

Learn • Think • Create • Serve



Interview for the Belmont High School Project

Belmont, MA

February 15, 2017

Agenda

- Who We Are
- Project Team
- MSBA Project Experience
- Project Approach
- Management Approach
- Questions & Answers



Belmont High School Project
Belmont, MA

N | V | 5

Who We Are



N | V | 5



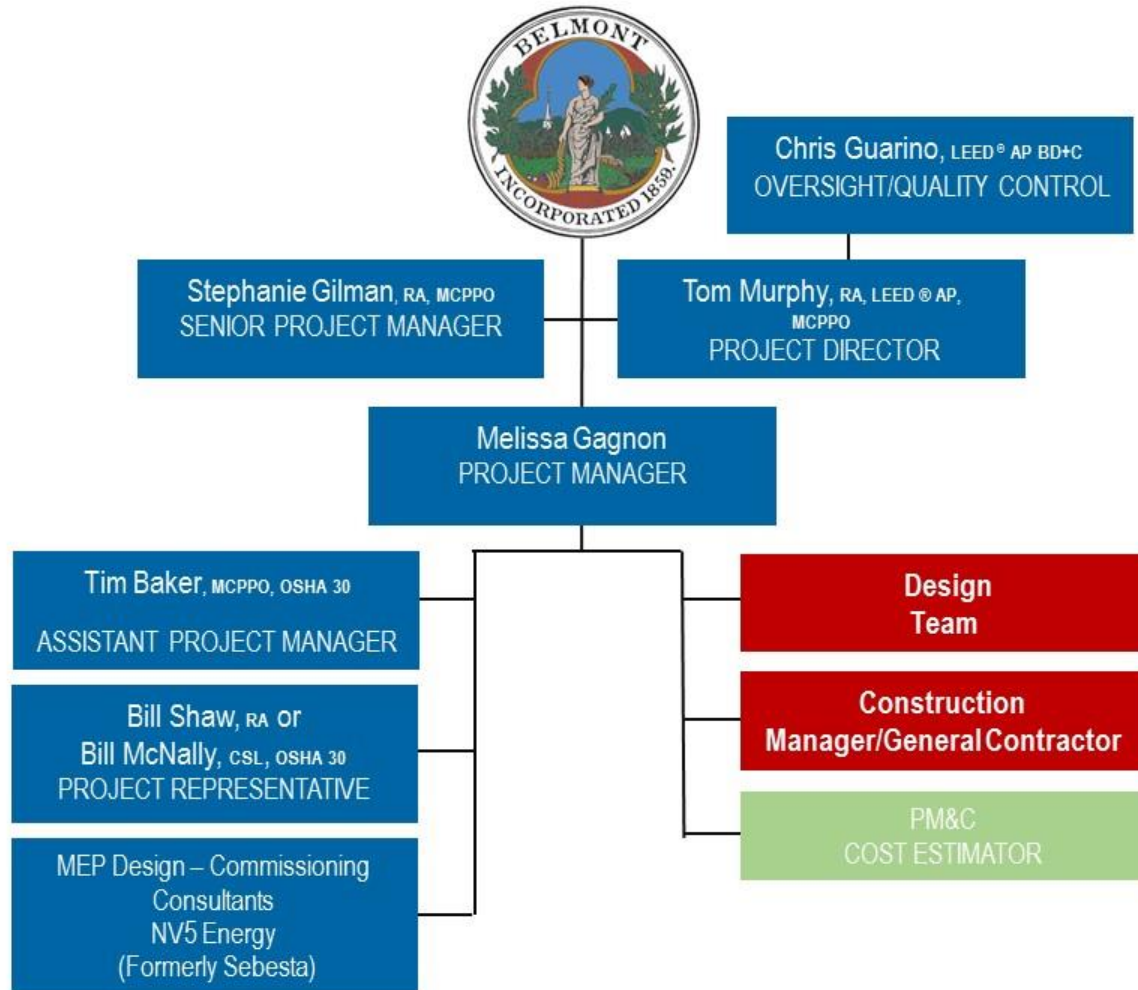
- **NV5, formerly Joslin Lesser + Associates, has over 30 years of OPM experience**
- **Project Team tailored to meet the Belmont High School's project needs**
- **Senior-level Team with planning, architecture, engineering and construction expertise**
- **Specialize in MSBA public sector K-12 projects**



Belmont High School Project
Belmont, MA

N | V | 5

Organization Chart



Belmont High School Project
Belmont, MA

N|V|5

Teams Roles

NV5 Staff Percentage Commitment












Phase	Chris Guarino (PIC)	Tom Murphy (PD)	Stephanie Gilman (SPM)	Melissa Gagnon (PM)	Tim Baker (APM)	Bill Shaw (PR)
Designer Selection	10%	30%	10%	50%	30%	
Tasks Involved: Advertise RFS Prepare RFS Log Proposals	Review Proposals Prepare Review Matrix Meetings (SBC, DSP)					
Feasibility Study	10%	30%	20%	50%	30%	
Tasks Involved: Meetings (SBC, Public Forums, WG, Other) Monthly Reports Communication Agendas, Meeting Minutes Options Analysis Preliminary Development Design Submission	Preferred Schematic Submission Budget Schedule Cost Estimates Community Outreach MBE/WBE Compliance					
Schematic Design	10%	30%	20%	50%	50%	
Tasks Involved: Meetings (SBC, Public Forums, Design, Other) Public Forum Manage Architect Review Designs Value Engineering Project Budget Development (Form 3011)	Project Scope and Budget Schematic Design Submission to MSBA Project Delivery Method Options Review Invoices Monthly Reports Master Project Schedule					
Design Development/Constr. Docs	10%	30%	30%	50%	50%	10%
Tasks Involved: Meetings (SBC, Design, Other) Manage Architect Review Documents Value Engineering	DD, 60% and 90%CD submissions to MSBA Review Invoices Monthly Reports Master Project Schedule					
Bidding/Construction	10%	30%	20%	50%	30%	100%
Tasks Involved: Meetings (SBC, Public Forums, Construction) Public Forum Manage Architect/Contractor	Contract Procurement					



Belmont High School Project
Belmont, MA



Teams Roles

  		Meetings					
		SBC	Community	School Faculty/Staff	Parents/Students	Construction	MSBA
	Tom Murphy	●	●	●	●	●	●
	Melissa Gagnon	●	●	●	●	●	●
	Tim Baker			●	●	●	
	Bill Shaw/ Bill McNally		●	●		●	
	Stephanie Gilman	●	●				
	Chris Guarino	●	●				

- primary
- secondary
- support



Belmont High School Project
Belmont, MA



K-12 Experience



Longmeadow High School

Project Completed 11/2013
Architect: OMR Architects
CM: Gilbane Building Company



Southbridge Middle/High School

Project Completed 7/2012
Architect: Tappe Associates
CM: Consigli Construction Co.
Grades: 6-12 Cost: \$74M



Wilmington High School

Project Completed 2/2015
Architect: Dore & Whittier Associates
CM: Gilbane Building Company
Grades: 9-12 Cost: \$83M



Lunenburg Middle/High School

Project Completed Fall 2016
Architect: Tappe Associates, Inc.
CM: Shawmut Design & Construction
Grades: 6-12 Cost: \$72.9M



Grafton High School

Project Completed 9/2012
Architect: Symmes, Maini, & McKee
CM: Dimeo Construction Company
Grades: 9-12 Cost: \$72.5M



Uxbridge High School

Project Completed Fall 2012
Architect: Raymond Design Associates
CM: Shawmut Design & Construction
Grades: 9-12 Cost: \$45M



Greater Lowell Technical High School

Project Completed Fall 2015
Architect: Knight, Bagge & Anderson
CM: Consigli Construction Co.
Grades: 9-12 Cost: \$65.3M



Waltham High School

Projected Completion 9/2020
Architect: SMMA
GC/CM: TBD
Grades: 9-12 Cost: \$250M



Lynn Thurgood Marshall Middle School

Project Completed April 2016
Architect: Raymond Design Associates
CM: Walsh Brothers
Grades: 6-8 Cost: \$92M



Wakefield Galvin Middle School

Project Completed 6/2015
Architect: Tappe Associates
CM: Bond Brother
Grades: 5-8 Cost: \$73.9M



Belmont High School Project
Belmont, MA



K-12 Experience



Stoneham Middle School
Project Completed 12/2014
Architect: Tappe Associates
CM: Shawmut Design & Construction
Grades: 5-8 Cost: \$40.6M



Harvard Hildreth Elementary School
Projected Completion TBD
Architect: Arrowstreet
GC/CM: TBD
Grades: preK-5 Cost: TBD



Haverhill Caleb Dustin Hunking School
Projected Completion Spring 2017
Architect: JCJ Architects
CM: Shawmut Design & Construction
Grades: K-8 Cost: \$61.5M



Billerica Parker Elementary School
Project Completed 9/2012
Architect: Symmes, Maini, & McKee
GC: CTA Construction
Grades: K-5 Cost: \$32M



Milford Woodland Elementary School
Projected Completion Fall 2016
Architect: HMFH Architects
CM: Shawmut Design & Construction
Grades: 3-5 Cost: \$60.9M



Chicopee Belcher/Fairview Elementary Schools
Project Completed 9/2016
Architect: Kaestle Boos Associates, Inc.
GC: J.D.Rivet Roofing
Grades: K-2, K-5 Cost: \$3.7M



Newton School Building Program
Projected Completion Winter 2019
Architect: DiNisco Design Partnership & Perkins Eastman
CM: WT Rich Grades: K-5
Cost: \$122.5M



Arlington Stratton Elementary School
Projected Completion 9/2017
Architect: DRA
GC: G & R Construction
Grades: K-5 Cost: \$15.7M



Norfolk Freeman-Kennedy School
Project Completed 9/2012
Architect: Flansburgh Associates
GC: Fontaine Brothers
Grades: 3-5 Cost: \$34.8M



Arlington Gibbs School
Project Completed 8/2018
Architect: Finegold Alexander Architects
CM: TBD
Grades: 6 Cost: \$16.5M



Belmont High School Project
Belmont, MA



Longmeadow High School

Longmeadow, MA



Grafton High School

Grafton, MA



Lunenburg Middle/High School

Lunenburg, MA



Newton School Building Program



Angier ES
Opened Jan. 2016



Zervas ES
Opening Sept. 2017



Cabot ES
Opening Sept. 2019



Belmont High School Project
Belmont, MA

NV5

MSBA - Middle Schools



Stoneham MS
Opened Jan. 2015



Galvin MS
Opened Sept. 2015



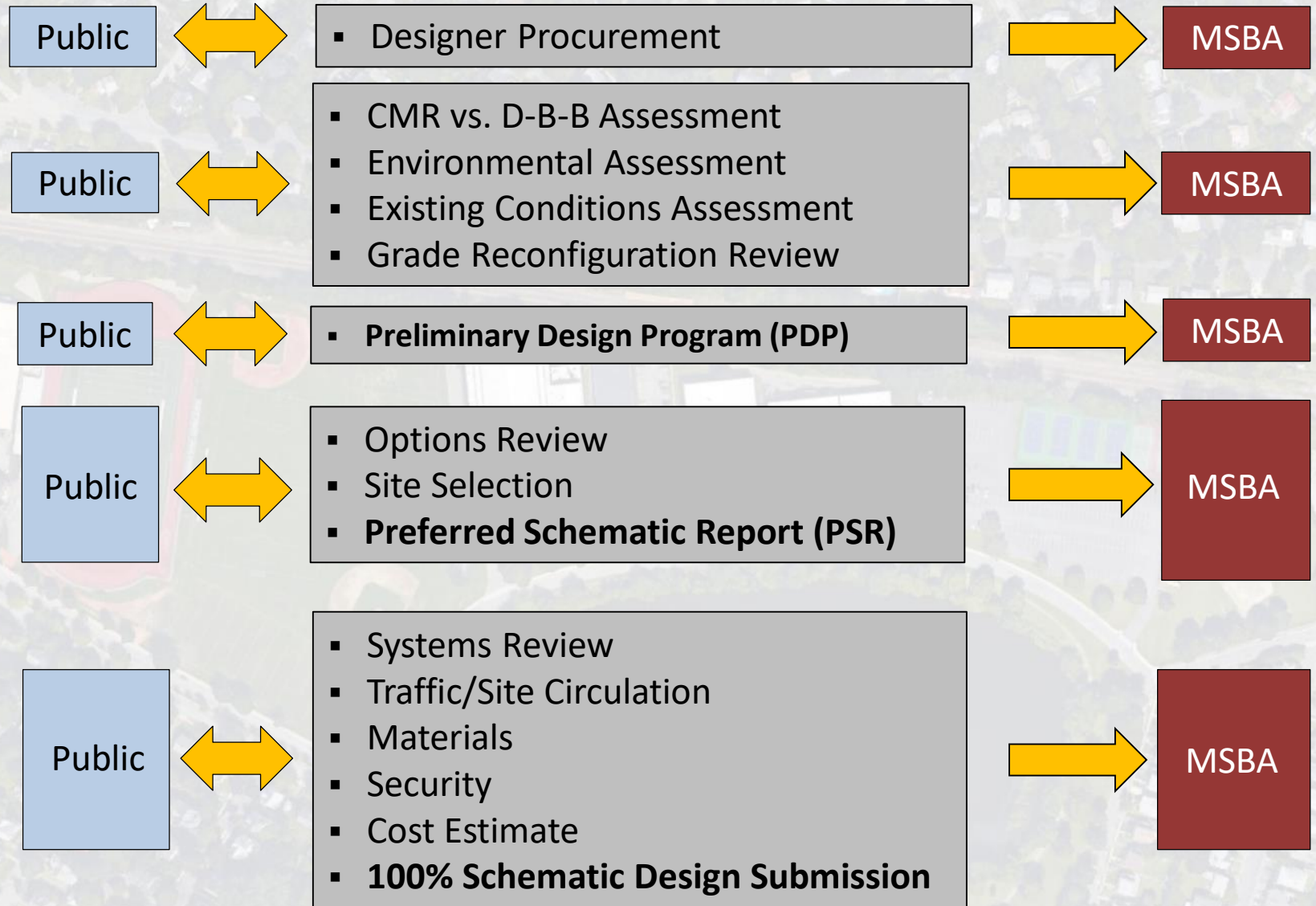
Caleb Dustin Hunking
Opened Jan. 2017



Belmont High School Project
Belmont, MA

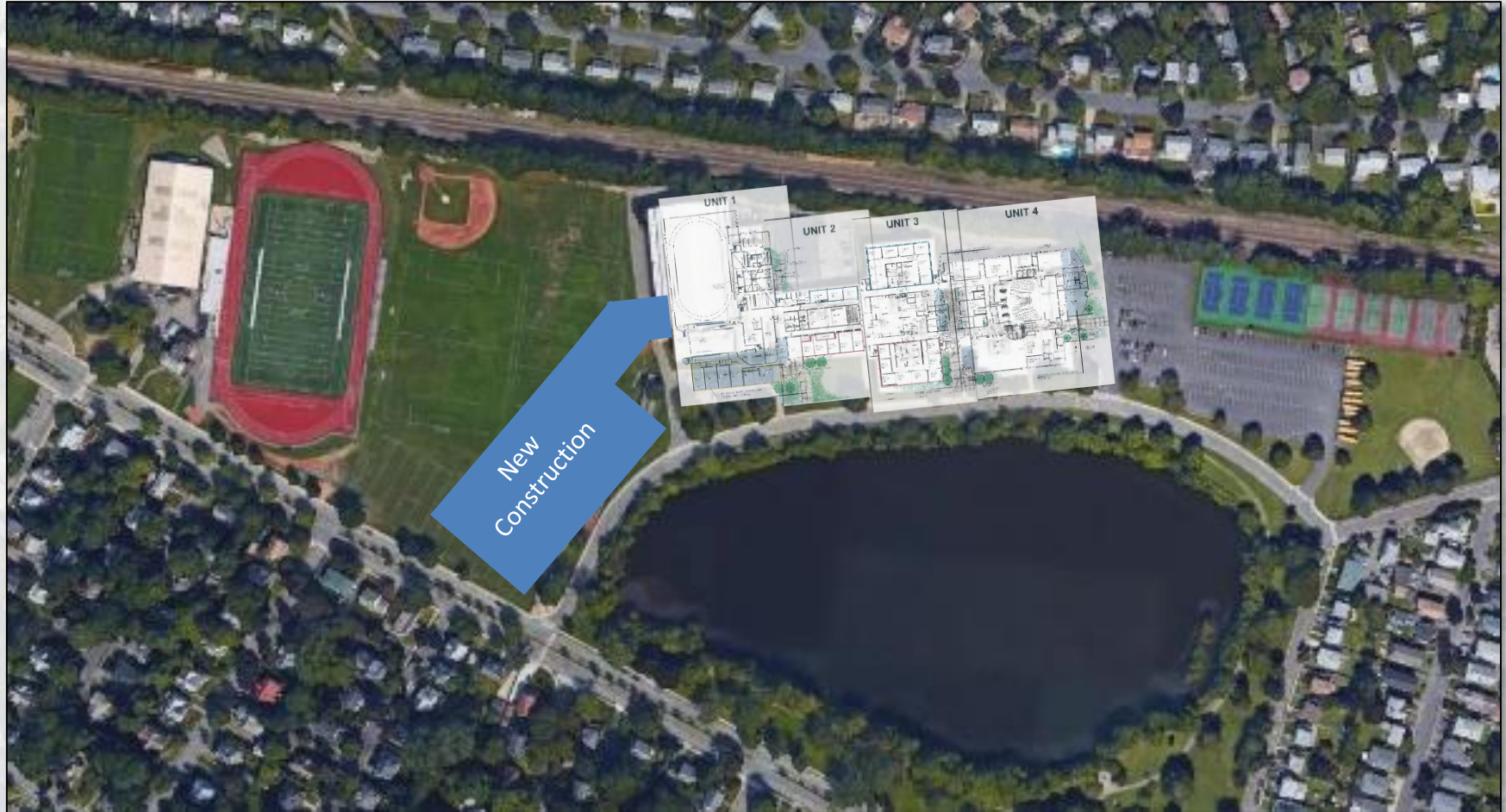
NV5

Belmont High School Project



Belmont High School Project

Design Options



Belmont High School Project
Belmont, MA

N | V | 5

Options Analysis Matrix – Belmont HS

Belmont High School - Belmont, MA				Preliminary Options and Criteria Evaluation Matrix						
<input checked="" type="radio"/> Favorable <input checked="" type="radio"/> Neutral <input type="radio"/> Unfavorable Costs: 0, \$, \$\$, \$\$\$ [Grey Box] = Not a viable option										
* Note: All design options will meet current building codes.				Proposed Site Strategy Alternatives						
				1	2	3	4	5	6	7
				Grades 9-12			Grades 8-12		Grades 7-12	
Criteria				RENO	ADD/RENO	NEW	ADD/RENO	NEW	ADD/RENO	NEW
Building and Site Facts										
1	Student enrollment population		1,470	1,470	1,470	1,845	1,845	2,215	2,215	
2	Site acquisition cost + potential legal issues									
3										
General										
1	Relative capital cost									
2	Shortest construction duration, earliest occupancy									
3	Minimizes disruptions to school + neighbors during construction									
4										
Educational										
1	Meets educational program for High School									
2	Meets educational program for All Schools									
3										
Community										
1	Provides accessibility to community used space									
2										
Schedule										
1	Meets desired occupancy schedule									
2										
Building										
1	Maximizes connection of outdoor/indoor space - integration with site									
2	Maximizes security									
3	Connects interior and exterior spaces; integration of building w/ site									
4	Fosters a sense of school community									

Belmont High School - Belmont, MA				Preliminary Options and Criteria Evaluation Matrix						
<input checked="" type="radio"/> Favorable <input checked="" type="radio"/> Neutral <input type="radio"/> Unfavorable Costs: 0, \$, \$\$, \$\$\$ [Grey Box] = Not a viable option										
* Note: All design options will meet current building codes.				Proposed Site Strategy Alternatives						
				1	2	3	4	5	6	7
				Grades 9-12			Grades 8-12		Grades 7-12	
Criteria				RENO	ADD/RENO	NEW	ADD/RENO	NEW	ADD/RENO	NEW
5										
Site										
1	Accommodates outdoor program space									
2	Provides adequate green space									
3	Safe vehicular circulation									
4	Provides sufficient parking for teachers, staff + visitors									
5	Meets site usage goals									
6										
Additional Criteria										
1										
2										
3										
4										



Management Approach



Belmont High School Project
Belmont, MA

N | V | 5


Monthly Reports



N|V|5

CABOT ELEMENTARY SCHOOL

Newton, MA



Monthly Project Update Report
DECEMBER 2016

FS / SD	DD	CD	Bidding	Construction	Closeout
---------	----	----	---------	--------------	----------

CITY OF LYNN

School Building Committee

THURGOOD MARSHALL MIDDLE SCHOOL PROJECT

OPM: Joslin, Lesser + Assoc., Inc.
Architect: Raymond Design Associates
CM: Walsh Brothers, Inc.

EXECUTIVE SUMMARY - NOVEMBER 2014

Project Schedule Milestones

12/28/13 Structural Steel Complete for Phase 3 Work
01/10/14 Brick Complete on Building A
08/01/14 Substantial Completion of Phase 3 Work
08/06/14 Start Abatement/Demolition of Existing School
06/19/15 Final Complete of Entire School

Construction Progress

- New access roadways and pedestrian paths are in place and functional
- Turf Field 1 is complete and in use by the school and community
- Culvert relocation is complete and operational
- Building A is enclosed for winter interior construction
- Masonry materials have been delivered with brick installation beginning
- Building C Foundations are in Progress
- Structural Steel for Building C has been arriving on site

Project Budget

Budget Allocation	Original	Current	Spent	%	Balance
Construction (incl. Pre-Can)	\$ 59,896,583	\$ 62,809,652	\$ 52,868,463	84%	\$ 9,941,189
A/E	5,488,400	5,611,506	4,971,830	89%	639,676
FF&E/Technology	2,568,000	2,623,886	2,256,297	86%	367,588
Other Costs (incl. OPM)	2,243,000	2,202,278	1,876,852	85%	325,426
Contingency (Proj. & Constr.)	3,764,326	712,987	Transfers		712,987
Total	\$ 73,960,309	\$ 73,960,309	\$ 61,973,443	84%	\$ 11,986,866



Deferred Items

Turf Field #2	\$ -
Sports Lights for Turf Field #2	\$ -
Theater Rigging	\$ -
Additional Trees	15,416
Total	\$ 15,416

Contingency Allocation

Contingency Type	Allocation	Committed	%	Balance	Projected
GMP	\$ 629,771	\$ 376,696	60%	\$ 253,075	\$ 253,075
Construction	3,024,326	2,913,314	96%	111,012	488,247
Project	740,000	138,025	19%	601,975	15,416
Total	\$ 4,394,097	\$ 3,428,035	78%	\$ 966,062	756,738

Construction Photos

Building B Structural Steel Erection Building A Interior Construction

Project Cash Flow



Scheduling



Master Project Schedule

**UNBRIDGE HIGH SCHOOL - UNBRIDGE, MA
PROJECT SCHEDULE, SEPT 2012 OPENING
JULY 22, 2010**

NV5

ID	Task Name
58	CM at Risk RFP Process and Selection of CM
59	Unbridge Board of Selectmen Approves CM
60	Execute CM at Risk Contract
61	Issue RFQ for Trade Contractors
62	Trade Contractor Sub-Bid Due
63	Review contractors
64	Issue bid list
65	Bidding and Contracting
66	Issue invitation to bid to Trade Contractors
67	Pre-bid conference
68	Trade Contractor bids due
69	CMAP
70	Contract Execution
71	Site Permitting
72	Prepare and submit applications to required agencies
73	Public Hearings
74	Issue Approval
75	Construction
76	Mobilization
77	Steel Shop Drawings/Approvals/Fabrication
78	Site work
79	Excavation
80	Install Site Utilities
81	Rough Grade site
82	Footing Excavation
83	Footings
84	Foundation Walls
85	Steel erection
86	Prep slab and under slab utilities
87	Slab-on Grade (SOG)
88	Structural Steel Deck
89	Install Stairs
90	Slab-on Deck (SOD)
91	Tap off & Spray Fireproofing
92	Light Gauge Metal Frame Sheathing/ Air Barrier
93	Interior Framing
94	Masonry

Task

**UNBRIDGE HIGH SCHOOL - UNBRIDGE, MA
PROJECT SCHEDULE, SEPT 2012 OPENING
JULY 22, 2010**

NV5

ID	Task Name	Duration	Start	Finish	2009	2010	2011	2012
1	Execute OPM Contract							
2	Selection of Architect							
12	Project Design							
13	Feasibility Study - Design Program							
25	Feasibility Study - Schematic Design							
26	Schematic Design							
27	Cost Estimate							
28	Schematic Design Public Forum #1							
29	Schematic Design Public Forum #2							
30	Schematic Design Public Forum #3							
31	Town Meeting - Project Approval							
32	Town Election - Debt Exclusion							
33	Design Development							
34	Design Work							
35	Review Meetings							
36	Cost Estimate							
37	Construction Documents							
38	Construction Documents - 60%							
39	Design Work							
40	Review Meetings							
41	Cost Estimate							
42	Construction Documents - 90%							
43	Design Work							
44	Internal Coordination							
45	Cost Estimate							
46	Red-check							
47	Incorporate Red-check comments							
48	MSBA approval of Design RFS							
49	MSBA staff review alternatives/solution							
50	MSBA board approval of preferred FS alternative							
51	MSBA board approval of preferred FS alternative							
52	MSBA Project Scope & Budget Conf.							
53	MSBA Board Approval							
54	Execute MSBA Funding Agreement							
55	CM at Risk Selection; Trade Contractor Pre-Qual							
56	Application to and Approval by CRG for CM at Risk							
57	CM at Risk RFQ Process							

Task

**UNBRIDGE HIGH SCHOOL - UNBRIDGE, MA
PROJECT SCHEDULE, SEPT 2012 OPENING
JULY 22, 2010**

NV5

ID	Task Name	Duration	Start	Finish	2009	2010	2011	2012
95	Window/ Curtain wall	30 days	Thu 1/26/12	Wed 3/7/12				
96	Roofing	40 days	Thu 1/26/12	Wed 3/21/12				
97	Insulate/Board/FSF	28 days	Thu 1/19/12	Mon 2/2/12				
98	Painting	28 days	Thu 2/14/12	Thu 3/22/12				
99	Grid	28 days	Tue 2/21/12	Thu 3/29/12				
100	Acoustical Ceiling Tile (ACT)	56 days	Fri 3/2/12	Wed 5/9/12				
101	Door Frames Hardware	30 days	Fri 3/2/12	Thu 5/3/12				
102	Ceramic Tile/Stone	18 days	Tue 2/28/12	Thu 3/22/12				
103	Resilient	18 days	Fri 3/9/12	Tue 4/24/12				
104	Cork & Carpet	14 days	Thu 3/15/12	Tue 3/29/12				
105	Milkrack (paneling)	18 days	Thu 3/8/12	Thu 3/29/12				
106	Install Specialties & Treatment	28 days	Fri 3/23/12	Tue 5/1/12				
107	Elevators	63 days	Thu 1/26/12	Mon 4/23/12				
108	MEFPs	169 days	Thu 12/6/11	Tue 7/30/12				
109	Mechanical rough	10 wks	Thu 12/6/11	Wed 2/15/12				
110	Plumbing Rough	10 wks	Thu 12/6/11	Wed 2/15/12				
111	Electrical rough	10 wks	Thu 12/6/11	Wed 2/15/12				
112	Fire protection	10 wks	Thu 12/6/11	Wed 2/15/12				
113	Boiler Room	10 wks	Thu 12/6/11	Wed 2/15/12				
114	Main Electrical Service	20 days	Thu 12/6/11	Wed 1/10/12				
115	Roof Top Equipment	45 days	Thu 3/22/12	Wed 5/23/12				
116	Lighting	47 days	Tue 2/28/12	Wed 5/2/12				
117	Tel/data & Misc. Systems	6 wks	Fri 3/9/12	Thu 5/10/12				
118	Finish MEP	8 wks	Fri 3/23/12	Thu 5/17/12				
119	Site Paving and Handicap	20 days	Thu 3/8/12	Wed 4/4/12				
120	Install Lighting	20 days	Thu 3/8/12	Wed 4/4/12				
121	Install Landscaping	17 days	Thu 3/8/12	Fri 3/30/12				
122	Punch list	20 days	Wed 5/30/12	Tue 6/26/12				
123	Commissioning	30 days	Wed 6/20/12	Tue 7/31/12				
124	Substantial Completion	0 days	Wed 6/20/12	Wed 6/20/12				
125	Furniture and Technology Installation	30 days	Wed 6/20/12	Tue 7/31/12				
126	FF&E Installation	30 days	Wed 6/20/12	Tue 7/31/12				
127	Educational Technology	15 days	Wed 7/4/12	Tue 7/24/12				
128	Close out	20 days	Wed 8/1/12	Tue 8/28/12				
129	School Dept Moves Into Project	2 wks	Wed 7/25/12	Thu 8/7/12				
130	School Opens	0 days	Tue 8/28/12	Tue 8/28/12				

Task



Belmont High School Project
Belmont, MA

NV5



Meeting Brochures and Flyers



Quality Management



Grafton High School



Caleb Dustin Hunking School



Belmont High School Project
Belmont, MA



OPM Advocate for Owner

LONGMEADOW HIGH SCHOOL - LONGMEADOW, MA

COMMUNICATION AND DOCUMENT CONTROL PROTOCOL

PROJECT ROLES/RESPONSIBILITIES MATRIX

- L** = Lead Provides information during process and final issuance of document or recommendation
- S** = Support Provides information during process or otherwise supports Lead role
- R** = Review/Input Provides interim opinion and final review

ACTIVITY	OMR	NV5	Cx	GBC	OWNER	MSBA
e Review All Project Invoices		L			S	R
f Review Designer's Contract Compliance		L			S	R
g Submit Pro-Pay Application		S			L	S
PHASE 6: IMPLEMENTATION						
Final Design						
a Procure Designer for Final Design		L			S	S
b Designer Selection Panel (if change)		S			S	L
c Negotiate Final Design Contract	S	L			S	S
d Assign Commissioning Agent	R	R			R	L
e Design Development	L	S	S	S	S	S
f Procure Construction Manager	S	L			R	
g Design Coordination Meetings	S	L		S	S	R
h Value Engineering (Schematic, 30% and 60%)	S	L	S	S	S	S
i 60% Construction Documents	L	S	S	S		
j Procure CM at risk (if applicable)	S	L			S	S
k Negotiate CM contract (if applicable)		L			S	R
l 90% Construction Documents	L	S	S	S	S	S
m Bid Documents	L	S	S	S	S	S
Bidding Services						
a Prequalification of Contractors	S	L			S	S
b Pre-Bid Meetings/Site Visit	S	L			L	S
c Issuance of Addenda	L	S			L	R
d Response to Technical Inquiries	L	S			R	
e Bid Tabulations	S	S			L	
f Bid Evaluations	S	S			L	R
g Award Recommendations	S	S			L	R
h Pre-Award Conference	S	S			L	R

Project Roles/Responsibilities Matrix
Page 7 of 17

NV5

ZERVAS ELEMENTARY SCHOOL PROJECT

Newton Highlands and Waban Neighborhood Area Council

Zervas Project Update

February 9, 2017

Waban Library, 1608 Beacon Street



- Roofing work is 98% complete.
- Exterior framing is 100% complete.
- Interior framing is 100% complete.
- Masonry veneer work is 98% complete.
- Exterior spray insulation on is 98% complete.
- Mechanical, electrical and plumbing rough in work is complete on the 3rd and 2nd floors and 90% complete on the 1st floor.
- Gypsum wall board (GWB) installation is complete on the 3rd floor and taping is ongoing on the 2nd floor. The 1st floor is 80% complete (GWB) and taping has started at area B.
- Stairs B and C are installed; Stair A is being installed.
- Window installation is 90% complete.
- The elevator is 100% installed; fire alarm tie-in remains to be done.
- Permanent power is on to the building.
- Metal panels, field measuring has started and fabrication is under way.
- Painting on the 2nd & 3rd floors is nearly completed.
- Acoustical grid is complete at the 3rd floor and 50% complete at the 2nd floor.

Construction Schedule

Winter 2016	Site Work Exterior Shell
Fall 2016 - Summer 2017	Interior Fit Out
Summer 2017	Substantial Completion
Summer 2017 - Fall 2017	Landscaping Furnishings Technology
Fall 2017	Occupy School

For Project Updates please visit:
http://www.newtonma.gov/building/zervas_school

For Project Webcam please visit:
<http://oxblue.com/open/rich/zervas>

Upcoming Meetings

General Zervas updates will continue to be given at 7:00PM on the 2nd Thursday of each month, unless otherwise noted.

Contacts

For general project inquiries: **Alex Valcarce**
City of Newton Project Manager (617) 796-1600

For after hours emergencies:
W.T. Rich Company (617) 467-6010

Project Consultant Team

NV5 - Owner's Project Manager
Perkins Eastman - Architect
W. T. Rich Company - Construction Project Manager



NV5

Perkins Eastman | DPC



The location of this meeting is accessible and reasonable accommodations will be provided to persons requiring assistance. If you need a reasonable accommodation, please contact the city of Newton's ADA Coordinator, Jim Fairley, at least two business days in advance of the meeting: fairley@newtonma.gov or (617) 796-1253. For Telecommunications Relay Service, please dial 711.



Belmont High School Project
Belmont, MA

NV5

OPM Advocate for Owner

ELEMENTARY SCHOOL PROJECTS: MEETING & MILESTONE SCHEDULE

ANGIER - A

ZERVAS - Z

CABOT - C

1/2016 - 6/2016



NEWTON
PUBLIC SCHOOLS



UPDATED DRAFT - 02/23/16

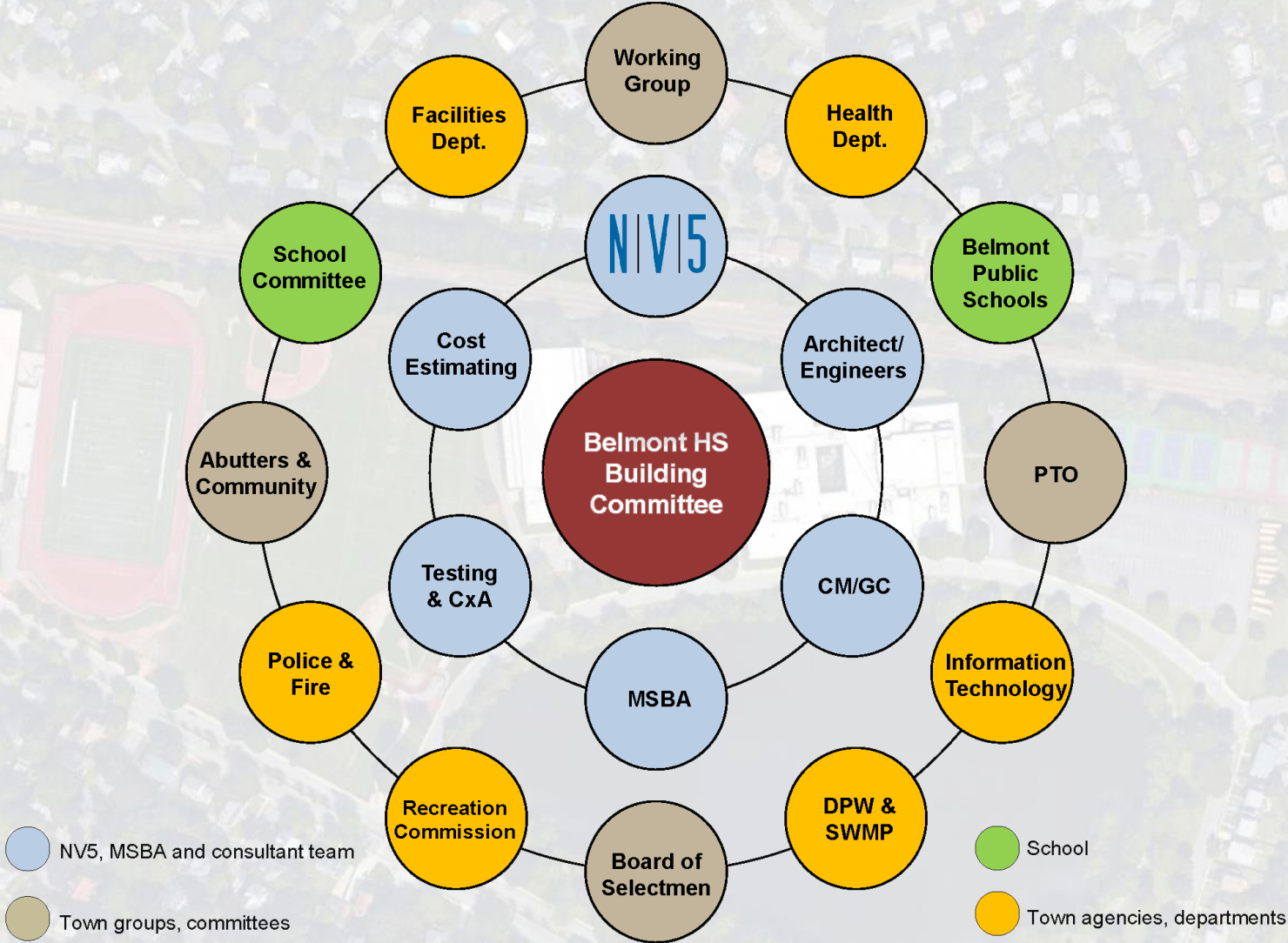
WEEK OF (Monday)	CRITICAL MILESTONE	MONDAY	TUESDAY	WEDNESDAY		THURSDAY		FRIDAY
				AM	PM	AM	PM	
		BOA/SC MEETINGS	WEEKLY PROGRAMMING/ DESIGN MEETINGS	CONSTRUCTION MEETINGS	DRC MEETINGS	WORKING GROUP MEETINGS	WABAN AREA COUNCIL MEETINGS	BOA/SC UPDATE PACKETS
		City Hall Abtarnsic Chamber - 7:45PM	Location TBD, Time TBD	CONSTRUCTION MEETINGS Angier site trailer 10:00-12:00PM	DRC MEETINGS: Library, Trustee's Rm, 6:00PM (unless otherwise noted)	WORKING GROUP MEETINGS: City Hall, room/time TBD	SUB-DRC JOINT MEETINGS: Newton Ed Center, 3m TSD - 6:00PM WAC, Waban Library, 7:00PM	
JAN 2016		01/04/16	01/05/16	01/06/16	01/06/16	01/07/16	01/07/16	01/08/16
		01/11/16	01/12/16	A 01/13/16 CONSTRUCTION MTG 12:00PM (at Aquinas)	01/13/16	01/14/16	A 01/14/16 WABAN AREA COUNCIL MEETING	A 01/15/16 FFE REVIEW MEETING W/PS 11:00AM & 1:00PM
		01/18/16	01/18/16 MLK HOLIDAY	Z 01/20/16 KICK-OFF CONSTRUCTION MTG 12:00-2:00 (Zervas site)	01/20/16	Z 01/21/16 TRADE CONTRACTOR BID OPENING 3:30PM (Newton City Hall)	01/21/16	01/22/16
		01/25/16	A 01/26/16 CONSTRUCTION MTG 1:00PM (at Angier)	Z 01/27/16 CONSTRUCTION MTG 1:00PM (Zervas site)	01/27/16 DRC MEETING (Aquinas window project)	01/28/16	01/28/16	01/29/16
FEB 2016		02/01/16	A 02/02/16 CONSTRUCTION MTG 1:00PM (at Angier)	Z 02/03/16 CONSTRUCTION MTG 1:00PM (Zervas site)	02/03/16	02/04/16	02/04/16	02/05/16
		02/08/16	A 02/09/16 CONSTRUCTION MTG 1:00PM (at Angier)	Z 02/10/16 CONSTRUCTION MTG 1:00PM (Zervas site)	02/10/16	02/11/16	A 02/11/16 WABAN AREA COUNCIL MEETING	02/12/16
	SCHOOL VACATION WEEK	02/15/16 PRESIDENT'S DAY	A 02/16/16 CONSTRUCTION MTG 1:00PM (at Angier)	Z 02/17/16 CONSTRUCTION MTG 1:00PM (Zervas site)	A 02/17/16 MSBA: SITE VISIT 1:00PM (Angier SS)	02/18/16	02/18/16	02/19/16
		02/22/16	A 02/23/16 CONSTRUCTION MTG 1:00PM (at Angier)	Z 02/24/16 CONSTRUCTION MTG 1:00PM (Zervas site)	02/24/16 DRC MEETING (Alice Holzer)	C 02/25/16 CABOT WORKING GROUP 6:45AM (City Hall, Council Chamber)	A 02/25/16 RIBBON CUTTING EVENT 2:00PM (Angier gymnasium)	02/26/16
		02/29/16	A 03/01/16 CONSTRUCTION MTG 1:00PM (at Angier)	Z 03/02/16 CONSTRUCTION MTG 1:00PM (Zervas site)	C 03/02/16 CSBC-DRC + PUBLIC FORUM #03 7:00PM (Cabot ES gymnasium)	03/03/16	03/03/16	03/04/16
MARCH 2016		03/07/16	Z 03/08/16 CONSTRUCTION MTG 1:00PM (at Angier)	Z 03/09/16 CONSTRUCTION MTG 1:00PM (Zervas site)	03/09/16	03/10/16	03/10/16	03/11/16
		03/14/16	A 03/15/16 CONSTRUCTION MTG 1:00PM (at Angier)	Z 03/16/16 CONSTRUCTION MTG 1:00PM (Zervas site)	03/16/16	03/17/16	Z 03/17/16 WABAN AREA COUNCIL MEETING	03/18/16
		03/21/16	03/22/16	Z 03/23/16 CONSTRUCTION MTG 1:00PM (Zervas site)	03/23/16 DRC MEETING (Alice Holzer)	03/24/16	03/24/16	03/25/16 GOOD FRIDAY
		03/28/16	03/29/16	Z 03/30/16 CONSTRUCTION MTG 1:00PM (Zervas site)	03/30/16	03/31/16	03/31/16	04/01/16
APRIL 2016		04/04/16	04/04/16	Z 04/06/16 CONSTRUCTION MTG 1:00PM (Zervas site)	04/06/16	04/07/16	04/07/16	04/08/16
		04/11/16	04/12/16	Z 04/13/16 CONSTRUCTION MTG 1:00PM (Zervas site)	04/13/16	04/14/16	Z 04/14/16 WABAN AREA COUNCIL MEETING	04/15/16
	SCHOOL VACATION WEEK	04/18/16 PA TRIPO'S DAY	04/19/16	Z 04/20/16 CONSTRUCTION MTG 1:00PM (Zervas site)	04/20/16	04/21/16	04/21/16	04/22/16
		04/25/16	04/26/16	Z 04/27/16 CONSTRUCTION MTG 1:00PM (Zervas site)	04/27/16 DRC MEETING (Alice Holzer)	04/28/16	04/28/16	04/29/16
MAY 2016		05/02/16	05/03/16	Z 05/04/16 CONSTRUCTION MTG 1:00PM (Zervas site)	05/04/16	05/05/16	05/05/16	05/06/16
		05/09/16	05/09/16	Z 05/11/16 CONSTRUCTION MTG 1:00PM (Zervas site)	05/11/16	05/12/16	Z 05/12/16 WABAN AREA COUNCIL MEETING	05/13/16
		05/16/16	05/17/16	Z 05/18/16 CONSTRUCTION MTG 1:00PM (Zervas site)	05/18/16	05/19/16	05/19/16	05/20/16
		05/23/16	05/24/16	Z 05/25/16 CONSTRUCTION MTG 1:00PM (Zervas site)	05/25/16 DRC MEETING (Alice Holzer)	05/26/16	05/26/16	05/27/16
		05/30/16	05/30/16	Z 06/01/16 CONSTRUCTION MTG 1:00PM (Zervas site)	06/01/16	06/02/16	06/02/16	06/03/16
JUNE 2016		06/06/16	06/07/16	Z 06/08/16 CONSTRUCTION MTG 1:00PM (Zervas site)	06/08/16	06/09/16	06/09/16	06/10/16
		06/13/16	06/14/16	Z 06/15/16 CONSTRUCTION MTG 1:00PM (Zervas site)	06/15/16	06/16/16	Z 06/16/16 WABAN AREA COUNCIL MEETING	06/17/16
		06/20/16	06/21/16	Z 06/22/16 CONSTRUCTION MTG 1:00PM (Zervas site)	06/22/16 DRC MEETING (Alice Holzer)	06/23/16	06/23/16	06/24/16
		06/27/16	06/28/16	Z 06/29/16 CONSTRUCTION MTG 1:00PM (Zervas site)	06/29/16	06/30/16	06/30/16	07/01/16



Belmont High School Project
Belmont, MA



OPM Value to Belmont



Belmont High School Project
Belmont, MA



Cost Estimator Performance

Project Name	Type	PM&C Estimate	Low Bid	Difference	% Difference	Final Construction
Uxbridge High	New	\$34,363,799	\$35,265,428	\$901,629	2.62%	\$57,293,766
Southbridge Middle/High	New	\$58,796,140	\$57,740,888	(\$1,055,252)	-1.79%	\$58,579,349
Wilmington High	New	\$66,931,883	\$67,068,262	\$136,379	0.20%	\$69,638,961
Stoneham Middle	New/Reno	\$32,041,358	\$33,086,864	\$2,943,282	9.19%	\$33,999,079
Galvin Middle	Add/Reno	\$60,680,580	\$59,756,583	(\$923,997)	-1.52%	\$63,272,519
Lunenburg Middle/High	New	\$59,461,754	\$59,570,728	\$108,974	0.18%	\$58,500,000
Marshall Middle	New	\$68,135,651	\$66,900,000	(\$1,235,651)	-1.81%	\$67,725,244
Woodland Elementary	New	\$48,370,187	\$48,375,101	\$4,914	0.01%	\$47,500,000



Belmont High School Project
Belmont, MA

N | V | 5

Building Management Systems Project Approach

Issue ID	Date of Issue	Equipment ID	Cx Issue	Corrective Action	Issued
018	10/11/16	ATC Review	Colliers Inquiry: DX Unit sequence detailed on ATC-09 states "Unit Controls shall be tied to system"	RPO reports they will be installing manufacturer's controls; however, the manufacturer's control are not integrated into the BAS. RPO will add a BAS temperature sensor to monitor and alarm each space served by DX Split ACUs.	RPO
019	10/11/16	ATC Review	Colliers Inquiry: DX Split units often require external lift pumps to remove condensate. Confirm work required to provide power to pump (120v receptacle) and wiring of high float alarm (ACU cut-out) is covered in Elec and ATC scope of work	NPS states ACUs are to be hard-piped to drains. Strong preference to avoid the installation of lift pumps. General Mechanical to confirm if all ACUs can be hard-piped as requested	General Mech
020	10/11/16	ATC Review	Colliers Inquiry: H0.07 indicates a HW DP Bypass control valve, but in the control drawings it indicates a manual control valve set to 20 GPM. Is the automatic control valve required?	RWS states the Automatic control valve is required. RPO to confirm device will be included in installation	RPO
021	10/11/16	ATC Review	Colliers Inquiry: Control drawings indicate combustion air dampers, but the ductwork drawings don't show any control dampers. Are these required? NOTE: App'd submittal does not include requirements for damper on CA	RWS states automatic control dampers will not be required on combustion air.	RPO
022	10/11/16	ATC Review	Colliers Inquiry: Control Diagram on page H4.01 conflicts with H0.07 and Schedule H0.02 show the use of primary/secondary boiler plant configuration. Piping details H4.01 show primary only with boiler circ pumps. Recommend adding de-coupler to H4.01 design make system primary secondary. This will negate the need for minimum flow control sequences for boilers, also negates the need for ATC Iso-valves at boilers ATC-11 will require a de-coupler	RWS states the system is in fact a primary secondary distribution system with de-coupler as shown on H0.07. RPO to revise diagram on ATC-11 (include de-coupler)	RPO
023	10/11/16	ATC Review	Colliers Inquiry: Confirm Control of Boiler Pumps: Lochinvar has pump control output for start/stop per boiler controller staging. Will BAS be required to at least monitor the status?	RPO reports boiler pumps will be controlled by boiler controller (integral to boiler). Pump status will not be monitored by BAS, however, a pump failure will generate a "low flow alarm" at the boiler controller. Low flow alarm is shared with BAS via BACnet interface.	RPO
024	10/11/16	ATC Review	Colliers Inquiry: ATC Submittal Page 01 does not include language for DP Control Valve	RPO to revise written sequence	RPO
025	10/11/16	ATC Review	Colliers Inquiry: Confirm all project metering requirements: Electrical Gas D/W	WTR and RPO to coordinate with General Mechanical, EA & Sons, Systems Contracting to produce a summary of all required meters for the project and state: *BAS integration capabilities. *Trades responsible for meter installation	RPO
026	10/11/16	ATC Review	Colliers Inquiry: RTU-1: Clarify unoccupied setback sequence for RTU-1 and 2. See ATC page 03. 1. What temperature sensor initiates night override 2. RTU DAT is typically 86F or above during Unocc Heating	RPO states night setback function includes monitoring all zones served by RTU. Based on requested demand, night setback shall be initiated for HEATING only. * Heating Setback Only * Cooling Setback not required * RTU DAT during heating setback to be 70F RPO to revise written sequence	RPO
027	10/11/16	ATC Review	Colliers Inquiry: RTU controls single zone; confirm single zone thermostat for night setback etc.	RPO reports single zone thermostats will be located in zone served.	RPO
028	10/11/16	ATC Review	NPS Inquiry: NPS instructed RPO to avoid the use of enthalpy economizers for RTUs. NPS prefers Dry-bulb economizers with a high OA humidity cut-out	RPO to revise written sequences to include dry-bulb economizers (eliminate enthalpy economizers)	RPO
029	10/11/16	ATC Review	Colliers Inquiry: Smoke damper control and RTU interface clarification required. Systems Contracting is installing the electrical wiring & controls for duct smoke dampers in each location where damper exists the fire-rated shaft. Information is needed as to RTU shutdown requirements and how shutdown signalling shall be achieved. Will smoke shutdown be executed by FACP or BAS?	RWS to review fire alarm system controls and configuration and provide clarification of smoke event shutdown and BAS interface if any.	RWS
030	10/11/16	ATC Review	WTR Inquiry: Is proposed thermostat as shown in submittal acceptable to NPS?	NPS David Slickney states thermostat submitted is acceptable.	NPS
031	10/11/16	ATC Review	WTR Inquiry: confirmation required regarding what level of BAS interface is needed to control/monitor Gym Paddle Fans.	RWS to review approved submittal for BigAss Fans and manufacturer provided controller. RWS to provide clarification regarding integration to BAS (if needed) and sequence of operations)	RWS

Exported on October 12, 2016 9:08:39 AM EDT

LONGMEADOW HIGH SCHOOL

Equipment and Systems Training Schedule

January 23, 2013

Spec. Section	Equipment	Scheduled Date	Time	School Department	Anticipated Attendance					
					Tron/DJ	PW	Fire Dept.	Police Dept.	Health Dept.	Other
230000	Chimney Combustion Automation System	Wednesday, February 13, 2013	8:00 - 12:00			T.C. B.N.				
274100	Audiovisual Systems - General	Thursday, February 14, 2013	cafeteria: 8-10 Band/Ch: 10-12 Sym: 1-3	S.L. S.H.		Gein Warenda, Victor Rouby, Gein Zabawa, School				
200000	Time Clock/FA/ nrcocom Systems	Friday, February 15, 2013	10:00 - 4:00	S.L. S.H.		Jerry Borro, Tom Jardas, Paul Dzikkeley, Maurson	T.C. J.M.			
114000	Food Service Equipment	Friday, February 15, 2013	10:00 - 12:00			Heidi Capogre, Kathleen O'R - Chervells	T.C.			
142300	Electric Traction Elevator	Friday, February 15, 2013	9:00 - 10:00	S.L. S.H.			T.C. J.M.			
230000	Acid Neutralization System	Tuesday, February 19, 2013	8:00 - 12:00	S.L. S.H.		Bernie Dillburn	T.C. G.L.			
230000	Ductless Cooling Unit System	Wednesday, February 20, 2013	8:00 - 12:00	S.L. S.H.			A.P. T.C. B.N.			
230000	Condensate Discharge Pumps	Wednesday, February 20, 2013	8:00 - 12:00	S.L. S.H.			A.P. T.C. B.N.			
230000	Automatic Temperature Controls IDDC	Monday, February 25, 2013	8:00 - 12:00	S.L. S.H.			A.P. T.C. B.N.			
230000	Indoor Air Handling Units (AHU)	Tuesday, February 26, 2013	8:00 - 12:00	S.L. S.H.			T.C. G.L. A.P. B.N.			
110640	Theatrical Lighting Controls	Apr. 2013		S.L. S.H.		Gein Warenda, Victor Rouby, Gein Zabawa, Mike Musci, Gyla Werlin, David Fonces	J.M. T.C.			
110640	Theatrical Lighting Controls	Apr. 2013		S.L. S.H.		Gein Warenda, Victor Rouby, Gein Zabawa, Mike Musci, Gyla Werlin, David Fonces	J.M.			
110123	Telescopying Usage	Apr. 2013		S.L. S.H.		Gein Warenda, Mike Musci, Gyla Werlin, David Fonces	T.C.			

Page 2 of 4



Belmont High School Project
Belmont, MA

N | V | 5

Why NV5

- Significant Expertise Developing Options to Determine Cost Effective Solutions
- 23 MSBA School Projects
- Massachusetts Public Sector Focus
- Extensive Experience with CM at Risk and Design-Bid-Build
- 21st Century Schools
- All Projects on Schedule and Within Budget
- Personal Service; Attention to Detail



Belmont High School Project
Belmont, MA

NV5

Questions & Answers

Learn

Develop an understanding of Belmont's community and educational needs

Think

Keep the educational goals in mind

Create

An Infrastructure that allows project team and Belmont Stakeholders to collaborate effectively

Serve

The Town of Belmont with our expertise, ability and willingness to go above and beyond



Belmont High School Project
Belmont, MA

N | V | 5