802)
#179b	Reduce MS Skylight by 15.5%			3		\$ -
#180	Remove all skylights			3		\$ (278,669)
#181	Simplify CW at corner stairs (width adjustment, mullions)	PW Does not Recommend. Skanska req's more info to price		2		\$ -
#182	Simplify coping at parapet	Sketches need (P&W already Rejected, Noted testing the assemble is required)		3		\$ -
#183	B5 "triple glazing system" keep at music room only. (acoustic). GL1D only at North façade	This Item was removed during Reconciliation- no cost adjustment		3		\$ -
#184	Modify length (height) of Curtain Wall glass panels (less than 14')	See VM item #302		2		\$ -
#185	Remove North wall acoustical screens at mechanical well: REVISED TO REFLECT REMOVAL OF SPECIFIED LOUVER WALL	Skanska Estimate is based on Louver per Spec 089119 ("Fixed Louvers") No Acoustical screen wall has been included in the reconciled DD estimate.		3		\$ (378,697)
#185a	Provide Acoustical Screens at Mechanical Well Above Pool	Skanska Estimate is based on Louver per Spec 089119 ("Fixed Louvers") No Acoustical screen wall has been included in the reconciled DD estimate.		3		\$ 164,829
#185b	Provide Acoustical Screens at Mechanical Well @ Roof Terrace	Skanska Estimate is based on Louver per Spec 089119 ("Fixed Louvers") No Acoustical screen wall has been included in the reconciled DD estimate.		3		\$ 64,155
#186	Substitute acoustic panel for aluminum louver at Mechanical Well in High School Area	Skanska Estimate is based on 4" Non Drainable Louver w/ no blankoff panel per Spec 089119 ("Fixed Louvers") No Acoustical screen wall has been included in the reconciled DD estimate.		3		\$ -
#188	Reduce classroom window heights by 5" & reduce all upper floor doors to 7'-0" height.	For Single Plane Reduce & Window sill reduction see VM Item #170, #178		1		\$ (132,305)
#189	Delete classroom window seat and align windows in single plane	CANNOT BE ACCEPTED WITH ITEM #178. Include CWB Sills		3		\$ -
#189	Middle School Entry Reduction	Reduction of MS Entry		2		\$ (95,463)

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\$ 1	\$ 2	\$ 3
Accepted Value Engineering Items	Proposed Savings POSSIBLE Needs more discussion	Proposed Savings UNLIKELY at this time
\$ -	\$ -	\$ (348,711)
\$ -	\$ (215,730)	\$ -
\$ -	\$ -	\$ -
\$ -	\$ (193,875)	\$ -
\$ (10,575)	\$ -	\$ -
\$ (205,625)	\$ -	\$ -
\$ -	\$ -	\$ (507,506)
\$ (380,700)	\$ -	\$ -
\$ (45,802)	\$ -	\$ -
\$ -	\$ -	\$ -
\$ -	\$ -	\$ (278,669)
\$ -	\$ -	\$ -
\$ -	\$ -	\$ -
\$ -	\$ -	\$ -
\$ -	\$ -	\$ -
\$ -	\$ -	\$ (378,697)
\$ -	\$ -	\$ 164,829
\$ -	\$ -	\$ 64,155
\$ -	\$ -	\$ -
\$ (132,305)	\$ -	\$ -
\$ -	\$ -	\$ -
\$ -	\$ (95,463)	\$ -

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Action Item #	Description	Comments	DISCUSSIO	Priority	REVISIT	Estimated Impact
#189a	Narrow spacing of curtainwall mullions results in significant penalty for thermal performance. It also increases cost. Provide geometry that results in optimal spacing for thermal performance and reduced construction cost. (A34-02).	See item # 184				\$ -
#300	Provide Storefront ilo Curtain Wall at all Ground Level Glazing			3		\$ (125,878)
#302	Provide Intermediate Floor Transition Steel at all Structured Curtainwall ILO Nest Steel			1		\$ (138,085)
#304	Eliminate Vertical fins at the Roof Terrace Curtain Wall	Similar Mullion Detail				\$ (16,009)
#305	Delete 1 of the 2 High School Entrance Canopies	PW To Evaluate and Provide SK		3		\$ -
#425	Reduce south canopy roof overhang	Item Carried Above		3		\$ -
#428	Eliminate exterior classroom sunshades and consider pull shades, different window product or resize windows to achieve same net energy performance			2		\$ (122,905)
#429	Eliminate exterior classroom sunshades and pull shades,	Skanska to verify that manual shades not already carried.		2		\$ (192,888)
#430	Reducing cantilever by 7'-0" @ West Stair.	Target Design to budget based on Sketches/renderings provided by P&W dated 4/29/19		1		\$ (120,000)
<b>HVAC</b>						
#190	Reduce the number of science classrooms with fume hoods. Currently, each science room is provided with a laboratory type roof exhaust fan for a total of 12 exhaust systems.	Deducted 4-classroom fume hood exhaust set ups.		1		\$ (168,923)
#191	Delete the central (Aircuity) carbon dioxide monitoring and control system. Provide local combined room temperature / carbon dioxide sensors integrated directly with the BMS.	Ramifications to LEED		1		\$ (183,071)
#192	Utilize ductless ceiling cassette VRF fan coil units in lieu of ducted in HS and MS admin suites where zones consist of a single space.	Impact on electrical scope. Cost includes 5-units from Phase-1/Area-A. Phase-2/Area-F is unclear as to how many units serve a single space (no ductwork is shown). More info is required.		2		\$ (24,384)
#193	In lieu of four-pipe chilled beam units, provide geothermal water-cooled heat recovery VRF systems with indoor fan coil units for the Area D and/or Area F classrooms. This essentially consists of Phase 2. Eliminates pump mixing station #2. Reduces central chiller-heater plant capacity. Reduces size of chilled water and hot water feeds to phase 2 to serve common area radiant floor systems and HRU-5 &6. Actual extent and feasibility to be determined.	Impact on electrical scope. Assumes indoor mounted VRF condensing units and ceiling cassette FCU's are utilized.		2		\$ (88,125)
#194	In addition to Item 4, provide geothermal water cooled condensing section for heat recovery units HRU-5 and 6 in lieu of chilled/hot water coils, if possible. Reduces central chiller-heater plant capacity. Reduces size of chilled water and hot water feeds to phase 2 to serve common area radiant floor systems. Feasibility to be confirmed.	Impact on electrical scope. More information will be required from the mechanical engineering design team to provide a realistic number for this item.		2		\$ (58,750)
#195	In lieu of four-pipe chilled beam units, provide geothermal water-cooled heat recovery VRF systems with indoor fan coil units for the Area B classrooms on the 2nd, 3rd, and 4th floors. Reduces central chiller-heater plant capacity. Reduces size of chilled water and hot water feeds to Area B to serve common area radiant Floor systems. Actual extent and feasibility to be determined.	Impact on electrical scope. More information will be required from the mechanical engineering design team to provide a realistic number for this item.		2		\$ (88,125)

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\$ 1	\$ 2	\$ 3
Accepted Value Engineering Items	Proposed Savings POSSIBLE Needs more discussion	Proposed Savings UNLIKELY at this time
\$ -	\$ -	\$ -
\$ -	\$ -	\$ (125,878)
\$ (138,085)	\$ -	\$ -
\$ -	\$ -	\$ -
\$ -	\$ -	\$ -
\$ -	\$ -	\$ -
\$ -	\$ (122,905)	\$ -
\$ -	\$ (192,888)	\$ -
\$ (120,000)	\$ -	\$ -
<b>HVAC</b>		
\$ (168,923)	\$ -	\$ -
\$ (183,071)	\$ -	\$ -
\$ -	\$ (24,384)	\$ -
\$ -	\$ (88,125)	\$ -
\$ -	\$ (58,750)	\$ -
\$ -	\$ (88,125)	\$ -

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#196	Remove 4 pipe system on VAV boxes and replace with 2 pipe heating only.	There are no 4-pipe VAV boxes in this design. There are however 4-pipe FCU's that serve the stairwells. I would recommend eliminating the 4-pipe FCU's on the upper floors and installing hot water CUH's on the bottom floor of each stairwell.		3		\$ (24,675)
#197	There appears to be no perimeter heat in most zones. How does HVAC system supply heat at night, without turning on AHUs? Consider dual-wheel AHUs with fan powered boxes driving the chilled beams, such that the fan powered boxes can supply primary air to operate the chilled beams at night. Reduce AHU capacity to align with minimum ventilation rate required. Will likely result in nearly 50% reduction in HRU capacity required (current total of 111,250 cfm can likely be reduced to 60,000 cfm)	Impact on electrical scope. More information will be required from the mechanical engineering design team to provide a realistic number for this item.				\$ -
#198	Consider supplying make up air to the kitchen via dual-wheel HRUs, relying on general exhaust air from other portions of the building, rather than relying on a dedicated Make Up Air Unit without heat recovery. May result in a net savings, due to potential reduced geothermal system capacity required. Also removing Make Up Air Unit or reducing size to direct feed to hood should reduce costs.	More information will be required from the mechanical engineering design team to provide a realistic number for this item.				\$ -
#199	Energy recovery schedule is incomplete. Also, Summer sensible effectiveness indicates below 60%. This is poor performance. Specify at least 75%. This may result in a net savings, due to reduced geothermal system capacity required. (M50-01)	More information will be required from the mechanical engineering design team to provide a realistic number for this item.				\$ -
#199a	Scroll chillers (Climacool) only have a 15-year lifespan and are highly prone to poor quality manufacturing. Consider screw chillers with significantly better quality manufacturing and 25-year lifespan. High efficiency screw chillers also have significantly better energy performance. Three (3) screw chillers may also be less expensive than eleven (11) scroll chillers. Consider using Trane RTHD and RTWD scroll chillers (M50-01)	More information will be required from the mechanical engineering design team to provide a realistic number for this item. The scheduled project "chillers" are not cooling only units, they are in fact chiller-heater units and the option to go to screw compressor chillers may or may not be available.				\$ -
#199b	42,000 cfm of total HV units is a huge load. Why do these units not include heat recovery? Why is Entering Air Temperature listed as 70°F - are these HVUs not actually 100% OA as indicated in the schedule? Also, some list an EWT of 140°F. Is this temperature water available? 140°F water would make the heat pump chillers very inefficient. (M50-02)	These are question the mechanical design team will need to address.				\$ -
#500	Change 4-pipe CB units to 2-pipe CB's. Increase VAV's heating capacity & add RCP's. <b>Feasibility to be confirmed.</b>			2		\$ (176,250)
#501	Change one (or more?) HRU's from chilled water to DX cooling.	Proposed cost reduction is for 1-unit (approx. 18,000 cfm).		2		\$ (23,500)
#502	Reduce radiant floor area by 20% (approx. 12,000 sf).			1		\$ (94,000)
#503	Change stainless steel ductwork serving the Locker Rooms to aluminum.					\$ (823)
#504	Change stainless steel ductwork serving the Pool to aluminum.			3		\$ (2,350)
#505	Change stainless steel ductwork serving the Pool to galvanized-KYNAR/epoxy coated.			1		\$ (117,500)
#506	Change stainless steel ductwork serving the Pool to fabric (Ductsox).			3		\$ (235,000)
#507	Plate & frame HX's not required.	Line Item 929 & 930		1		\$ (59,219)
#508	Delete pumps & apply cost to Item 933 Pump/Mixing Stations w/enclosures.	Line Item 938 & 939		1		\$ 11,750

POTENTIAL SAVINGS DISTRIBUTION BY PRIORITY		
\$ 1	\$ 2	\$ 3
Accepted Value Engineering Items	Proposed Savings POSSIBLE Needs more discussion	Proposed Savings UNLIKELY at this time
\$ -	\$ -	\$ (24,675)
\$ -	\$ -	\$ -
\$ -	\$ -	\$ -
\$ -	\$ -	\$ -
\$ -	\$ -	\$ -
\$ -	\$ -	\$ -
\$ -	\$ (176,250)	\$ -
\$ -	\$ (23,500)	\$ -
\$ (94,000)	\$ -	\$ -
\$ -	\$ -	\$ -
\$ -	\$ -	\$ (2,350)
\$ (117,500)	\$ -	\$ -
\$ -	\$ -	\$ (235,000)
\$ (59,219)	\$ -	\$ -
\$ 11,750	\$ -	\$ -



PROJECT - Belmont Middle and High School  
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Action Item #	Description	Comments	DISCUSSIO	Priority	REVISIT	Estimated Impact
#509	Delete cost of air separators for P-4&5.	Line Item #953		1		\$ (4,283)
#510	Delete SCHW air separators.	Line Item #954		1		\$ (6,974)
#511	Delete cost for 2-expansion tanks.	Line Item #958		1		\$ (15,080)
#512	Delete SCHW expansion tanks.	Line Item #959		1		\$ (19,796)
#513	Delete SCHW flow meters.	Line Item #964		1		\$ (2,090)
#514	Delete Glycol Feed System & glycol 30% solution.	Line Item #987 & 990		1		\$ (8,432)
#515	Delete Exhaust fan/dishwasher (& ATC).	Line Item #1019		1		\$ (6,130)
#516	Delete Stainless Steel Duct - Dishwasher exhaust	Line Item #1045		1		\$ (23,619)
#517	Delete - Sound attenuators/VAV's	Line Item #1057		1		\$ (66,308)
#518	Reduce total ATC cost to approx. \$6.00/SF (reduce by \$1.00/SF).	D3009.000 ATC SKA Does Not recommend taking this as the control systems for NZE will be extensive, but are yet to be defined.		1		\$ (522,875)
#519	Plate & frame HX's not required.	Line Item 2280 & 2281		1		\$ (59,219)
#520	These line items are for Chemical Treatment & glycol mix (30%) for the HW & CHW piping systems.	I'm not sure what the confusion is on BALA's part.				\$ -
#521	Increase cost/CFM of HRU-4, 5 & 6 to \$11.50/CFM.	Note: I received budget pricing from DAC on all of the major air handling equipment. It is my opinion that this cost increase is unnecessary.		3		\$ 193,613
#522	Increase cost/CFM of HRU-4, 5 & 6 to \$11.50/CFM.	Note: I received budget pricing from DAC on all of the major air handling equipment. It is my opinion that this cost increase is unnecessary.		3		\$ 203,628
#523	Target Design Savings for Mechanical Systems	To be removed after above selections are made		3		\$ (300,007)
<b>PLUMBING / FIRE PROTECTION</b>						
#200	Eliminate trap primer	Keep hose bibs		1		\$ (55,155)
#201	Eliminate Dry system & use remote (sprinkler system)	Eliminate exterior dry systems. Change interior dry systems to wet systems.		3		\$ (31,478)
#202	Propress Included	Skanska & PW to verify if Propress Premium was included		2		\$ -
#203	Acid Neutralization on MS	Is assumed that the HS Acid Neutralization does not need to be resized. Also Acid Piping is assumed to be replace with Standard Sanitary Piping. Integral Epoxy sink are assumed to remain.		1		\$ (119,019)
<b>ELECTRICAL</b>						
#210	Re-roof PV - Ready (don't carry in cost). NIC	See Item 215				\$ -
#211	Simplify fixture types - Light Fixtures	Original Target Reduce by \$0.50 PSF TARGET (Summary of A, B and C) REVISED PER RECONCILLIATION ALIGNMENT		1		\$ (1,320,399)
#211A	Revised Art Room Lighting			2		\$ (45,910)
#211B	Reduce and replace lighting at egress stairs			2		\$ (5,464)
#211C	Reduce class room light fixture type F03 by approx.30%	Deduct 4lf per classroom.		2		\$ (48,419)
#211D	Reuse existing field house lighting	Lighting to remain as -is.		2		\$ (59,044)
#211E	New lighting in PE Alt/Fitness			2		\$ 9,753

POTENTIAL SAVINGS DISTRIBUTION BY PRIORITY		
\$ 1	\$ 2	\$ 3
Accepted Value Engineering Items	Proposed Savings POSSIBLE Needs more discussion	Proposed Savings UNLIKELY at this time
\$ (4,283)	\$ -	\$ -
\$ (6,974)	\$ -	\$ -
\$ (15,080)	\$ -	\$ -
\$ (19,796)	\$ -	\$ -
\$ (2,090)	\$ -	\$ -
\$ (8,432)	\$ -	\$ -
\$ (6,130)	\$ -	\$ -
\$ (23,619)	\$ -	\$ -
\$ (66,308)	\$ -	\$ -
\$ (522,875)	\$ -	\$ -
\$ (59,219)	\$ -	\$ -
\$ -	\$ -	\$ -
\$ -	\$ -	\$ 193,613
\$ -	\$ -	\$ 203,628
\$ -	\$ -	\$ (300,007)
\$ (55,155)	\$ -	\$ -
\$ -	\$ -	\$ (31,478)
\$ -	\$ -	\$ -
\$ (119,019)	\$ -	\$ -
\$ -	\$ -	\$ -
\$ (1,320,399)	\$ -	\$ -
\$ -	\$ (45,910)	\$ -
\$ -	\$ (5,464)	\$ -
\$ -	\$ (48,419)	\$ -
\$ -	\$ (59,044)	\$ -
\$ -	\$ 9,753	\$ -

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Action Item #	Description	Comments	DISCUSSIO	Priority	REVISIT	Estimated Impact
#211F	Reuse existing small gym lighting	Lighting to remain as -is.		2		\$ (13,219)
#212	Minimize Cable trays & conduits for J-Hooks	P&W to provide clarification		2		\$ -
#213	Provide aluminum feeders in lieu of copper feeders	Aluminum Requires additional Maintenance/Services		2		\$ -
#214	Lighting Controls – Provide wireless networked system in place of wired network system.			1		\$ (175,075)
#215	Fund PV Outside the Construction Budget - Building PV Ready	Overwhelming community support to maintain PV in Construction Budget		3		\$ (3,055,000)
#216	Electrical conduit: metal conduit in certain locations can be substituted for EMT or IMC	P&W to provide clarification		1		\$ -
#217	Eliminate second primary electrical feed to building transformers			2		\$ (97,290)
#218	It appears that panelboards include electrical meters to comply with energy code mandatory requirement for energy monitoring, including by category: total electrical energy, HVAC systems, interior lighting, exterior lighting, receptacles. Consider alternate to purchase distribution panels with built-in metering system, such that all current and future panelboard loads will be metered, without having to purchase, install and integrate additional meters. (E20-00)	P&W to provide additional: Distribtuion and feeder sizes need to be provided in order to get to a level of sizing meters.		2		\$ -
#219	Remove illumination from outdoor signs.			2		\$ -
#423	Reduce theatrical lighting budget	See Below		3		\$ -
#423.1	Correct duplicate BB downlights to count of 22 @ \$915.2 each			1		\$ (18,988)
#423.2	Eliminate 18 duplicate lights F20 on Aud Stage	VM is based on giving back for the cost of (11) type F20 fixture, not the (18) as listed		1		\$ (6,527)
#423.3	Reduce quantity of Stage/BB Blue lights by 15%			1		\$ (11,050)
#423.4	Correct count of BB strip lighting to 53	Controls portion needs verification		1		\$ (52,922)
#423.5	Reduce quantity of Aud Technical lighting	P&W to provide additional information. Target reduction of \$30,200 per P&W.		1		\$ (35,485)
#423.6	Reduce quantity of BB Technical lighting	P&W to provide additional information. Target reduction of \$24,800 per P&W		1		\$ (29,140)
<b>SECURITY</b>						
#220	Reduce CCTV Cameras	Reduce by 20%		1		\$ (57,949)
<b>AV</b>						
#224	AV Field House	Delete Video Projection System		1		\$ (621,458)
#224	AV Small Gymnasium	Delete Video Projection System		1		\$ (263,200)
#225	Reduce AV at Auditorium	Target 10% reduction		1		\$ (47,000)
#226	Reduce AV at Black box	Target 10% reduction		1		\$ (24,663)
#227	Reduce AV at Cafeteria/Dining Commons	Target 10% reduction		1		\$ (20,950)
#228	Reduce Portable Video Displays	Carried value is \$20,000 - 20%		1		\$ (2,350)

POTENTIAL SAVINGS DISTRIBUTION BY PRIORITY		
\$ 1	\$ 2	\$ 3
Accepted Value Engineering Items	Proposed Savings POSSIBLE Needs more discussion	Proposed Savings UNLIKELY at this time
\$ -	\$ (13,219)	\$ -
\$ -	\$ -	\$ -
\$ -	\$ -	\$ -
\$ (175,075)	\$ -	\$ -
\$ -	\$ -	\$ (3,055,000)
\$ -	\$ -	\$ -
\$ -	\$ (97,290)	\$ -
\$ -	\$ -	\$ -
\$ -	\$ -	\$ -
\$ -	\$ -	\$ -
\$ (18,988)	\$ -	\$ -
\$ (6,527)	\$ -	\$ -
\$ (11,050)	\$ -	\$ -
\$ (52,922)	\$ -	\$ -
\$ (35,485)	\$ -	\$ -
\$ (29,140)	\$ -	\$ -
\$ (57,949)	\$ -	\$ -
\$ (621,458)	\$ -	\$ -
\$ (263,200)	\$ -	\$ -
\$ (47,000)	\$ -	\$ -
\$ (24,663)	\$ -	\$ -
\$ (20,950)	\$ -	\$ -
\$ (2,350)	\$ -	\$ -

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Action Item #	Description	Comments	DISCUSSIO	Priority	REVISIT	Estimated Impact
#229	Reduce sound system in Classrooms (enhanced voice/audio system)	Assume mean speech reinforcement		3		\$ (188,000)
#229A	Add in Speech reinforcement	DD Reconciliation changes		1		\$ 188,000
#230	No exterior sound system			1		\$ -
#231	Reduce generator size from 2000KW to 1500KW			1		\$ (146,875)
#232	Reduce PA wiring	DD Reconciliation changes		1		\$ (223,250)
#233	Distribution and Feeders	Reconciled changes		1		\$ 1,037,699
<b>POOL/EQUIPMENT</b>						
#240	Reduce staff lounge appliances by 50% (dishwasher/fridges/etc..)			1		\$ (7,050)
#241	Refine Pool equipment Scope	Already reusing some equipment; needs further discussion; Already taking into consideration		3		\$ -
#242	Reuse existing bleachers in Pool	Does not meet code		3		\$ -
#243	Consider PoolPak for pool area, rather than an HVU. Resolving these issues may result in a net savings, due to reduced geothermal system capacity required	PoolPak Included in the Design Development Estimate		3		\$ -
#243	Pool Pump Room Relocation (Eliminate Basement)			1		\$ (411,250)
#244	Food Service Reduction per P+W email dated 4-17-19			1		\$ (205,625)
#245						\$ -
<b>FFE</b>						
#250	Science tables to NOT be FFE			1		\$ 175,000
#251	Purchase the following in FFE budget Blackbox Theatre Platforms (Skanska item #1264),	Ref SK #140 & 251		3		\$ (129,250)
#252	Purchase the following in FFE budget Loose Seating Auditorium (Skanska item #1273)			1		\$ (14,100)
#253	Purchase the following in FFE budget Stacking Chairs Blackbox (Skanska item #1274)	To be included in FFE		1		\$ (44,063)
#254	Eliminate Mat hoist at Small Gym (Skanska item #1289)	Could be added Later		1		\$ (29,375)
#255	Purchase portable aluminum bleacher in FFE (Skanska item #2602)	Confirm in pool		3		\$ (5,288)
#256	Purchase portable soccer goals (Skanska item # 2603)	Possibly Re-use existing		1		\$ (16,450)
						\$ -
<b>ELEVATORS</b>						
#260	Less expensive alternative	Base on providing Hydraulic Elevators. P&W to provide other options. Skanska does advise that Hydraulic elevator will result in a slower travel speed.		2		\$ (47,000)
#261	Elevator hoistway vent is no longer required by code. Provide mechanical cooling instead of wasting heat to outdoors. This will allow winter heat recovery of elevator equipment. (M41-03)			2		\$ -
<b>VE Requests from BHS 5/2/19</b>						
#700	Proposed/Target GC Reduction of one FTE (from 11.7 to 10.7 average) - to be reviewed/revisited as part of detailed staffing plan at GMP			1		\$ (500,000)
#701	Proposed/Target GR Reduction/Trade Cleaning - To be reviewed/revisited as detailed Labor and GR plan at GMP.			1		\$ (300,000)

POTENTIAL SAVINGS DISTRIBUTION BY PRIORITY		
\$ 1	\$ 2	\$ 3
Accepted Value Engineering Items	Proposed Savings POSSIBLE Needs more discussion	Proposed Savings UNLIKELY at this time
\$ -	\$ -	\$ (188,000)
\$ 188,000	\$ -	\$ -
\$ -	\$ -	\$ -
\$ (146,875)	\$ -	\$ -
\$ (223,250)	\$ -	\$ -
\$ 1,037,699	\$ -	\$ -
<b>POOL/EQUIPMENT</b>		
\$ (7,050)	\$ -	\$ -
\$ -	\$ -	\$ -
\$ -	\$ -	\$ -
\$ -	\$ -	\$ -
\$ (411,250)	\$ -	\$ -
\$ (205,625)	\$ -	\$ -
\$ -	\$ -	\$ -
<b>FFE</b>		
\$ 175,000	\$ -	\$ -
\$ -	\$ -	\$ (129,250)
\$ (14,100)	\$ -	\$ -
\$ (44,063)	\$ -	\$ -
\$ (29,375)	\$ -	\$ -
\$ -	\$ -	\$ (5,288)
\$ (16,450)	\$ -	\$ -
\$ -	\$ -	\$ -
<b>ELEVATORS</b>		
\$ -	\$ (47,000)	\$ -
\$ -	\$ -	\$ -
<b>VE Requests from BHS 5/2/19</b>		
\$ (500,000)	\$ -	\$ -
\$ (300,000)	\$ -	\$ -

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Action Item #	Description	Comments	DISCUSSIO	Priority	REVISIT	Estimated Impact
#702	Upgrade Brendan Grant field and overlapping soccer field to synthetic turf based on sf unit price			3		\$ 1,558,050
#703	Add pathway and vegetation enhancements along North side of Claypit Pond, OME	See email (dated 5/2/19) for description of what SKA included for scope. (5/3) Continue Conversation with ConCom		2		\$ (352,500)
#704	Install athletic field lighting at the varsity softball and baseball fields	Need Design Parameters, but OME provided.		2		\$ 881,250

POTENTIAL SAVINGS DISTRIBUTION BY PRIORITY		
\$ 1	\$ 2	\$ 3
Accepted Value Engineering Items	Proposed Savings POSSIBLE Needs more discussion	Proposed Savings UNLIKELY at this time
\$ -	\$ -	\$ 1,558,050
\$ -	\$ (352,500)	\$ -
\$ -	\$ 881,250	\$ -

<b>TOTAL</b>	\$ (50,118,069)	\$ (25,526,249)	\$ (1,386,022)	\$ (23,063,835)
	\$ 237,647,607	\$ 237,186,092		
	DELTA	\$ (461,515)		