

PROJECT - Belmont High School
 CLIENT - Town of Belmont
 LOCATION - Belmont, MA
 4/23/2019
 Design Development VE List

Current Project Estimate \$ 262,712,341

Action Item #	Description	Comments	Priority	Estimated Impact	PRIORITY			
					Proposed Saving HIGHLY LIKELY	Proposed Savings POSSIBLE Needs more discussion	Proposed Savings UNLIKELY at this time	
GENERAL								
#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)	\$ (998,346)	\$ -	\$ -	
#002	Remove trailer (do not use for equipment)		3	\$ (35,250)	\$ -	\$ -	\$ (35,250)	
#003	Reduce Mock-ups	Reduce Budget by 20%	1	\$ (52,875)	\$ (52,875)	\$ -	\$ -	
#004	Eliminate Green roof	Delete Hot Fluid Applied Membrane & Green Roof/ Add TPO	1	\$ (217,348)	\$ (217,348)	\$ -	\$ -	
#005	Eliminate Roof Terrace	Delete Roof Pavers, CW Doors, Planters, Raised boxed planters, mtl picket fence.	2	\$ (332,537)	\$ -	\$ (332,537)	\$ -	
#006	Target Logistics/phasing cost reductions			\$ -	\$ -	\$ -	\$ -	
#006a	Eliminate groundbreaking allowance		1	\$ (11,750)	\$ (11,750)	\$ -	\$ -	
#006b	Reduce trailer budget and trailers by 25 percent	Remove (1) OPM Trailer and (1) CM Trailer	1	\$ (176,250)	\$ (176,250)	\$ -	\$ -	
#006c	Reduce allowances in BP#2			\$ -	\$ -	\$ -	\$ -	
MASONRY								
#007	Replace CMU backup wall by cavity wall (if cheaper)		1	\$ (257,472)	\$ (257,472)	\$ -	\$ -	
#008				\$ -	\$ -	\$ -	\$ -	
#009				\$ -	\$ -	\$ -	\$ -	
#010				\$ -	\$ -	\$ -	\$ -	
GEOTHERMAL								
#011	Reduce geothermal wells (320 wells based on 50 year bldg) reduce to 300		1	\$ (364,250)	\$ (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)	\$ -	\$ (88,125)	\$ -	
#014				\$ -	\$ -	\$ -	\$ -	
#015				\$ -	\$ -	\$ -	\$ -	
SITE/LANDSCAPE								
#016	Clarify traffic mitigation to reduce cost	Move to different funding source, (Underwood previously deleted from DD estimate).	1	\$ (20,000)	\$ (20,000)	\$ -	\$ -	
#017	Elimination of the ornamental grasses and groundcover at the upper and lower school arrival areas. Substitute with seeded lawn	Need area; Target \$200K. Review w/planning board	2	\$ (235,000)	\$ -	\$ (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)	\$ (146,875)	\$ -	\$ -	
#019	Reduce Tree planting by 30%	Target 30% cost reduction		\$ (941,602)	\$ -	\$ -	\$ -	
#020	Eliminate the bollards at the upper and lower school drop offs.		1	\$ (118,910)	\$ (118,910)	\$ -	\$ -	
#021	Elimination of the (2) bike shelters near the rugby field	Bike Rack Stays, Shelters removed	1	\$ (78,302)	\$ (78,302)	\$ -	\$ -	
#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)	\$ -	\$ (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)	\$ (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		1	\$ (62,275)	\$ (62,275)	\$ -	\$ -	
#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)	\$ (93,971)	\$ -	\$ -	
#026a	Eliminate the concrete unit pavers at the dining terrace and outdoor classrooms. Substitute with special concrete paving		1	\$ (109,275)	\$ (109,275)	\$ -	\$ -	

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#026b	Eliminate the Special Concrete Paving at the dining terrace and outdoor classrooms. Substitute with standard pedestrian concrete		1	\$ -	\$ -	\$ -	\$ -
#027	Maximize the amount of porous asphalt vs vehicular concrete paving	Took 100% of vehicular concrete	1	\$ (137,828)	\$ (137,828)	\$ -	\$ -
#028	Reduce parking count by 36 spaces (from current count)		1	\$ (9,400)	\$ (9,400)	\$ -	\$ -
#029	Eliminate the two free-standing seatwalls at the outdoor classrooms		1	\$ (135,125)	\$ (135,125)	\$ -	\$ -
#030	Increase site lighting pole heights throughout the project, thereby reducing the number of poles and fixtures	Reduced by (5)	2	\$ (17,625)	\$ -	\$ (17,625)	\$ -
#031	Eliminate synthetic turf	Change to grass	3	\$ (740,250)	\$ -	\$ -	\$ (740,250)
#032	Reduce Aluminum benches	Target 50%	1	\$ (58,750)	\$ (58,750)	\$ -	\$ -
#033	Reduce concrete benches by 50%		1	\$ (8,813)	\$ (8,813)	\$ -	\$ -
#034	Keep MBTA fencing, replace only at retaining wall	(50%, skanska to review)	2	\$ -	\$ -	\$ -	\$ -
#035	Reuse (2) batting cages	Reuse/relocate existing	1	\$ (7,000)	\$ (7,000)	\$ -	\$ -
#036	Reuse (2) score boards		1	\$ (1,880)	\$ (1,880)	\$ -	\$ -
#037	Eliminate flag poles: (2) at middle school & (2) at high school. Keep (1) at HS & (1) at MS		1	\$ (13,395)	\$ (13,395)	\$ -	\$ -
#038	Replace 100% granite curbs w/asphalt	Skanska to revise based on SK Received	3	\$ (217,375)	\$ -	\$ -	\$ (217,375)
#039	Eliminate anchored furnishing at exterior terrace		1	\$ -	\$ -	\$ -	\$ -
#040	Waterline coordination at the culvert & tapping on existing line	To be evaluated & included in bulletin #1 EBP2	2	\$ -	\$ -	\$ -	\$ -
#041	Eliminate curb edgers (Skanska Item #1384, 1385)	Waren Larson Does NOT RECOMMEND	2	\$ (49,174)	\$ -	\$ (49,174)	\$ -
#042	Reduce extent of fencing around play fields (Skanska item #2578, 2579, 2580)	Waren Larson Does NOT RECOMMEND	2	\$ -	\$ -	\$ -	\$ -
#043	Eliminate irrigation at multi-sport field (Skanska item #2622)	May have been mislabeled in Estimate - to Verify	3	\$ (322,538)	\$ -	\$ -	\$ (322,538)
#044	Reduce plantings to less expensive alternatives (that are still on the town list)	Target 25% reduction	2	\$ (223,250)	\$ -	\$ (223,250)	\$ -
#045	Reduce South Plaza hardscape area	Target 30% reduction	1	\$ -	\$ -	\$ -	\$ -
#046	Eliminate Concord Ave raised bicycle path westbound and match reconfiguration on eastbound side		1	\$ (470,000)	\$ (470,000)	\$ -	\$ -
#047				\$ -	\$ -	\$ -	\$ -
#048				\$ -	\$ -	\$ -	\$ -
STRUCTURAL							
#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)			\$ (190,000)	\$ -	\$ -	\$ -
#053	Auditorium Structure: add columns at ramp	Reference SK-VE070. Need structural sizing.		\$ -	\$ -	\$ -	\$ -
#054	Remove PV & supporting structure at mechanical well	Includes removing PV's above auditorium - SK Received	1	\$ (235,000)	\$ (235,000)	\$ -	\$ -
#055	Eliminate band room clerestory windows not located on line A	Structural modification only. For material (roof/coping, etc..) see item #175.	1	\$ (48,359)	\$ (48,359)	\$ -	\$ -
#056	Move the south side canopy columns forward to reduce the cantilevered structure.	Sketch Provided by PW VE056. Need dimensions & sizing.		\$ -	\$ -	\$ -	\$ -
#057	Reduce number of columns at Middle School entrance	if it's structurally possible, PW to advise/provide sketch		\$ -	\$ -	\$ -	\$ -
#058	Replace _____ sf of framed slab at west arcade with sidewalk slab			\$ -	\$ -	\$ -	\$ -
#059	Revise beam sizes for typical purlins and reduce steel tonnage by _____ tons			\$ -	\$ -	\$ -	\$ -
#434	Reduce HSS bracing and connections by _____ tons			\$ -	\$ -	\$ -	\$ -
#435	Reduce level 2 framing area B by _____ tons and _____ sf of concrete slab and deck			\$ -	\$ -	\$ -	\$ -

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#436	Eliminate _____ moment connections at area B west cantilever overhang				\$ -	\$ -	\$ -
#437	Eliminate _____ moment connections at perimeter girts			\$ -	\$ -	\$ -	\$ -
#438	Reduce _____ tonnage of HSS columns and add _____ tonnage of WF columns			\$ -	\$ -	\$ -	\$ -
#439	Reduce cantilever framing for support of Maker spaces and reduce _____ tons of steel framing			\$ -	\$ -	\$ -	\$ -
#440	Reframe the area over the pool roof by introducing story deep trusses which decreases steel framing by _____ tons and eliminates _____ mini piles and adds _____ PC piles			\$ -	\$ -	\$ -	\$ -
#442	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, Kalwall & other requirements to properly price. (\$100k precast reduction)	2	\$ (2,900,000)	\$ -	\$ (2,900,000)	\$ -
#442b	Façade of field house and little gym to remain. New Kall-wall	Materials at exterior wall (Kall-wall)	2	\$ -	\$ -	\$ -	\$ -
#442c	Façade of field house and little gym to remain. New roofing.	Roofing. Energy Code TB reviewed.	2	\$ 1,500,000	\$ -	\$ 1,500,000	\$ -
#443	Change auditorium flat structural slab and geofoam infill with stepped topping slab to sloped structural slab with steps			\$ -	\$ -	\$ -	\$ -
Anticipated Structural Revisions							
DOORS							
Items 50 - 440			1	\$ (1,400,000)	\$ (1,400,000)	\$ -	\$ -
#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	\$ (599,250)	\$ -	\$ (599,250)	\$ -
#061	Reduce Qty of Operable Partitions	Reduce by 50%. Sketch received	2	\$ (206,565)	\$ -	\$ (206,565)	\$ -
#062	Art Room exterior doors: Reduce to single glazed door		1	\$ -	\$ -	\$ -	\$ -
#064	Eliminate door film on FG designated doors (Skanska items #312, 1861)		3	\$ (52,875)	\$ -	\$ -	\$ (52,875)
#065	Reduce number of entry doors	reduce by (2)? PW to advise	2	\$ (19,975)	\$ -	\$ (19,975)	\$ -
#066	Eliminate typical classroom door hold-opens on automatic closures		2	\$ -	\$ -	\$ -	\$ -
#067				\$ -	\$ -	\$ -	\$ -
#068				\$ -	\$ -	\$ -	\$ -
#069				\$ -	\$ -	\$ -	\$ -
INTERIORS							
#071	Simplify Ceilings: reduce GWB ceiling	Sketch Provided by PW	1	\$ (202,898)	\$ (202,898)	\$ -	\$ -
#072	Remove GWB ceilings at bathrooms, replace with 2x2 ACT & anchoring clips	Reference SK 71	2	\$ -	\$ -	\$ -	\$ -
#073	Remove GWB ceilings at bathrooms, leave open ceiling	Reference SK 71	2	\$ -	\$ -	\$ -	\$ -
#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	\$ (294,925)	\$ (294,925)	\$ -	\$ -
#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	\$ (577,326)	\$ (577,326)	\$ -	\$ -
#077	Simplify Ceilings: reduce decorative acoustic ceilings (corridors)	Reduced costs by 25% and use 2x2 ACT ceiling. Duplicate see 074	1	\$ (555,386)	\$ (555,386)	\$ -	\$ -
78a	Rubber tiles (RF-1 thru 4) to Marmolium floor	PW to provide pros & cons of products (full color)	1	\$ (1,410,264)	\$ (1,410,264)	\$ -	\$ -
78b	Rubber tiles (RF-1) 3mm to 2mm	(PW to check that a 2mm item would not be proprietary). SKANSKA not recommending.	1	\$ -	\$ -	\$ -	\$ -
79a	OPTION A: Terrazzo (liquid product) to Marmolium		3	\$ (1,143,431)	\$ -	\$ -	\$ (1,143,431)
79b	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	\$ (401,204)	\$ (401,204)	\$ -	\$ -

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#081	No glass railing at auditorium	PW SK070 Provided	1	\$ (52,875)	\$ (52,875)	\$ -	\$ -
#082	Reduce interior glazing - rail & full height	Target 30% reduction. (glass wall to be gwb with wood cap)	1	\$ (903,026)	\$ (903,026)	\$ -	\$ -
#083	Interior glazing: Replace all 1/2" tempered glazing to 3/8" tempered except at C290 Media Center		1	\$ -	\$ -	\$ -	\$ -
#084	Change glazing to woven wire mesh panels at Orchestra/balcony level	See Item 81	3	\$ (26,438)	\$ -	\$ -	\$ (26,438)
#085	Reduce back painted glass by 50%	Wall surface - Sketch received VE085	1	\$ (204,671)	\$ (204,671)	\$ -	\$ -
#086							
#087	Eliminate shades at Skylights		1	\$ -	\$ -	\$ -	\$ -
#088	Eliminate sidelight shades		1	\$ (58,750)	\$ (58,750)	\$ -	\$ -
#089	Reduce electric Shades (at curtain wall) by 50%	(Remove at north facing MS	1	\$ (153,496)	\$ (153,496)	\$ -	\$ -
#090	Reduce tackable wall surfaces by 50%	Skanska is reviewing proposed saving.	2	\$ (74,383)	\$ -	\$ (74,383)	\$ -
#091	Reduce interior (acoustical) wood panels (general areas)	Reduced costs by 25%	1	\$ (197,400)	\$ (197,400)	\$ -	\$ -
#092	Reduce Casework (see options by PW) High School. OPTION A: Remove (2) wardrobes, plastic lam panels	Revisit Options Per SK's by PW - Quality of Material to be reviewed	1	\$ (728,500)	\$ (728,500)	\$ -	\$ -
#093	Reduce Casework (see options by PW) High School. OPTION B: Remove (2) wardrobes, plastic lam panels; remove open shelving base cabinets		3	\$ -	\$ -	\$ -	\$ -
#094a	Simplify fixed wood plywood at classroom (at soffit)	Target \$20 PSF savings. Painted drywall w/access panels.	1	\$ (287,734)	\$ (287,734)	\$ -	\$ -
#094b	Simplify fixed wood plywood at classroom (at soffit)	Target \$20 PSF savings. Painted drywall w/access panels.					
#095	Reduce Casework (see options by PW?) Middle School. OPTION A: Remove upper cabs, plam panels & countertop, remove (2) tall casework cabs	Skanska is reviewing sketches provided by PW	1	\$ (300,000)	\$ (300,000)	\$ -	\$ -
#096	Reduce Casework (see options by PW?) Middle School. OPTION C: Remove upper cabs, plam panels, remove (2) single wardrobes, base cabinets under countertop	Skanska is reviewing sketches provided by PW	3	\$ -	\$ -	\$ -	\$ -
#098	Remove K-13 insulation at Small Gym & Field house	PW to review w/Acentech	1	\$ (293,750)	\$ (293,750)	\$ -	\$ -
#099	Simplify/reduce monumental stairs	Sketch provided	1	\$ -	\$ -	\$ -	\$ -
#100	Change auditorium base from architectural concrete to large format porcelaine tiles.	Large porcelaine tile.match floor tile.	1	\$ -	\$ -	\$ -	\$ -
#101	Reduce height of interior porcelain tile	Target 20% reduction (reduce from 10ft to 8ft, child reach)	1	\$ (361,179)	\$ (361,179)	\$ -	\$ -
#102	Reduce Acoustic panels: in Ensemble Room	To Review SK and Revise pricing	1	\$ (25,000)	\$ (25,000)	\$ -	\$ -
#103	Eliminate AWP-11 Acoustic Fabric Panel at Office, Admin (Skanska line #617, 2045)	Skanska to review (need to deduct paint)	1	\$ (200,000)	\$ (200,000)	\$ -	\$ -
#104	Change ACT-6 ceilings to ACT-2	See Sketch 071	1	\$ (281,082)	\$ (281,082)	\$ -	\$ -
#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)	\$ -	\$ -	\$ (58,750)
#107	Catwalk only at Physics not other maker spaces	Revise size?	1	\$ (47,000)	\$ (47,000)	\$ -	\$ -
#108	MS Maker Space: Ceiling & lights double counted Add columns to media and maker space to reduce long span beams at lvl 3. See line #00X	PW to advise which lights to retain (take layout form 3rd floor & eliminate 2nd)	1	\$ -	\$ -	\$ -	\$ -
#109	IT closets; shorten utility runs by rethinking the locations of these spaces floor to floor	Included in Structure	3	\$ -	\$ -	\$ -	\$ -
#110	IT closets; shorten utility runs by rethinking the locations of these spaces floor to floor		3	\$ (23,500)	\$ -	\$ -	\$ (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)	\$ -	\$ -	\$ (58,750)
#112	Change exterior base trim; Change stainless steel trim to cheaper alternative	SS currently acts as flashing	3	\$ (23,500)	\$ -	\$ -	\$ (23,500)
#113	Provide alternate finish to W1D Flush GFRC Panels - standard at Gym (Skanska line #148)	Dependent on Item 442	3	\$ (352,500)	\$ -	\$ -	\$ (352,500)

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#114	Paint HSS in lieu of GFRC columns at Outdoor Terrace (Skanska line #151)	Code Implications - Not Recommended	3	\$ -	\$ -	\$ -	\$ -
#115	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	\$ -	\$ -	\$ -	\$ -
#116	Reduce height/extent of FRP in Janitor Closets (Skanska items #547, 587, 2016, 2038)	4' height	1	\$ -	\$ -	\$ -	\$ -
#117	Eliminate GWB and paint to underside of stairs – leave underside of stair pan exposed (Skanska line items #246, 563, 1820, 2027)		1	\$ -	\$ -	\$ -	\$ -
#118	Reduce Magnetic Marker Boards. (Teaching Wall only in Classrooms).	SK provided by PW	3	\$ -	\$ -	\$ -	\$ -
#119	Eliminate the "kiosk" in main hs entry.		3	\$ -	\$ -	\$ -	\$ -
#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	\$ -	\$ -	\$ -	\$ -
#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	\$ (10,575)	\$ (10,575)	\$ -	\$ -
#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	NEED MORE INFORMATION FROM PW	1	\$ -	\$ -	\$ -	\$ -
N/A	Refinish small gym floor w/s new	Skanska to check if taken out of estimate already		\$ -	\$ -	\$ -	\$ -
AUDITORIUM:							
#130	Remove balcony at level 3; resolve storage and maker 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	2	\$ (23,500)	\$ -	\$ (23,500)	\$ -
#132	Auditorium structure: add columns at ramps	Redundant with Item Above	3	\$ -	\$ -	\$ -	\$ -
#133	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	2	\$ (29,375)	\$ -	\$ (29,375)	\$ -
#134	Simplify auditorium catwalks C; Add lift to Follow/Spot room; only 1 ramp; replace stair w. caged ladder		2	\$ (11,750)	\$ -	\$ (11,750)	\$ -
#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)	\$ -	\$ -	\$ (35,250)
#136	Remove grid iron platform at stage	Not recommended by Theater Designer	2	\$ (223,250)	\$ -	\$ (223,250)	\$ -
#137	Refine scope at auditorium/blackbox: Option1: DDSK-01 removes the wires grid but retains the perimeter catwalk	Sketch provided	2	\$ (164,500)	\$ -	\$ (164,500)	\$ -
#138	Refine scope at auditorium/blackbox: Option2: DDSK-02 removes both the wires grid & the perimeter catwalk	Sketch provided	2	\$ (152,750)	\$ -	\$ (152,750)	\$ -
#139	Refine scope at auditorium/blackbox: Option2: simplify grid iron walking surface		2	\$ (23,500)	\$ -	\$ (23,500)	\$ -
#140	Refine scope at auditorium/blackbox: Option2: correct seating platform quantity		2	\$ (64,625)	\$ -	\$ (64,625)	\$ -
#141	No acoustical shell in base (at stage) BlackBox		1	\$ (235,000)	\$ (235,000)	\$ -	\$ -
#142	Grid at Auditorium stage - Eliminate		2	\$ -	\$ -	\$ -	\$ -
#143	Proscenium wall AWP-12 reduced. Top of proscenium wall to be painted GWB.	Sketch Provided by PW	1	\$ -	\$ -	\$ -	\$ -
#144	Thrust Stage at Auditorium		1	\$ -	\$ -	\$ -	\$ -
#145	AUDITORIUM: Finish ceiling simplified to be flat (curved panels eliminated) and to be 80% open wire mesh in Auditorium.	Simplified Ceiling in Auditorium - Sketch Provided by PW	1	\$ (70,500)	\$ (70,500)	\$ -	\$ -
#146	AUDITORIUM: Overhead reflectors simplified to flat painted GWB panels (hung above finish ceiling, shaded purple)	Simplified Ceiling in Auditorium - Sketch Provided by PW	1	\$ -	\$ -	\$ -	\$ -
#147	AUDITORIUM: Acoustic shell ceiling panels simplified to flat painted GWB panels faced with metal mesh (shaded pink)	Simplified Ceiling in Auditorium - Sketch Provided by PW. PW: NOT A POSSIBLE DELETION..	3	\$ -	\$ -	\$ -	\$ -

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ARCHITECTURAL EXTERIORS:							
#150	Reduce 10'-0" wide granite dimensions at base to 5' Wide		1	\$ (70,021)	\$ (70,021)	\$ -	\$ -
#151	Keep granite in specific locations per sketch; use precast concrete at remaining base locations. Finish precast concrete to resemble granite		1	\$ (145,876)	\$ (145,876)	\$ -	\$ -
#152	Simplify detail and change material from TAKTL to fiber cement. Remove lap detail. Option A		3	\$ (1,516,255)	\$ -	\$ -	\$ (1,516,255)
#XXX	Eliminate the Slant at the Ground Floor CW	Redundant VE #152	2	\$ (19,023)	\$ -	\$ (19,023)	\$ -
#152A	Provide Equitone or Equal FRC Panel ilo GFRC Panels		3	\$ (789,295)	\$ -	\$ -	\$ (789,295)
#152B	Provide Standard Straight Equitone or Equal FRC Panel ilo GFRC Panels		3	\$ (947,391)	\$ -	\$ -	\$ (947,391)
#153	Simplify detail and change material from TAKTL to 4"x16" Ground Face Silica block. OPTION B		3	\$ (1,900,692)	\$ -	\$ -	\$ (1,900,692)
#154	Simplify detail and change material from TAKTL to reinforced porcelain rainscreen		3	\$ (568,148)	\$ -	\$ -	\$ (568,148)
	Reduce Ground Floor Façade Materiality Change	Target \$1M	1	\$ (1,000,000)	\$ (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)	\$ -	\$ -	\$ (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)	\$ (56,459)	\$ -	\$ -
#157B	Remove exterior cantilevered brick fins at stair ends. (Areas A,B,D,F).		3	\$ (112,918)	\$ -	\$ -	\$ (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)	See Item 170	3	\$ -	\$ -	\$ -	\$ -
#162	Eliminate CW window at North Side Auditorium		1	\$ -	\$ -	\$ -	\$ -
#163	Review Material Selection of Auditorium Wall	See detail 6/A20-11	2	\$ (243,082)	\$ -	\$ (243,082)	\$ -
#164	Eliminate operable windows in classrooms	(classrooms only)	2	\$ -	\$ -	\$ -	\$ -
#165A	Carry TPO and Rubber pavers at Canopies ILO Metal Panel		1	\$ (347,875)	\$ (347,875)	\$ -	\$ -
#165B	Carry TPO Roofing at all Canopies (Withour Rubber Pavers)		3	\$ (456,586)	\$ -	\$ -	\$ (456,586)
#166	Simplify fins panel at CW/Stairs with Mullion Cap	See SK	1	\$ (100,956)	\$ (100,956)	\$ -	\$ -
#167	Eliminate vertical fins on curtainwall		3	\$ (348,711)	\$ -	\$ -	\$ (348,711)
#168	Sunscreen part of windows (Design assist)	Skin Supported in locations which overhang	1	\$ -	\$ -	\$ -	\$ -
#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 provided	2	\$ -	\$ -	\$ -	\$ -

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					1	2	3
					Proposed Saving HIGHLY LIKELY	Proposed Savings POSSIBLE Needs more discussion	Proposed Savings UNLIKELY at this time
#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	\$ (48,359)	\$ (48,359)	\$ -	\$ -
#176	Eliminate Design Assist		3	\$ (205,625)	\$ -	\$ -	\$ (205,625)
#177	Change soffit panel from Alucobond to flat seam panels	See Item Above - Not Recommended	3	\$ (507,506)	\$ -	\$ -	\$ (507,506)
#178	Wood Benches to be removed from all classroom fenestrations	Need to validate based on SK	1	\$ (380,700)	\$ (380,700)	\$ -	\$ -
#179a	Reduce Skylights by 40% (Innovation Space)	Need to validate based on SK	1	\$ (139,335)	\$ (139,335)	\$ -	\$ -
#179b	Reduce 55 % of Skylight		3		\$ -	\$ -	\$ -
#180	Remove all skylights		3	\$ (278,669)	\$ -	\$ -	\$ (278,669)
#181	Simplify CW at corner stairs (width adjustment, mullions)	PW Does not Recommend. Skanska req's more info to price	1	\$ -	\$ -	\$ -	\$ -
#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 facade	This Item was removed during Reconciliation- no cost adjustment	3	\$ -	\$ -	\$ -	\$ -
#184	Modify length (height) of Curtain Wall glass panels (less than 14')	Verify what was carried in the CW		\$ -	\$ -	\$ -	\$ -
#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)	\$ -	\$ -	\$ (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	\$ -	\$ -	\$ 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	\$ -	\$ -	\$ 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	Substitute the current classroom curtainwall windows with Fiberglass frame triple glazed punched windows (alternatively consider windows with an interstitial heat-mirror film or surface 4 low-e coated double-glazed windows) with reduced SHGC, reduced window area and no exterior shading device. Use HVAC load modeling software to confirm the design for both options results in essentially the same peak cooling load (by reducing the SHGC and window area of the 2nd alternative).	Possible manufacturers: Alpen, Accurate Dorwin, Comfort Line Ltd, Commercial Fiberglass, Inline, Fibertec, Thermo-Tech NEED MORE INFORMATION FROM PW	2	\$ -	\$ -	\$ -	\$ -
#189	Delete classroom window seat and align windows in single plane	CANNOT BE ACCEPTED WITH ITEM #178. Include CWB Sills	3	\$ (132,305)	\$ -	\$ -	\$ (132,305)
#189	Middle School Entry Reduction	Reduction of MS Entry	2		\$ -	\$ -	\$ -
#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).	Item Carried Above		\$ -	\$ -	\$ -	\$ -
#300	Provide Storefront ilo Curtain Wall at all Ground Level Glazing		3	\$ (125,878)	\$ -	\$ -	\$ (125,878)
#302	Provide Intermediate Floor Transition Steel at all Structured Curtainwall ILO 10" Mullions & Nest Steel	PW To Evaluate. Team to research info	2	\$ -	\$ -	\$ -	\$ -
#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	\$ -	\$ -	\$ -	\$ -
#429	Eliminate exterior classroom sunshades and pull shades.	Skanska to verify that manual shades not already carried.	2	\$ -	\$ -	\$ -	\$ -

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HVAC					\$ -	\$ -	\$ -
#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.	reduce by 50%		\$ (84,600)	\$ -	\$ -	\$ -
#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		\$ (587,500)	\$ -	\$ -	\$ -
#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		\$ (23,500)	\$ -	\$ -	\$ -
#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		\$ (176,250)	\$ -	\$ -	\$ -
#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		\$ (117,500)	\$ -	\$ -	\$ -
#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		\$ -	\$ -	\$ -	\$ -
#196	Remove 4 pipe system on VAV boxes and replace with 2 pipe heating only.	Already part of the DD estimate	3	\$ -	\$ -	\$ -	\$ -
#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		\$ -	\$ -	\$ -	\$ -
#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.			\$ -	\$ -	\$ -	\$ -
#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)			\$ -	\$ -	\$ -	\$ -
#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)			\$ -	\$ -	\$ -	\$ -

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#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)			\$ -	\$ -	\$ -	\$ -
PLUMBING							
#200	Eliminate trap primer	Keep hose bibs		\$ -	\$ -	\$ -	\$ -
#201	Eliminate Dry system & use remote (sprinkler system)			\$ -	\$ -	\$ -	\$ -
ELECTRICAL							
#210	Re-roof PV - Ready (don't carry in cost). NIC	See Item 215		\$ -	\$ -	\$ -	\$ -
#211	Simplify fixture types - Light	Reduce by \$0.50 PSF		\$ (270,250)	\$ -	\$ -	\$ -
#212	Minimize Cable trays & conduits for J-Hooks			\$ -	\$ -	\$ -	\$ -
#213	Provide aluminum feeders in lieu of copper feeders			\$ (135,125)	\$ -	\$ -	\$ -
#214	Lighting Controls – Provide wireless networked system in place of wired network system.			\$ (175,075)	\$ -	\$ -	\$ -
#215	Fund PV Outside the Construction Budget - Building PV Ready			\$ (3,055,000)	\$ -	\$ -	\$ -
#216	Electrical conduit: metal conduit in certain locations can be substituted for EMT or IMC			\$ -	\$ -	\$ -	\$ -
#217	Eliminate second primary electrical feed to building transformers			\$ -	\$ -	\$ -	\$ -
#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)			\$ -	\$ -	\$ -	\$ -
#219	Remove illumination from outdoor signs.			\$ -	\$ -	\$ -	\$ -
#423	Reduce theater lighting budget			\$ -	\$ -	\$ -	\$ -
SECURITY							
#220	Reduce CCTV Cameras	Reduce by 20%		\$ (58,750)	\$ -	\$ -	\$ -
AV							
#225	Reduce AV at Auditorium			\$ (47,000)	\$ -	\$ -	\$ -
#226	Reduce AV at Blackbox			\$ (28,200)	\$ -	\$ -	\$ -
#227	Reduce AV at Cafeteria/Dining Commons			\$ (47,000)	\$ -	\$ -	\$ -
#228	Reduce Portable Video Displays			\$ (23,500)	\$ -	\$ -	\$ -
#229	Reduce sound system in Classrooms (enhanced voice/audio system)	Assume mean speech reinforcement		\$ (275,876)	\$ -	\$ -	\$ -
#230	No exterior sound system			\$ (88,125)	\$ -	\$ -	\$ -
POOL/EQUIPMENT							
#240	Reduce staff lounge appliances by 50% (dishwasher/fridges/etc..)			\$ -	\$ -	\$ -	\$ -
#241	Refine Pool equipment Scope	Already reusing some equipment; needs further discussion		\$ -	\$ -	\$ -	\$ -
#242	Reuse existing bleachers in Fieldhouse	Does not meet code		\$ -	\$ -	\$ -	\$ -

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#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			\$ -	\$ -	\$ -	\$ -
#243	Pool Pump Room Relocation			\$ (390,000)	\$ -	\$ -	\$ -
#244				\$ -	\$ -	\$ -	\$ -
#245				\$ -	\$ -	\$ -	\$ -
FFE							
#250	Science tables to be FFE			\$ (705,000)	\$ -	\$ -	\$ -
#251	Purchase the following in FFE budget Blackbox Theatre Platforms (Skanska item #1264).			\$ (129,250)	\$ -	\$ -	\$ -
#252	Purchase the following in FFE budget Loose Seating Auditorium (Skanska item #1273)			\$ (14,100)	\$ -	\$ -	\$ -
#253	Purchase the following in FFE budget Stacking Chairs Blackbox (Skanska item #1274)			\$ (44,063)	\$ -	\$ -	\$ -
#254	Eliminate Mat hoist at Small Gym (Skanska item #1289)	Skanska to review: is this FFE?		\$ (29,375)	\$ -	\$ -	\$ -
#255	Purchase portable aluminum bleacher in FFE (Skanska item #2602)			\$ (5,288)	\$ -	\$ -	\$ -
#256	Purchase portable soccer goals in FFE (Skanska item # 2603)			\$ (16,450)	\$ -	\$ -	\$ -
				\$ -	\$ -	\$ -	\$ -
				\$ -	\$ -	\$ -	\$ -
				\$ -	\$ -	\$ -	\$ -
ELEVATORS							
#260	Less expensive alternative			\$ -	\$ -	\$ -	\$ -
#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)			\$ -	\$ -	\$ -	\$ -
TOTAL				\$ (38,591,014)	\$ (15,381,446)	\$ (4,224,739)	\$ (11,310,443)
				\$ 237,647,607	\$ 247,330,895		
				DELTA	\$ 9,683,288		