

BHS Renovation Plan

February 20, 2020



BCOC Agenda

Edmunds Middle School Library / Maker Space

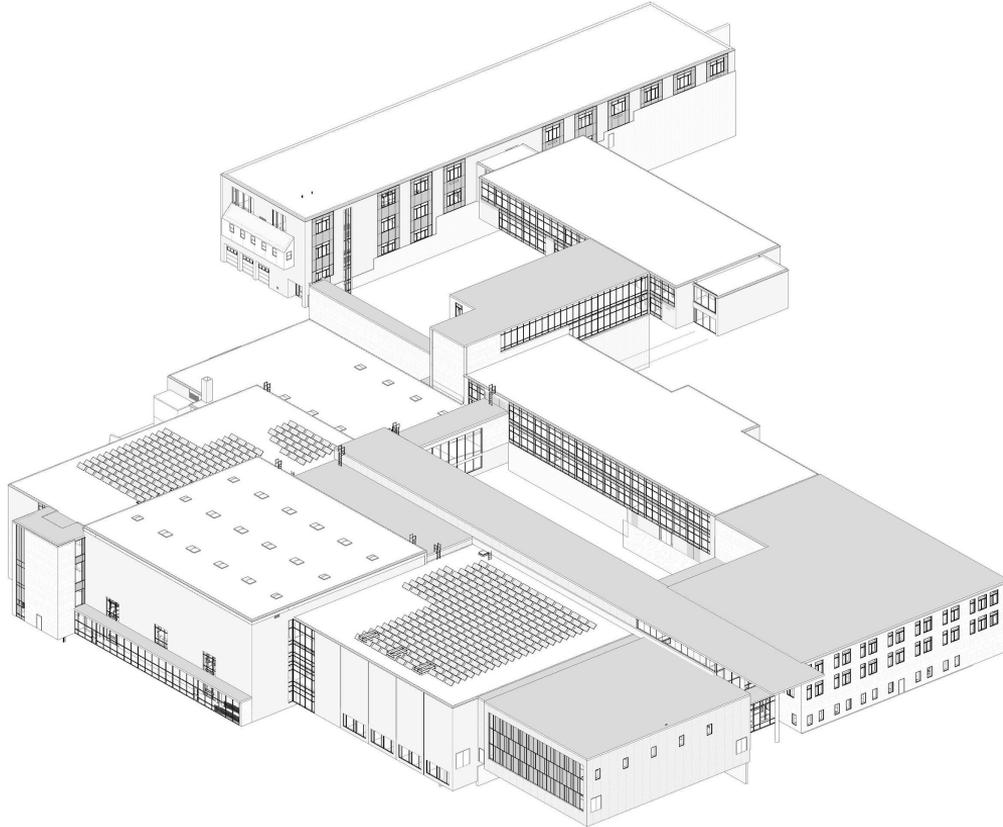
5:30 PM – 7:00 PM

	<u>Duration</u>	<u>Elapsed Time</u>
● Introduction - Tom Peterson, Owner's Project Manager	5 minutes	5
● Estimating Methodology - Dylan Lozier, Whiting-Turner, Construction Manager	20 minutes	25
● The Path to \$70m - Black River Design, Architects Includes time for BCOC member questions and comments	45 minutes	70
● Establish Schedule for Next BCOC meeting	5 minutes	45
● Public comments and questions	15 minutes	90

(Note: In the interest of time, individuals will be limited to 2 minutes to deliver their comments and/or questions.)

Total Time: 90 Minutes (5:30 – 7:00)

Schematic Design



Schematic Design Estimating Methodology

Estimating Approach

- Perform Internal take-offs with estimating team
 - verify quantities drawn
 - provide reasonable assumptions
 - include project specific elements
- Costing Methodology
 - unit costs using historical project cost databases
 - understand current industry trends – national & local
 - internally review costs with Neagley & Chase
 - validate & reconcile with local subcontractors

Inzero, Keith **Firetech Sprinkler**

From: Debbie Winters <DWinters@firetechsprinkler.com>
Sent: Thursday, August 1, 2019 2:30 PM
To: Inzero, Keith
Cc: Lozier, Dylan
Subject: RE: Burlington High School 2020 Additions and Renovations - Fire Protection

I based this on 294,015 sq. ft.
 This is based on wet systems throughout with unheated areas being covered by dry heads.
 I carried 2 system risers – one for east and one for west
 I carried 3 combined sprinkler/standpipe risers to feed zone controls on each floor of East A, West A, B
 I assumed 7 standpipes/7 stairs
 I spotted heads in certain areas and extrapolated the number of heads. Based on past experience and past estimates, I assumed 95 sq. ft. per head or 3094 heads.
 I carried current VT prevailing wage rates without fringes. I think the wage rate at time of contract holds for the project, but you should double check that.
 I carried a 10% allowance for material increases.
 I came up with \$970,000 including Burlington permit fee, but not including a P&P Bond. That would add about \$15,000.
 This equates to about **\$3.30 per ft.** ← **Subcontractor Unit Price**

Sprinkler Cost Estimating Example

AREA 002: NEW - NEW ADDITION					WT Unit Price				
Section 001: 100 - FIRE PROTECTION									
Assembly 000: (None)									
115010001	Unsize	WET PIPE SYSTEM	122725	\$ 3.52	1.00	\$ 431,992.00	Skip	1	0
115020001	Unsize	DRY PIPE SYSTEM	275	\$ 4.65	1.00	\$ 1,278.75	Skip	1	0
115040001	4"	DOUBLE FIRE DEPT. CONN. ROOF	2	\$ 260.00	1.00	\$ 520.00	3.333	1	6.666
115060001	4"	TWO WAY FIRE DEPT. CONN. WALL	3	\$ 488.00	1.00	\$ 976.00	3.2	1	6.4
Subtotals for Assembly 000: (None)			1.00			\$ 434,766.75			13.066
Subtotals for Section 001: 100 - FIRE PROTECTION						\$ 434,766.75			13.066

Whiting-Turner		
New Addition	\$	298,515.00
Renovation	\$	779,683.00
	\$	1,078,198.00
Fire Tech		
Base Estimate	\$	970,000.00
Sub Bond	\$	15,000.00
Temp coverage - A Building	\$	49,500.00
	\$	1,034,500.00
Reconciled Percentage		4.05%

Schematic Design Estimate Construction Cost of Work

COST OF CONSTRUCTION WORK		
Existing Conditions	\$	2,164,553
Concrete	\$	1,527,538
Masonry	\$	1,693,472
Metals	\$	3,554,542
Wood, Plastics, and Composites	\$	112,470
Thermal & Moisture Protection	\$	5,452,994
Openings	\$	4,190,620
Finishes	\$	5,059,207
Specialties	\$	898,652
Equipment	\$	833,835
Furnishings	\$	1,166,628
Conveying Systems	\$	540,000
Fire Suppression	\$	1,078,198
Plumbing	\$	2,560,308
HVAC	\$	14,471,591
Electrical	\$	9,156,321
Earthwork	\$	1,352,339
Exterior Improvements	\$	1,840,661
Site Utilities	\$	1,615,303
SUBTOTAL - COST OF CONSTRUCTION WORK	\$	59,269,232

Schematic Design Estimate

General Conditions

GENERAL CONDITIONS		
WT General Requirements	4.00%	\$ 2,370,769
Subcontractor P&P Bonds	1.10%	\$ 651,962
CM Construction Contingency	fixed	\$ 200,000
WT General Conditions & General Liability Insurance	fixed	\$ 2,014,000
WT P&P Bond (based on COW plus GCs)	0.75%	\$ 483,795
WT Fee (based on COW plus GCs)	2.75%	\$ 1,787,218
	<i>Total General Conditions</i>	\$ 7,507,744
SD Estimating Contingency (based on COW only)	1.25%	\$ 740,865
Labor & Material Escalation Contingency (based on COW only)	2.75%	\$ 1,629,904
Owner Contingency (based on COW only)	5.70%	\$ 3,379,231
	<i>Total Contingency</i>	\$ 5,750,000
Building Permits (based on COW plus GCs)	0.85%	\$ 567,604
TOTAL GENERAL CONDITIONS		\$ 13,825,348
SUBTOTAL - COST OF CONSTRUCTION		\$ 73,094,580

Schematic Design Estimate Owners Cost & Total Project Cost

OWNER COSTS	
Consultant Fees (not including abatement consultant)	\$ 5,487,301
Abatement Costs (including consulting fees)	\$ 1,604,700
Zoning Permit	\$ 390,000
Equipment	\$ 688,000
Furniture	\$ 720,000
Other	\$ 512,500
TOTAL OWNER COSTS	\$ 9,402,501
SUBTOTAL - TOTAL PROJECT COST	\$ 82,497,081

<i>TOTAL PROJECT COST</i>	\$ 82,497,081
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Major Cost Drivers Not Anticipated Prior to Bond

- Façade renovations and structural upgrades due to PCB abatement and abatement costs
- Premiums associated with the recently adopted 3-Acre Rule Site requirements
- Urban Soil Management: Unforeseen contaminated soils were found on-site
- Increases in Owner-side expenses
- Program scope creep
- Additional structural upgrades for unforeseen seismic loading requirements
- Escalations/Market Conditions

Target Cost Reduction to Meet \$70m Budget

\$82,497,081	SD Estimate
<u>\$70,000,000</u>	Bond Amount
\$12,497,081	Target Reduction

Target Scope Reduction Options to Reach \$70m

<u>Involved Scope</u>	<u>Pros</u>	<u>Cons</u>
CHPS Certification	Maintain use of CHPS criteria as design guidelines. Potential cost savings in construction verification, and administrative costs required for certification	Reduction of building performance and loss of public recognition that goes with the CHPS certification.
Canopy at Bike Parking	Bike parking will still be increased from existing quantities, located closer to the main entrance with better supervision, the canopy can be constructed as part of a future project.	New bike parking will not be protected from the elements
Student Parking Lot Scope	This work is proposed to be completed in the summer 2020 outside of project Bond making use of available BHS capital plan funds. New paving, subbase, curbing, striping & required storm water upgrades	
Existing Gym Floor Replacement	Flooring replacement can be completed at a later date as the floor is still fully functional.	The existing flooring is approximately 50 years old. The surface has limited refinishing life left
Existing Bleacher Replacement	This work is proposed to be completed in the summer 2020 outside of project Bond making use of available BHS capital plan funds	
Reduce Owner Furniture Budget	Budget remains at \$360,000, 20% more than pre-bond budget	Requires re-use of more existing furniture and equipment and/or use of annual budgets to replace as necessary
Reduce Interior Finishes	Initial cost savings by using less expensive materials. New interior finishes and flooring in A, B, & D buildings is still part of the project.	Reduction of performance and aesthetics of interior finishes using less durable, less cleanable, higher maintenance materials. Increase in annual operating costs.
Galleria/Enlarge B-D Connector	Eliminates some of the most expensive new and renovated area, including 3,800 SF of circulation. No loss of classroom space or programmatic SF, maintaining connection from A Level 4 to B Level 1 over cafeteria, utilizing B/D connector as double loaded corridor (most efficient layout), more opportunity for windows in program spaces that were going along existing gymnasium wall.	Reduces the prominence of the new entry, eliminates double-height space w/"wow" factor from new front entry to existing cafeteria and increases travel distances between existing A Level 4 to proposed Addition. Increases the distance to elevator access to Level 4 from the entrance.
Reduce F Building Renovations	Maintains full ADA compliance upgrades, bathroom remodeling, elevator modernization, and fire alarm.	New Sprinkler system, roof replacement, HVAC upgrades, lighting replacement, windows, program/admin relocations, flooring and HAZMAT remediation in F-building.
Alternate HVAC System with limited Air Conditioning	More efficient system than existing and still provides cooling to the gymnasiums, cafeteria and science building. Cooling will still be provided for the admin areas. Auditorium will keep existing cooling capabilities. Likely lower overall energy usage and less maintenance with less terminal units.	Reduces comfort in shoulder seasons of the school year (May/June, September) and use of the building in the summer. Facility is likely to consume more fossil fuels and/or wood chips than the WSHP system. More exterior roof mounted terminal units
Auxiliary Gym	Auxiliary Gym can be designed such to be added if funds become available during bidding, construction or at a future date.	Loss of student program and community use space and less new building prominence from Institute Road.

Target Scope Reduction Options to Reach \$70m

CHPS Certification

Pros

- *Maintain use of CHPS criteria as design guidelines.
- *Potential additional cost savings via reductions in construction verification for certification and administrative costs

Cons

- *Reduction of building performance and loss of public recognition that goes with the CHPS certification.

Estimated Owners Cost Savings \$185,000



Target Scope Reduction Options to Reach \$70m

Canopy at Bike Parking

Pros

- *Bike parking will still be increased from existing quantities
- *Bike parking to be located closer to the main entrance with better supervision
- *The canopy can be constructed as part of a future project.

Cons

- *New bike parking will not be protected from the elements



Estimated Cost of Work Savings \$136,000

Target Scope Reduction Options to Reach \$70m

Student Parking Lot Scope

Pros

- *This work is proposed to be completed in the summer 2020 outside of project Bond making use of available BHS capital plan funds
- *Scope includes: New paving, New subbase, Curbing, Striping, Required storm water upgrades

Cons

Estimated Cost of Work Savings \$400,000

Target Scope Reduction Options to Reach \$70m

Existing Gym Floor Replacement

Pros

*Flooring replacement can be completed at a later date as the floor is still fully functional.

Cons

*The existing flooring is approximately 50 years old

*The surface has limited refinishing life left

Estimated Cost of Work Savings \$175,000

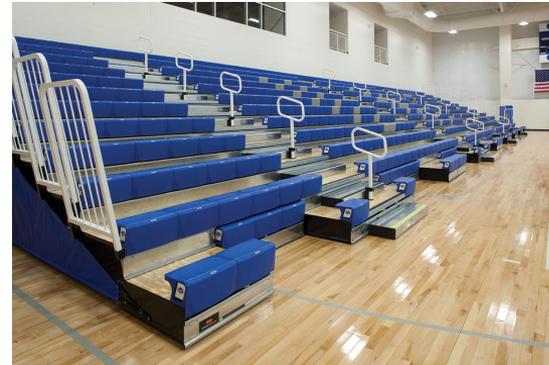
Target Scope Reduction Options to Reach \$70m

Existing Bleacher Replacement

Pros

*This work is proposed to be completed in the summer 2020 outside of project making use of available BHS capital plan funds.

Cons



Estimated Cost of Work Savings \$269,000

Target Scope Reduction Options to Reach \$70m

Reduce Owner Furniture Budget

Pros

*Budget remains at \$360,000, 20% more than pre-bond budget

Cons

*Requires re-use of more existing furniture and equipment and/or use of annual budgets to replace as necessary

Estimated Owners Cost Savings \$360,000



Target Scope Reduction Options to Reach \$70m

Reduce Interior Finishes

Pros

- *New interior finishes and flooring in A, B, & D buildings is still part of the project.
- *Removal of asbestos flooring

Cons

- *Increase in annual operating costs
- *Reduction of performance and aesthetics of interior finishes by using less durable, less cleanable, higher maintenance materials.

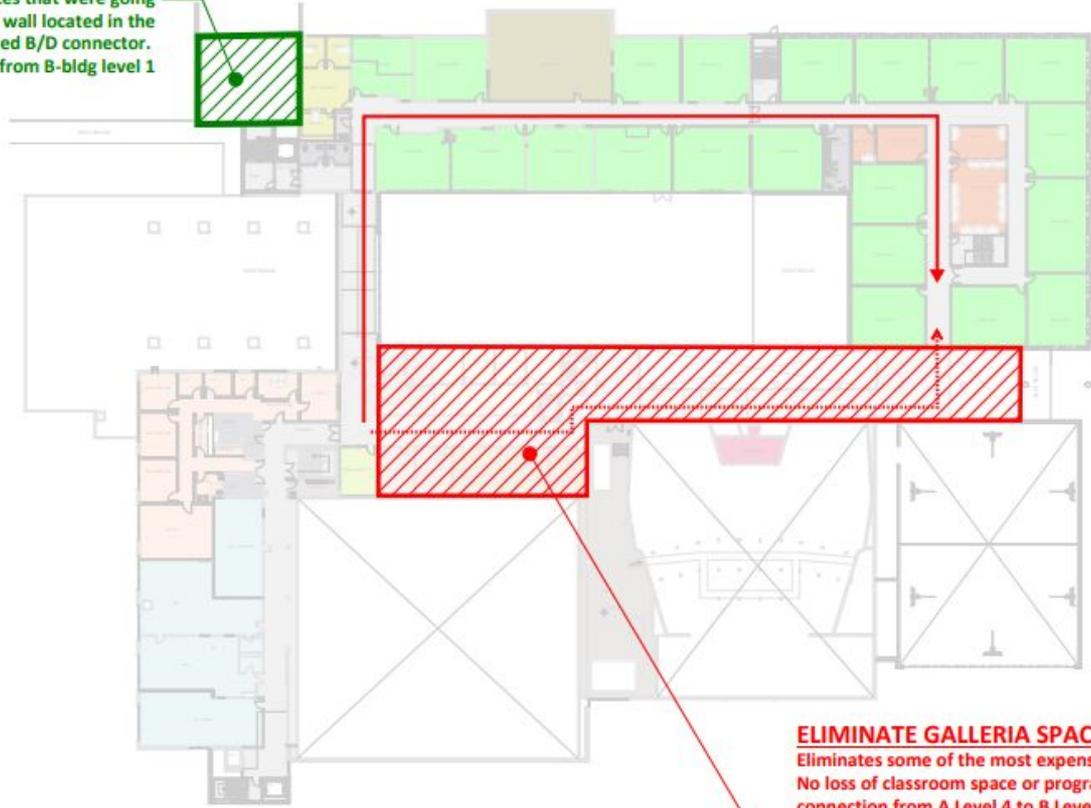
Estimated Cost of Work Savings \$689,000

Target Scope Reduction Options to Reach \$70m

Galleria/Enlarge B-D Connector	
Pros	Cons
<ul style="list-style-type: none">*Eliminates some of the most expensive new and renovated area, including 3,800sf of circulation*NO loss of classroom space or programmatic SF*Maintains connection from A Level 4 to B Level 1 over cafeteria*Utilizing the proposed B/D connector as double loaded corridor (most efficient layout)*More opportunity for windows in program spaces that were located along existing gymnasium wall	<ul style="list-style-type: none">*Less prominent new entry*Removes the double-height space from new entry to existing cafeteria*Increases the travel distances between existing A Level 4 to the proposed addition*Increases the distance to elevator access to Level 4 from the entrance.

Estimated Cost of Work Savings \$1,131,000

Add program space in this area utilizing B/D connector as double loaded corridor (most efficient layout), more opportunity for windows in program spaces that were going along existing gymnasium wall located in the lowest level of the proposed B/D connector. This would be accessed from B-bldg level 1

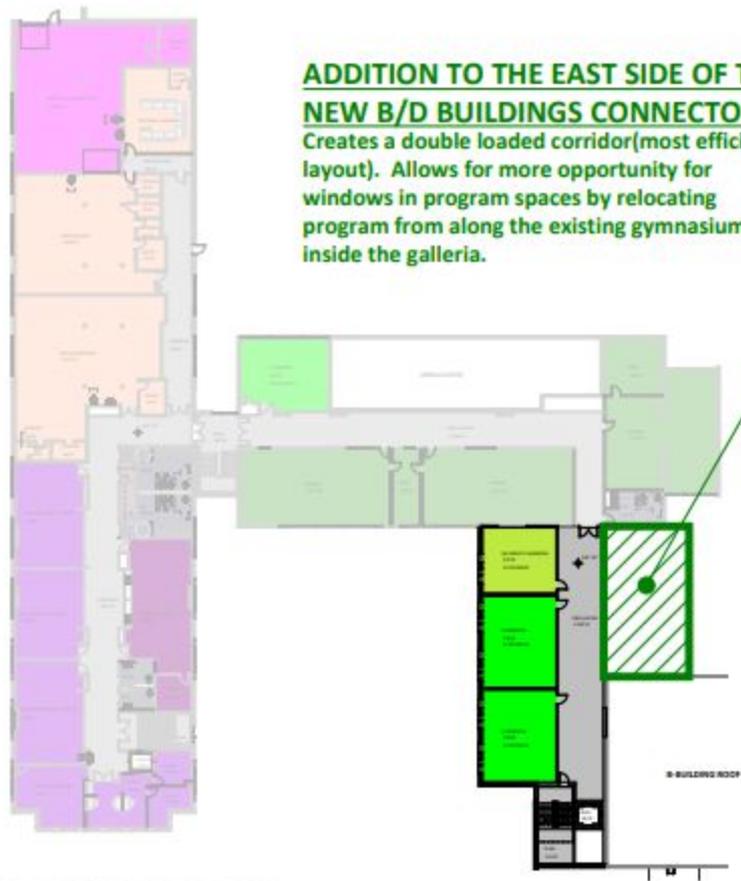


ELIMINATE GALLERIA SPACE AT LEVEL 4 HEIGHT

Eliminates some of the most expensive new and renovated area. No loss of classroom space or programmatic SF, maintaining connection from A Level 4 to B Level 1 over cafeteria, but this reduces the prominence of the new entry, eliminates double-height space w/"wow" factor from new front entry to existing cafeteria and increases travel distances between existing A Level 4 to proposed Addition. Increases the distance to elevator access to Level 4 from the entrance.

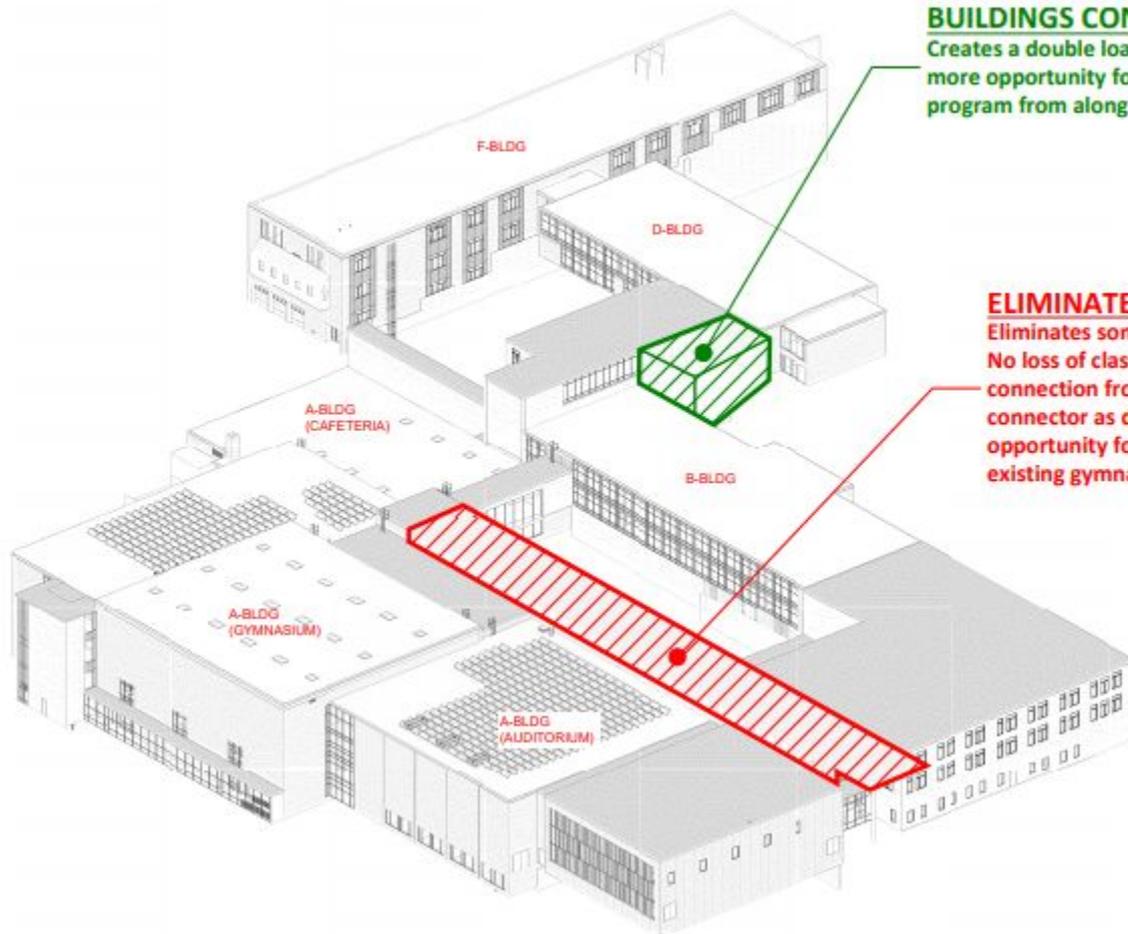
**ADDITION TO THE EAST SIDE OF THE
NEW B/D BUILDINGS CONNECTOR**

Creates a double loaded corridor (most efficient layout). Allows for more opportunity for windows in program spaces by relocating program from along the existing gymnasium wall inside the Galleria.



ADDITION TO THE EAST SIDE OF THE NEW B/D BUILDINGS CONNECTOR

Creates a double loaded corridor (most efficient layout). Allows for more opportunity for windows in program spaces by relocating program from along the existing gymnasium wall inside the Galleria.



ELIMINATE GALLERIA SPACE AT LEVEL 4 HEIGHT

Eliminates some of the most expensive new and renovated area. No loss of classroom space or programmatic SF, maintaining connection from A Level 4 to B Level 1 over cafeteria, utilizing B/D connector as double loaded corridor (most efficient layout), more opportunity for windows in program spaces that were going along existing gymnasium wall

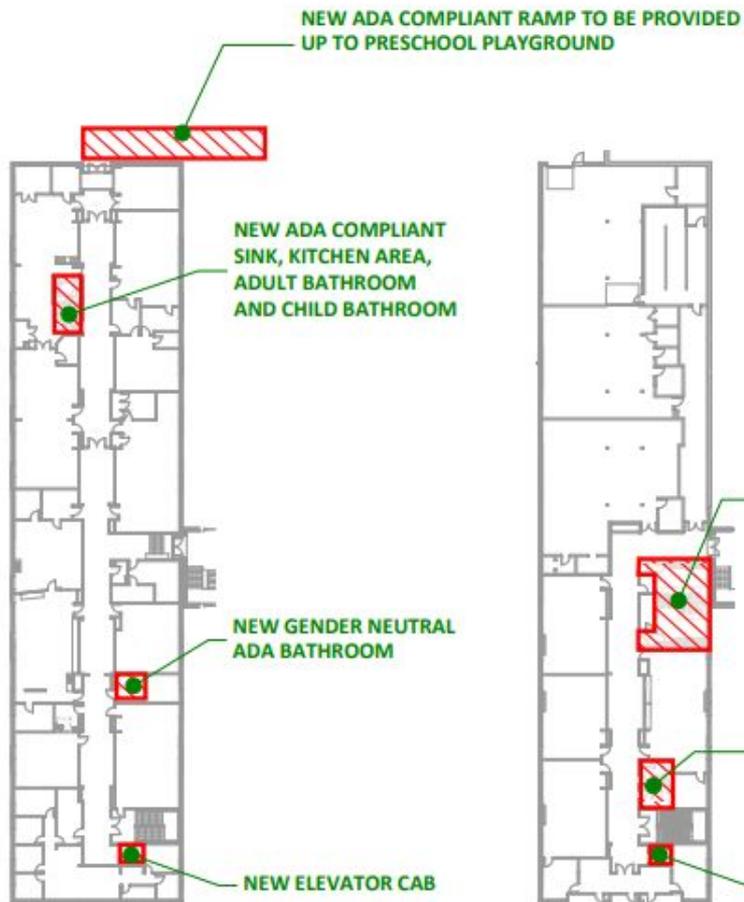




Target Scope Reduction Options to Reach \$70m

Reduce F Building Renovations	
Pros	Cons
<ul style="list-style-type: none">*Maintains full ADA compliance upgrades*New and remodeled existing bathrooms*Elevator cab modernization*Fire alarm	<ul style="list-style-type: none">*No new sprinkler system*Roof replacement*HVAC upgrades*Lighting replacement*Window replacement*Program/Admin. Relocations*Flooring replacement*HAZMAT remediation in F-bldg.

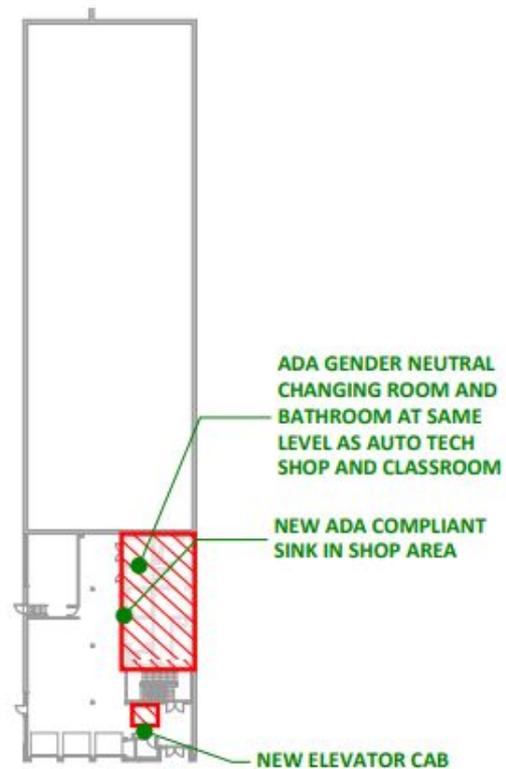
Estimated Cost of Work Savings \$5,404,000



3 BUILDING F - LEVEL 3



2 BUILDING F - LEVEL 2



1 BUILDING F - LEVEL 1

Target Scope Reduction Options to Reach \$70m

Alternate HVAC System with limited Air Conditioning	
Pros	Cons
<ul style="list-style-type: none">*This system will be more efficient than existing system*Still provides cooling of the gymnasiums, cafeteria and science building (D-bldg.)*Cooling will still be provided for the admin areas via local air-source VRF heat pumps*Auditorium will keep existing cooling capabilities*Likely lower overall energy usage due to reducing areas to be cooled*Less maintenance due to less terminal units*Easier/less expensive to add zones	<ul style="list-style-type: none">*NO AC for the classrooms and non-administrative areas*System does not have ability to recover and/or share energy between spaces throughout the facility*Facility is likely to consume more fossil fuels and/or wood chips than the WSHP system.*More exterior roof mounted terminal units

Estimated Cost of Work Savings \$2,650,000

Target Scope Reduction Options to Reach \$70m

Auxiliary Gym

Pros

- *Auxiliary Gym can be designed to be an alternate at bid time
- *Construction could happen at a future date.

Cons

- *Loss of additional student program and community use space
- *Less new building prominence from Institute Road.

Estimated Cost of Work Savings \$1,976,000

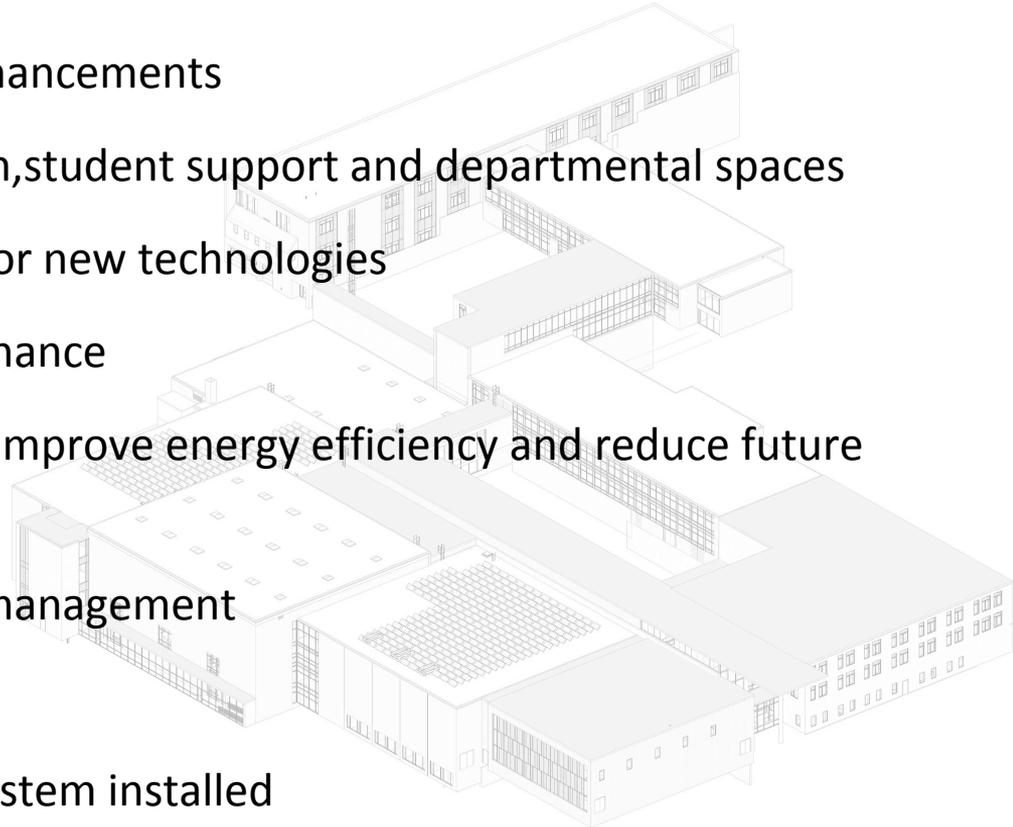






Project Highlights

- Accessibility and ADA compliance/enhancements
- Consolidation of classroom instruction, student support and departmental spaces
- Creation of maker spaces conducive for new technologies
- Addresses identified deferred maintenance
- New windows, roof and insulation to improve energy efficiency and reduce future costs
- New HVAC, lighting and stormwater management
- Enhanced building safety and security
- New fire safety automatic sprinkler system installed



Proposed vs. Existing Square Footage

Overall Project Gross Area:

- Existing – 240,400 sf
- Proposed – 270,650 sf
 - Renovation - 191,800 sf
 - New Addition - 78,850 sf

Proposed vs. Existing Program

Number and Size of General Classrooms:

General classrooms are classrooms scheduled for “non-lab” classes including, but not limited to: Math, History, Social Studies, English, English Language, Special Ed. General classrooms sizes are sized to allow for a capacity of approximately 30 sf / student and include casework within each classroom.

- Existing – 39 (Average Size - 695 sf)
- Proposed – 42 (Average Size – 730 sf)

Proposed vs. Existing Program

Number of Small Group Classrooms:

Small Group Classrooms are classrooms sized for seminars, conferences, or small group work (not included in classroom count above).

- Existing – 0
- Proposed - 4

Proposed vs. Existing Program

Number of Conference Rooms:

Conference rooms are spaces available to faculty and staff for meetings and other working groups. These spaces are within larger support suites and include conference rooms within administration and guidance, library breakout rooms, student support group room, and professional development conference room.

- Existing: 1
- Proposed: 6

Proposed vs. Existing Program

Administration and Support Spaces:

Support spaces include: Administration and Guidance Suite, Health Services, MLL, Special Education, Para Lounge, Intensive Special Needs Suite, Student Support, Professional Development Suite, Faculty Lounge and Storage, I.T. Offices.

- Existing – 14,600 sf
- Proposed – 21,200 sf

Proposed vs. Existing Program

Extracurricular and Lab Spaces:

Extracurricular and lab spaces include: Science labs, Fine Arts, Design / Technology, Library, Athletics / PE, Music, Food Lab, District on Top, Cafeteria / Kitchen, and Theater.

- Existing: 78,000 sf
- Proposed: 90,150 sf

Proposed vs. Existing Program

BTC Spaces:

Program spaces associated with BTC.

- Existing: 35,000 sf
- Proposed: 35,900 sf

Cost Savings Options

SUBTOTAL - COST OF CONSTRUCTION WORK		\$ 59,269,232
<i>COST SAVINGS OPTIONS</i>		<i>PROPOSED VALUE</i>
CHPS Certification		INCLUDED IN OWNER
Canopy at Bike Parking		\$ (136,175)
Student Parking Lot Scope		\$ (400,000)
Existing Gym Floor Replacement		\$ (175,526)
Existing Bleacher Replacement		\$ (269,000)
Reduce Owner Furniture Budget		INCLUDED IN OWNER
Reduce Interior Finishes	CMU to GWB at corridors/classrooms	\$ (329,426)
	Quartz Tile to VCT Flooring Throughout	\$ (266,200)
	Reduce Carpet scope	\$ (93,400)
Galleria / Enlarge B-D Connector		\$ (1,131,627)
Reduce F Building Renovations		\$ (5,404,135)
Alternate HVAC System without Air Conditioning		\$ (2,650,000)
Auxilliary Gym		\$ (1,975,969)
TOTAL COST SAVINGS OPTIONS		\$ (12,831,458)
SUBTOTAL - COST OF CONSTRUCTION WORK (AFTER COST SAVINGS)		\$ 46,437,774
TOTAL GENERAL CONDITIONS		\$ 12,577,492
SUBTOTAL - COST OF CONSTRUCTION		\$ 59,015,266
TOTAL OWNER COSTS		\$ 9,402,501
<i>OWNER COST SAVINGS OPTIONS</i>		<i>PROPOSED VALUE</i>
Reduce Owner Furniture Budget		\$ (360,000)
CHPS Certification		\$ (185,000)
OWNER COST SAVINGS OPTIONS TOTAL		\$ (545,000)
TOTAL OWNER COSTS (AFTER COST SAVINGS)		\$ 8,857,501
TOTAL PROJECT COST		\$ 67,872,767

Next Steps

Next Steps

- BCOC members study the cost saving options and recommendation to re-convene in approx. 2 weeks for Q&A
- Provide SD documents to third party estimator for estimating
- Receive and review third party estimate report
- Re-convene BCOC for decision-making
- BCOC presents its recommendations to BSD Board
- BSD presents recommendations (SD budget / scope) to Board of Finance
- Upon approval of BOF, commence Design Development



BLACK RIVER DESIGN ARCHITECTS