

## MGRSD School Building Committee Meeting

Date: 3/26/15

## Attendee Sign-In Sheet

	Attendees name	Town/Affiliation	email contact	Signature
1	Mark Schiek	SBC Chair, Lanesborough	<a href="mailto:mschiek@outlook.com">mschiek@outlook.com</a>	
2	Paula Consolini	SBC Co-Chair Williamstown Fin.	<a href="mailto:paula.m.consolini@williams.edu">paula.m.consolini@williams.edu</a>	
3	Gordon Noseworthy	Interim Superintendent of Schools MGRHS	<a href="mailto:gnoseworthy@williamstownelementary.org">gnoseworthy@williamstownelementary.org</a>	
5	Lynn Bassett	Bus. Mgr, MGRSD	<a href="mailto:lbassett@williamstownelementary.org">lbassett@williamstownelementary.org</a>	
6	John Goerlach	Lanesborough Town Selectman	<a href="mailto:jgoerlach@verizon.net">jgoerlach@verizon.net</a>	
7	Hugh Daley	Williamstown Selectman	<a href="mailto:hmd1618033@gmail.com">hmd1618033@gmail.com</a>	
8	Carolyn J. Greene	MGR School Committee Chair	<a href="mailto:Carrie.greene@williams.edu">Carrie.greene@williams.edu</a>	
9	Chris Dodig	MGR School Committee	<a href="mailto:cdodig@docatty.com">cdodig@docatty.com</a>	
10	Jesse Wirtes	MG facilities supervisor	<a href="mailto:jwirtes@mgrhs.org">jwirtes@mgrhs.org</a>	
11	Mary MacDonald	Principal, MGRHS	<a href="mailto:mmacdonald@mgrhs.org">mmacdonald@mgrhs.org</a>	
12	Lyndon Moors	Faculty, MGRHS	<a href="mailto:lyndon213@verizon.net">lyndon213@verizon.net</a>	
13	Chris Galib	Lanesborough Fin. Committee	<a href="mailto:church1333@verizon.net">church1333@verizon.net</a>	
14	Thomas H. Bartels, AIA	Williamstown	<a href="mailto:thomas@bartelsdesign.com">thomas@bartelsdesign.com</a>	
15	Dave Vogel	Lanesborough	<a href="mailto:dave.vogel@ch2m.com">dave.vogel@ch2m.com</a>	
16	Tríp Elmore	D&W OPM	<a href="mailto:telmore@doreandwhittier.com">telmore@doreandwhittier.com</a>	
17	Rachel Milaschewski	D&W OPM	<a href="mailto:rmilaschewski@doreandwhittier.com">rmilaschewski@doreandwhittier.com</a>	
18	Lee Dore	D&W OPM	<a href="mailto:ldore@doreandwhittier.com">ldore@doreandwhittier.com</a>	
19	Steve Brown	D&W OPM	<a href="mailto:sbrown@doreandwhittier.com">sbrown@doreandwhittier.com</a>	
20	Bob Bell	Design Partnership, Designer	<a href="mailto:rbell@design-partnership.com">rbell@design-partnership.com</a>	
21	Joe Drown	Design Partnership, Designer	<a href="mailto:jdrown@design-partnership.com">jdrown@design-partnership.com</a>	
22	Dan Colli	Design Partnership, Designer	<a href="mailto:dcolli@design-partnership.com">dcolli@design-partnership.com</a>	
23	David Finney	Design Partnership, Designer	<a href="mailto:dfinney@design-partnership.com">dfinney@design-partnership.com</a>	

Meeting  
MGRSD School Building Committee

Mount Greylock Regional School Williamstown, MA  
S103 Meeting Room

March 26, 2015 at 5:30 p.m.

Meeting # 04

**Agenda**

1. Call to Order:
2. Approval of Minutes:
  - a. January 5, 2015 SBC meeting minutes. Vote expected.
3. Invoices Submitted for Approval:
  - a. DWMP Invoice #3, Final for Designer selection and planning phase in the amount of \$10,000 (Invoice attached). Vote Expected.
  - b. Design Partnership's first Invoice #10975 in the amount of \$10,000.00 for the feasibility phase. (Invoice attached). Vote Expected.
  - c. MGRSD Invoice No. 750-110 from Unibank for financial advisory fees in the amount of \$500.00 (Invoice attached). Vote Expected.
  - d. MGRSD Travel & Purchase Reimbursement Request from C. Greene for roundtrip travel to the MSBA DSP Meeting in Boston, MA in the amount of \$214.45 (Request Attached). Vote Expected.
  - e. MGRSD WilliNet Invoice dated March 20, 2015 for SBC Meeting Coverage in the amount of \$300.00 (Invoice attached). Vote Expected.
4. Administrative Process to Date (Designer selection) and Progress Update – *SBC Chair & OPM*
  - a. Design Partnership Amendment No. 1 for additional Survey, Geotech, Hazardous Materials and Geo-Environmental services (Backup Attached). Vote Expected.
5. Working Group Updates
  - a. Existing Facilities update – *J. Wirtes & Designer*
  - b. Educational Programing update – *M. MacDonald & Designer*
  - c. Community Communication – *Paula Consolini*
6. MGR SBC Project Goals Review and Designer process to identify additional goals – *SBC Chair(s), OPM & Designer*
7. Outline Schedule for Meetings & Decisions that SBC Members will be Asked to Make – *Designer*
8. Other business
9. Next SBC Meeting(s) Date & Time
10. Adjourn

3/20/2015

## MGRSBC MEETING MINUTES

**DATE OF MEETING:** March 26, 2015 @ 5:30 P.M. in the Mount Greylock Regional School Meeting Room S103 in Williamstown, MA

**PROJECT:** Mount Greylock Regional Middle High School  
Dore & Whittier Project #MP

**SUBJECT:** School Building Committee Meeting (D&W#4)

<b>ATTENDING:</b>	Mark Schiek,	SBC Chair, Lanesborough
	Paula Consolini	SBC Co-Chair, Williamstown
	John Goerlach	Lanesboro Selectman
	Hugh Daley	Williamstown Selectman
	Carolyn J. Greene	MGR School Committee Chair
	Chris Dodig	MGR School Committee
	Jesse Wirtes	MG facilities supervisor
	Lyndon Moors	Faculty, MGRSD
	Mary MacDonald	Principal, MGRHS
	Chris Galib	Lanesboro Finance Committee
	Thomas H. Bartels, AIA	Williamstown
	Lee Dore	D&W OPM
	Rachel Milaschewski	D&W OPM
	Bob Bell	Design Partnership
	Joe Drown	Design Partnership
	Dan Colli	Design Partnership
	David Stephen	New Vista Design (DPC Edu. Planner)

**1. Call to Order at 5:35 PM by M. Schiek.**

- a. M. Schiek introduced Lee Dore from DWMP who sat in for Trip Elmore, who could not attend the meeting. Following, he introduced the selected design team, Design Partnership of Cambridge (DPC), to the members of the Building Committee. DPC then introduced themselves individually and expressed their enthusiasm about the project.

**2. Approval of Minutes:**

- a. A short overview of the January 15, 2015 Meeting Minutes was provided by the Chair.

***Motion to approve the January 15, 2015 SBC Meeting Minutes by P. Consolini, 2<sup>nd</sup> by J. Goerlach.***

A member of the committee suggested clarifying the wording in section 7.b. of the January 15, 2015 meeting minutes.

***Motion to make a friendly amendment to make the suggested clarifications to the minutes by P. Consolini. VOTE: 11 approve, 1 abstain.***

PROJECT MANAGERS  
ARCHITECTS

Newburyport, MA 01950  
260 Merrimac Street Bldg 7  
978.499.2999 ph  
978.499.2944 fax

[www.doreandwhittier.com](http://www.doreandwhittier.com)

3. **Invoices Submitted for Approval:**

- a. DWMP Invoice #00003 in the amount of \$10,000.00 for OPM Services (final invoice for the designer selection and planning phase) (Invoice Attached). Vote Expected.

***Motion to approve DWMP Invoice #00003 in the amount of \$10,000.00 for OPM Services by P. Consolini, 2nd by J. Goerlach. VOTE: unanimous to approve (12-0).***

- b. Design Partnership's first invoice #10975 in the amount of \$10,000.00 for the feasibility phase (Invoice attached). Vote Expected.

***Motion to approve DPC Invoice #10975 in the amount of \$10,000.00 for the feasibility phase by J. Goerlach, 2nd by P. Consolini. VOTE: unanimous to approve (12-0).***

- c. MGRSD Invoice #750-110 from UniBank for financial advisory fees in the amount of \$500.00 (Invoice attached). Vote Expected.

***Motion to approve MGRSD Invoice #750-110 from UniBank in the amount of \$500.00 for financial advisory fees by J. Goerlach, 2nd by P. Consolini. VOTE: unanimous to approve (12-0)***

- d. MGRSD Travel & Reimbursement Request from C. Greene for roundtrip travel to the MSBA DSP Meeting in Boston, MA in the amount of \$214.45 (Invoice attached). Vote Expected.

***Motion to approve MGRSD Travel & Reimbursement Request from C. Greene for roundtrip travel to the MSBA DSP Meeting in Boston, MA in the amount of \$214.45 by P. Consolini, 2nd by J. Goerlach. VOTE: 11 approve, 1 abstain.***

- e. MGRSD WilliNet Invoice dated March 20, 2015 for SBC Meeting Coverage in the amount of \$300.00 (Invoice attached). Vote Expected.

***Motion to approve MGRSD WilliNet Invoice dated March 20, 2015 for SBC Meeting Coverage in the amount of \$300.00 by P. Consolini, 2<sup>nd</sup> by J. Goerlach.***

M. Schiek pointed out that the invoice has an incorrect charge of \$100.00 for meeting coverage on February 5, 2015, which did not take place. WilliNet has agreed to apply the February 5, 2015 charge to the current March, 26<sup>th</sup> meeting if it is approved upon by the Committee. The Chair stated that WilliNet could also remove the February 5<sup>th</sup> charge and issue a new invoice if necessary.

The committee agreed to recommend full payment of \$300.00 for the invoice and apply the February 5<sup>th</sup> charge to coverage of the current March 26, 2015 meeting.



***Motion to make a friendly amendment to pay the invoice in full and apply the February 5<sup>th</sup> charge to the coverage of the March 26, 2015 meeting by P. Consolini. VOTE: unanimous to approve.***

#### **4. Administrative Process to Date (Designer Selection) and Progress Update**

M. Schiek gave a brief overview of the Designer Selection process to date since the last SBC meeting in January. He acknowledged the signing of the Contract with DPC for Designer Services for the Mount Greylock Regional School Project, following up with their proposal for additional consultant services to provide building studies and cost estimates for the project.

##### **a. Design Partnership Amendment No. 1 for additional Survey, Geotech, Hazardous Materials and Geo-Environmental Services (Backup Attached). Vote Expected.**

L. Dore of DWMP mentioned that the need for these additional services are included in DPC's base contract. He stated that DPC has been underway with the Existing Conditions and Education Program of the Mount Greylock School and the project is moving forward with the schedule.

C. Greene of the committee mentioned that DPC and New Vista Design, their Educational Planner, have been doing a lot of work already and the project is moving at a great pace.

The SBC Chair summarized the additional services proposals and stated that the District needs to amend the contract to accept these services, while also recommending to do so. He then added that project will still be within budget after the approval of these proposals.

The Chair of the Committee also explained that after discussing these proposals with DPC prior to the meeting, a member of the Committee suggested finding a second proposal for the Surveying services in search of a potential lower cost.

A few questions were raised by the committee in regards to where these services will be applied. D. Colli of DPC clarified any questions with the committee, and made clear of the knowledge the consultant firms will bring to the project.

After discussing the proposals, the committee agreed to accept the additional Geotech, Hazardous Materials and Geo-Environmental Services Proposals now, while waiting to accept the Surveying Proposal.

***Motion to accept the Geotech, Hazardous Materials and Geo-Environmental proposals to amend the Designer Contract by J. Goerlach, 2<sup>nd</sup> by P. Consolini.  
VOTE: unanimous to approve.***

M. MacDonald added that they were pleased they did ask for interviews of the top three design firms prior to making a selection, as the interviews answered a lot of questions the committee may have had, and made a lot of clarification.

T. Bartels also added that he thinks the project is doing well thus far from a budget standpoint.

## **5. Work Group Discussion – Working Group Chair(s)**

**Facilities:** J. Wirtes reported that Rob Wnuk, who is an employee of the Mount Greylock Regional School District, has joined the Facilities Working Group. M. MacDonald mentioned that Rob is actively involved in the security of the School, and he is a good addition to the group.

J. Wirtes reported that there is a lot of work to be done, and the group and DPC have already gotten started by meeting with a mechanical engineer. The group has also collaborated with DPC by providing building documents.

**Education:** M. MacDonald began by announcing the two sub-groups for Educational Planning, as the Educational Leadership Team (ELT), whose members include herself, Gordon Noseworthy (Interim Superintendent), Carolyn Greene (School Committee Chair), Lyndon Moors (Teacher, SBC Member & Union President), Chris Dodig (School Committee and School Building Committee Member), Robert Bell (Architect/Planner, DPC) and David Stephen (Educational Planner, New Vista Design), as well as the Educational Working Group which includes the members of the ELT, as well as faculty members, students, and members of the community.

She stated that these groups have already met last week, and have another meeting scheduled for tomorrow, and onward. The ELT has been reviewing the current educational program and is working to form a program to move forward with.

R. Bell of DPC shared that the program is beginning to take shape, and they plan to design based off of the schools educational needs.

D. Stephen of New Vista Design (NVD) explained how education is changing and how the students are being challenged tells the designer where to begin to explore and how to get the biggest “bang-for-your-buck” for the building.

M. MacDonald expressed that as the working group is gathering ideas, they are looking forward to input from the community, as well as future meetings with the faculty and students. The group added that they are looking for anybody in the

community with expertise in any specific areas, such as environmental, communicational, etc. to offer any insight. There are currently two Community Workshop Meetings scheduled for April 16<sup>th</sup>, and May 12<sup>th</sup>.

**Community Outreach:** P. Consolini started by introducing a few members of the Community Outreach Group who have agreed to volunteer. She shared a few of the working group's ideas to get the community involved; they will be placing red suggestion boxes around in town halls, libraries, etc. for members of the community to share their questions, concerns, suggestions, ideas, or any input towards any aspects the project. In addition to the suggestion boxes, the group is also using social media, including the MG website & Facebook page (Friends of Mount Greylock) to work together with the community.

She mentioned collaborating with Pat Kelly, who was introduced to her by DWMP. P. Kelly is the team leader of the PR Working Group on the Ayer-Shirley Regional High School Project, and he has shared with Paula a lot of ideas for community outreach, as well as his experience working with a regional district.

P. Consolini finished by saying that the project is moving quickly, and the sooner the working group receives any input, the better it can be used.

#### **6. MGR SBC Project Goals Review and Designer Process to Identify additional Goals**

R. Milaschewski of DWMP began by reviewing the SBC Member Worksheet which was provided to the committee members prior to selecting a designer to give them an opportunity to express what goals they would like to meet with the project. The worksheet provided in the meeting packets was a draft list of the compiled goals which have been heard from the committee to date.

After C. Green read the goals out loud, DWMP encouraged the committee to continue to add to this list, as it will provide guidance for the design of the school.

J. Drown of DPC pointed out that some of these goals may oppose one another, and the design team would be sure to make the best decisions for the project based off of the input they receive. R. Bell of DPC then added that this worksheet should be a living document, as the goals will be shaped as we go through the entire process.

#### **7. Outline Schedule for Meetings & Decisions that SBC Members will be asked to make.**

M. Schiek started out by saying that the frequency and the length of meetings will begin to increase now that the Designer has been selected and planning/programming has commenced.

D. Colli of DPC then began to go through their schedule which they have provided. He stated that the schedule maps out how they get to key dates and gives an overview of the process.

Dan then added that there is a lot of effort that goes into the programming and existing conditions pieces of the project. Part of keeping to the schedule is a “responsibility chart” that DPC has also provided, which points out the responsibilities between the District, OPM, Designer and the MSBA as individuals, as well as providing key target dates and upcoming “decisions points”.

L. Dore of DWMP made clear that these key dates are provided by the MSBA, and it is crucial to stay on schedule in order to meet them, as it could delay the project by up to a couple of months based upon the MSBA’s calendar.

D. Colli then went on to discuss specific submission dates to the MSBA, and what was required for each submission between now and the January 27<sup>th</sup>, 2016 date for an agreed upon Project Scope and Budget with the MSBA.

The Chair of the Committee followed up with the subsequent SBC Meeting & Community Meeting dates, which will be posted to the MG Website.

- 4/16/15 – SBC Meeting at 5:30 PM to 7:00 PM
- 4/16/15 – Community Meeting at 7:00 PM to 8:00 PM
- 4/30/15 – SBC Meeting at 5:30 PM
- 5/21/15 – SBC Meeting at 5:30 PM
- 6/04/15 – SBC Meeting at 5:30 PM to 7:00 PM
- 6/04/15 – Community Meeting at 7:00 PM to 8:00 PM

8. **Other Business:** No Other Business.

9. **Next SBC Meeting(s) and times**

- a. April 16, 2015 at 5:30 PM, followed by a Community Meeting at 7:00 PM

10. **Adjourn**

***Motion to adjourn by P. Consolini, 2nd by J. Goerlach. VOTE: unanimous to approve.  
Meeting adjourned at 6:54 PM***

## **DORE AND WHITTIER MANAGEMENT PARTNERS, LLC**

Rachel Milaschewski

Dore & Whittier Management Partners, Owner’s Project Manager

Cc: Attendees, File

**The above is my summation of our meeting. If you have any additions and/or corrections, please contact me for incorporation into these minutes. After 10 days, we will accept these minutes as an accurate summary of our discussion and enter them into the permanent record of the project.**



March 26, 2015

Mount Greylock Regional School District  
1781 Cold Spring Road  
Williamstown, MA 01267

**Design Partnership of Cambridge (DPC) Public Presentation  
March 26, 2015 at 7:00 PM**

**Design Team:** Joe Drown  
Robert Bell  
Dan Colli  
David Stephen, New Vista Design (Educational Planner)

DPC and David Stephen of New Vista Design, their Educational Planner, gave a public presentation to introduce themselves to the community and discuss their goals for the Mount Greylock Regional School Project.

(Presentation slides attached)

**DORE & WHITTIER MANAGEMENT PARTNERS, LLC**  
Owner's Project Managers

PROJECT MANAGERS  
ARCHITECTS

Newburyport, MA 01950  
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# *MT. Greylock - Regional School Project*



DESIGN  
KICK-OFF  
MEETING

3/26/2015

Designpartnership  
OF CAMBRIDGE

Design*partnership*  
OF CAMBRIDGE



**ROBERT BELL, AIA**  
PROJECT ARCHITECT  
CEFP, CPTED, AP BD+C,  
MCPPO



**KRIS BRADNER ASLA**  
LANDSCAPE ARCHITECT  
BIRCHWOOD DESIGN GROUP



**DAN COLLI, AIA**  
PROJECT MANAGER  
LEED AP BD+C, MCPPO



**JOSEPH DROWN, AIA**  
PROJECT EXECUTIVE  
MCPPO



**DAVID FINNEY, AIA**  
PRINCIPAL IN CHARGE  
LEED AP



**DAVID STEPHEN**  
EDUCATIONAL PLANNER  
NEW VISTA DESIGN





Design*partnership*  
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**Number of School Projects:**

125



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**Portion of Our Work that is  
Renovations & Additions:**

75%





## Number of Combined Middle / High School Projects :

- Largest is Taunton, with 2600 students
- Smallest is Chatham, with 570 students

4





## Number of Projects For Multiple-Town School Districts:

- Largest is Essex Technical HS District with 18 towns
- Smallest is Acton/Boxborough RSD with 2 towns

6

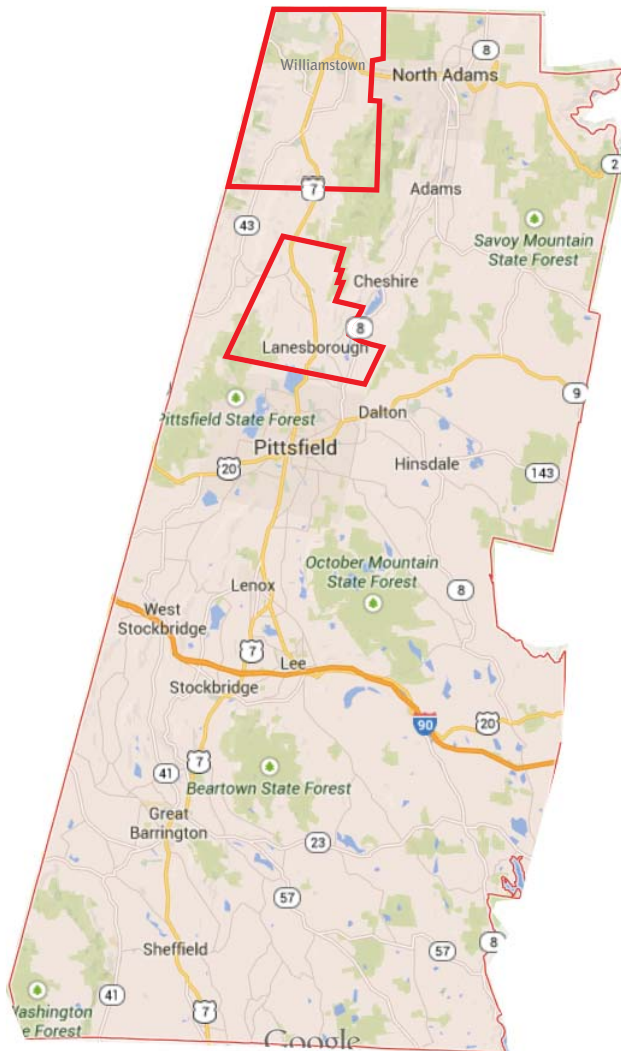


# *What are the District's Concerns?*

- *Designing for the Needs of Students*
- *Meeting the Needs of Program in a small MS/HS*
- *Consensus Building for 2 Communities*
- *Sensitivity to Economics—Cost and Energy Savings*







**Berkshire County**

	Per capita income	Median household income	Median family income	Population	Number of households
<b>Berkshire County</b>	<b>\$29,387</b>	<b>\$48,705</b>	<b>\$64,393</b>	<b>131,221</b>	<b>55,793</b>

Town		Per capita income	Median household income	Median family income	Population	Number of households
Berkshire County	County	\$29,387	\$48,705	\$64,393	131,221	55,793
Tyringham	Town	\$55,836	\$94,375	\$126,875	358	149
Richmond	Town	\$51,808	\$88,125	\$94,423	1,671	702
Alford	Town	\$49,272	\$85,833	\$102,750	501	232

<b>Williamstown</b>	<b>\$39,451</b>	<b>\$72,743</b>	<b>\$97,060</b>	<b>7,828</b>	<b>2,859</b>
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Becket						790
Lenox	CDP	\$37,192	\$40,126	\$62,569	1,349	782
Sheffield	Town	\$36,640	\$52,181	\$75,000	3,255	1,464
New Ashford	Town	\$35,676	\$63,854	\$75,750	225	109
West Stockbridge	Town	\$35,092	\$75,543	\$97,784	1,573	640
Great Barrington	Town	\$34,585	\$48,561	\$73,369	7,131	2,792
Cheshire	Town	\$34,413	\$56,597	\$74,250	3,245	1,408
Lenox	Town	\$33,405	\$54,622	\$74,844	5,013	2,084
Housatonic	CDP	\$33,281	\$28,837	\$27,448	1,024	556
Windham	Town	\$32,334	\$74,866	\$99,601	803	331

<b>Lanesborough</b>	<b>\$33,058</b>	<b>\$66,071</b>	<b>\$82,400</b>	<b>3,074</b>	<b>1,240</b>
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Monterey	Town	\$31,821	\$55,098	\$69,038	1,755	765
Stockbridge	Town	\$31,808	\$46,622	\$100,833	3,652	1,312
Williamstown	CDP	\$31,746	\$60,104	\$69,706	985	381
Sandisfield	Town	\$30,753	\$62,596	\$71,442	2,136	860
Hinsdale	Town	\$29,851	\$78,571	\$79,911	713	254
Hancock	Town	\$28,282	\$40,393	\$66,500	2,464	1,021
Great Barrington	CDP	\$28,270	\$51,835	\$67,407	5,932	2,486
Lee	Town	\$28,080	\$68,523	\$72,344	863	337
Peru	Town	\$27,725	\$58,068	\$58,452	706	293
Savoy	Town	\$27,549	\$43,750	\$70,417	1,843	874
Lee	CDP	\$26,854	\$52,285	\$61,739	6,753	2,663
Dalton	Town	\$26,767	\$44,513	\$57,673	44,691	19,966
Pittsfield	City	\$25,666	\$46,458	\$58,281	719	337
Florida	Town	\$25,096	\$38,256	\$46,554	5,367	2,508
Adams	CDP	\$25,013	\$54,095	\$61,836	1,844	727
Adams	Town	\$24,423	\$39,080	\$46,021	8,494	3,770
North Adams	City	\$20,330	\$36,424	\$51,028	13,763	5,867
Cheshire	CDP	\$14,088	\$47,361	\$56,125	61	

## FEASIBILITY

Consensus Building Program  
Building and Site Options  
New vs. Renovation  
Approximate Scope & Budget  
Select Preferred Option

## SCHEMATIC DESIGN

Detailed Project Scope & Budget  
Schedule  
Phasing Concepts  
Building Systems Concepts  
Green Strategies  
Construction Procurement Method

## DESIGN DEVELOPMENT

Regulatory Approvals  
Building & Site Development  
Confirmation of Budget  
Phasing

## BUILDING TRUST Transparent Communication



Design*partnership*  
OF CAMBRIDGE

## CONSTRUCTION DOCUMENTS

Building & Site Detailed for Public Bid

Confirmation of Budget

## BID

Early Bid Packages?  
Filed Sub Bids  
GC Bids or GMP

## CONSTRUCTION ADMINISTRATION

Construction Monitoring

Administration of the Construction Contract



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- Face to Face
- Public Meetings
- Forums
- Workshops
- Presentations

LCATV2

- Local Cable



- Newspapers



- Mailings



- Project Website

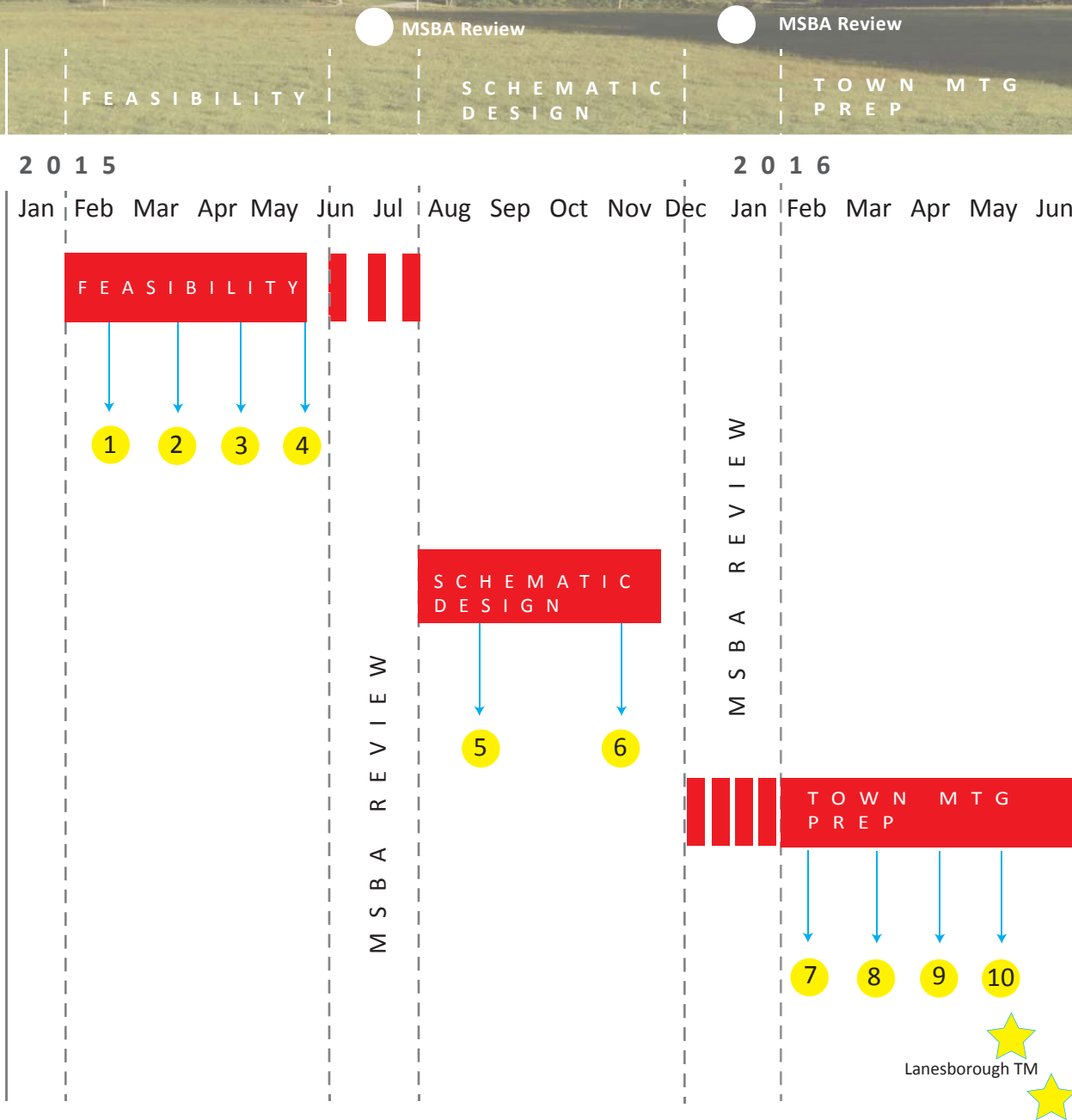


- Social Media



- Customized Phone App





**Designpartnership**  
OF CAMBRIDGE

1. Overview / Schedule / Process  
Public Input
2. Challenges / What We Learned  
Public Input
3. Options / Costs  
Public Input
4. Preferred Solutions  
Public Input
5. Recap / Schedule / Process
6. Costs
7. Informational Meeting
8. Informational Meeting
9. Informational Meeting
10. Informational Meeting

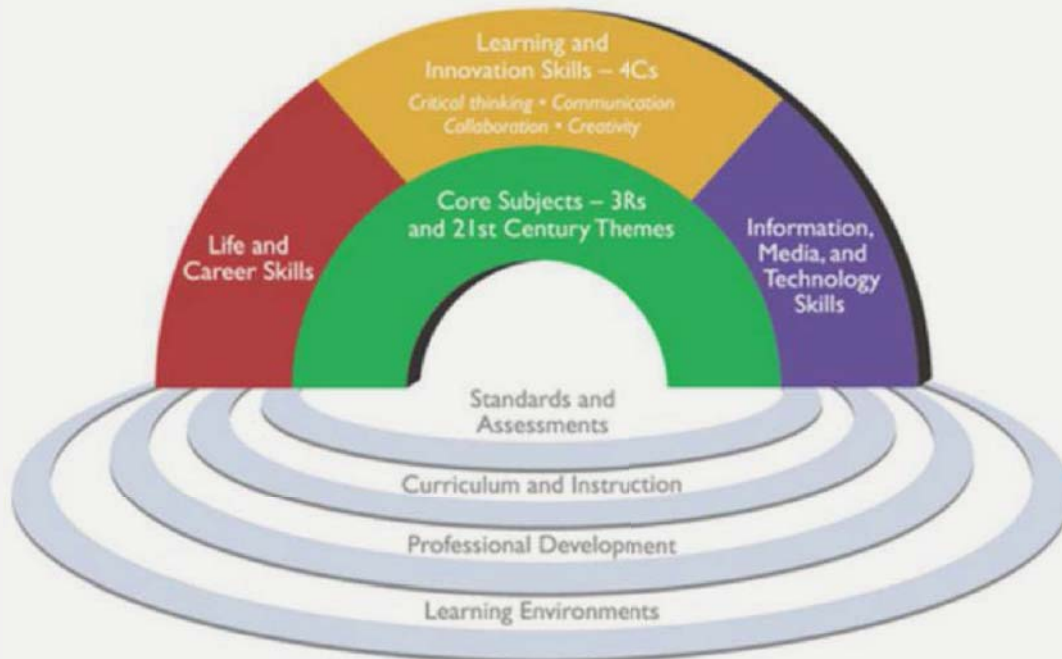
# Educational Visioning

- Thoughtful and customized
- Engaging and hands-on
- Targeted and efficient



# Focus on 21<sup>st</sup> Century Skills

- The 3 R's, the new 3 R's plus the 4 C's
- Proactive, engaged and lifelong learning
- STEM/STEAM and inquiry-based enrichments



- Critical Thinking
- Communication
- Collaboration
- Creativity
- Citizenship
- Growth Mindset

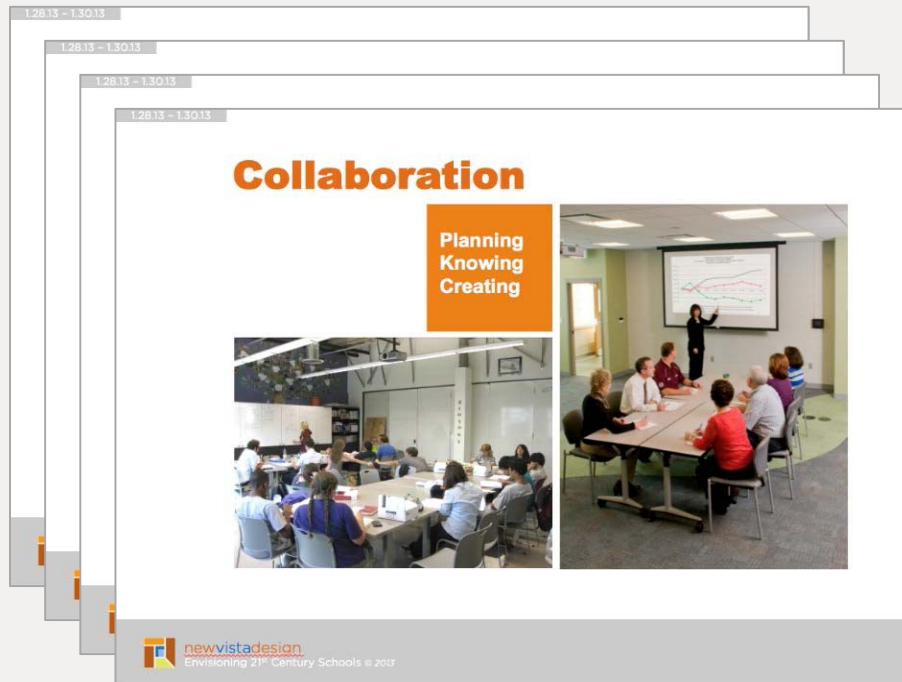


## Design Patterns

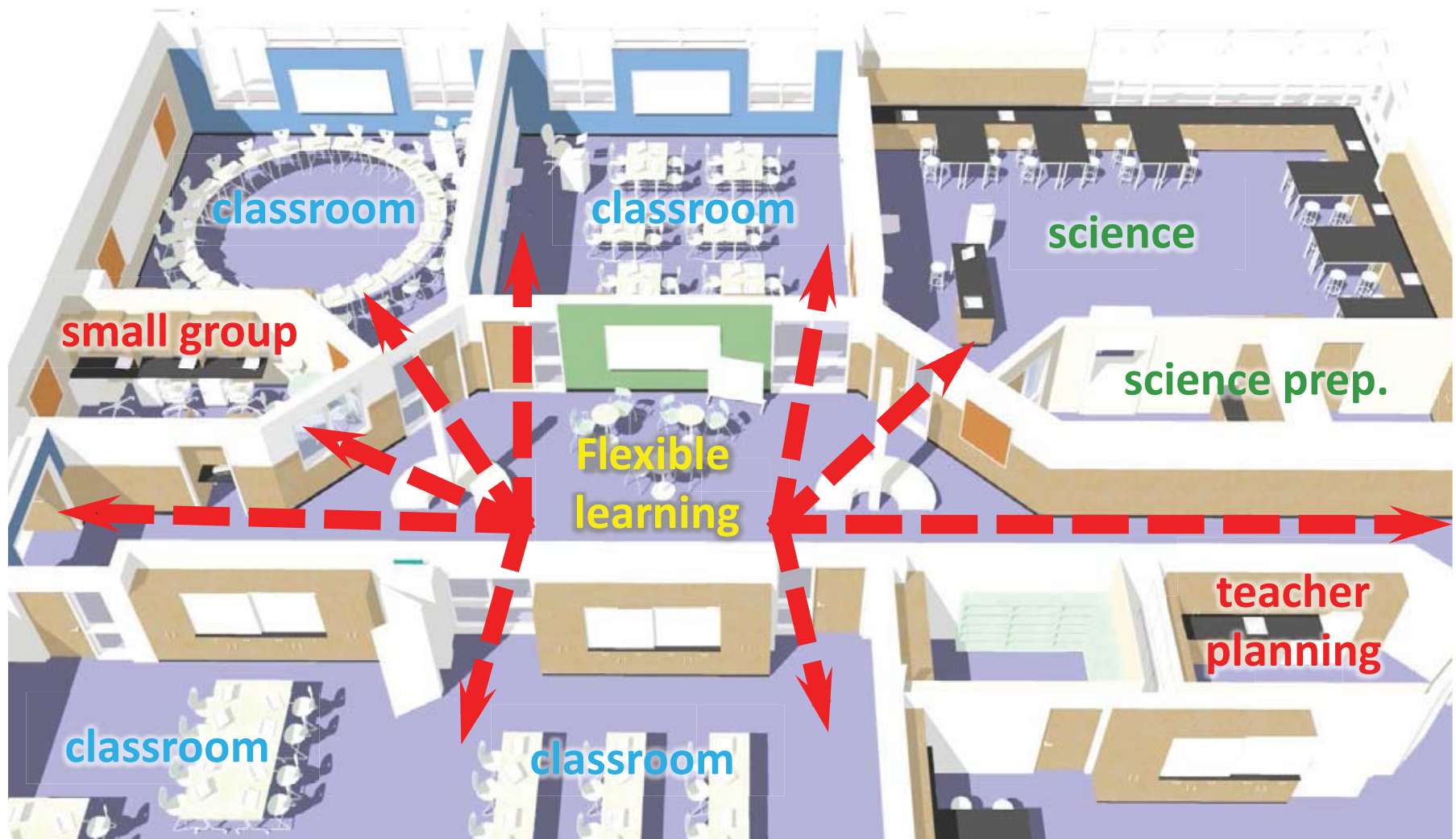
- Support 21<sup>st</sup> century teaching and learning
- Provide seamless technology integration
- View school as flexible and evolving workplace

## Guiding Principles & Priorities

- Understanding of District's current initiatives
- Analysis of opportunities and goals
- Translation of goals into architectural priorities



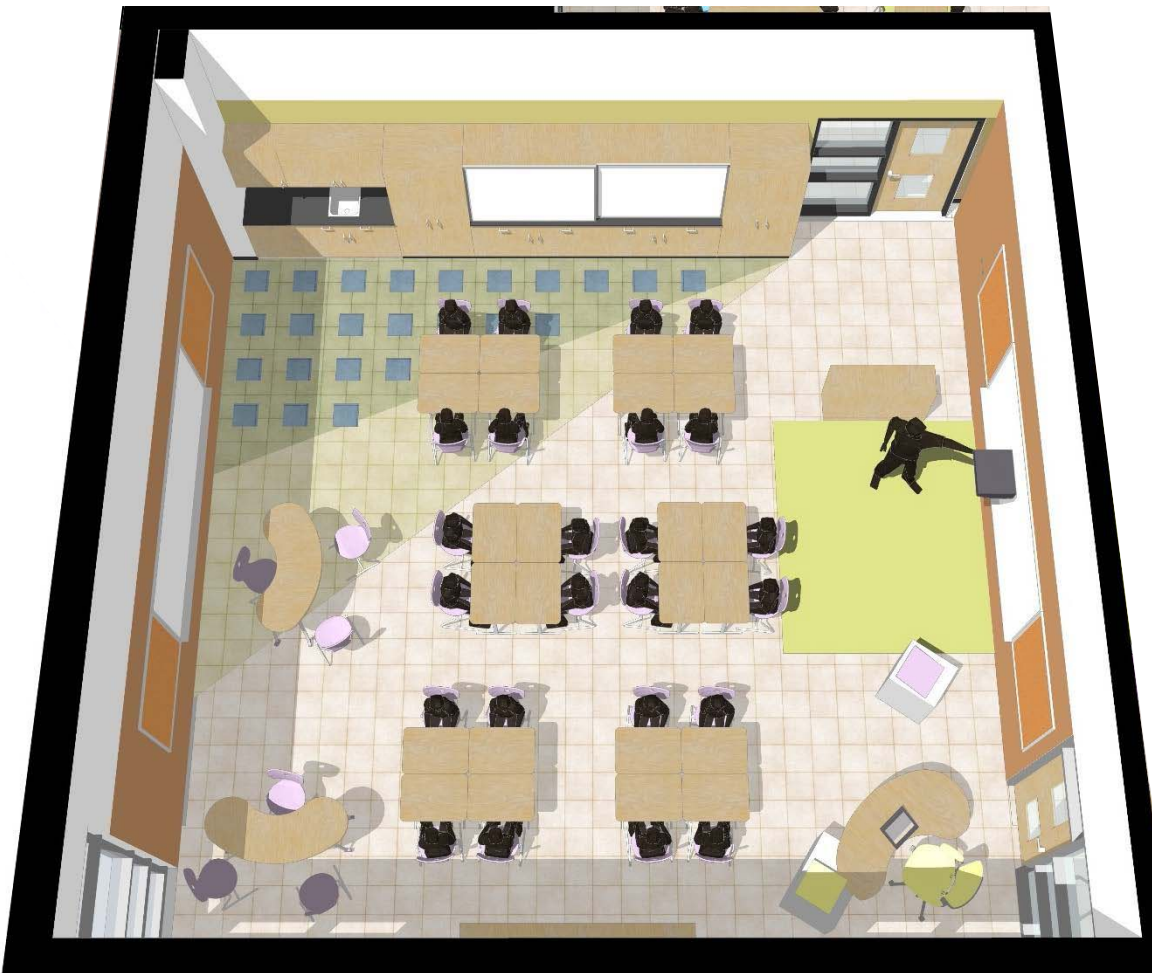
# MS Teaming / HS Clusters



academic clusters & visibility

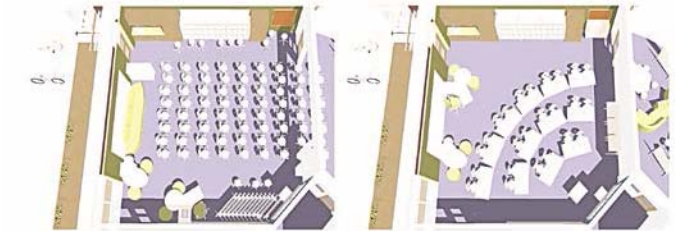


# The Basic Building Block



Small Groupings

Medium Groupings



Large Groupings

Lecture Arrangement



Project Arrangement

Debate Arrangement

# High Performance/Flexible

## HIGH PERFORMANCE/GREEN ENVIRONMENT

- Super-insulated cavity
- High efficiency systems
- High efficiency MEP systems
- Quality IAQ/ventilation (displaced)
- Daylight/occupancy sensors
- Enhanced daylight & indirect lighting
- High acoustics
- Durable/low-maintenance

## OCCUPANT COMFORT/CONTROL

- Operable windows & ceiling fans
- In-room thermostat
- Multiple switching/light levels

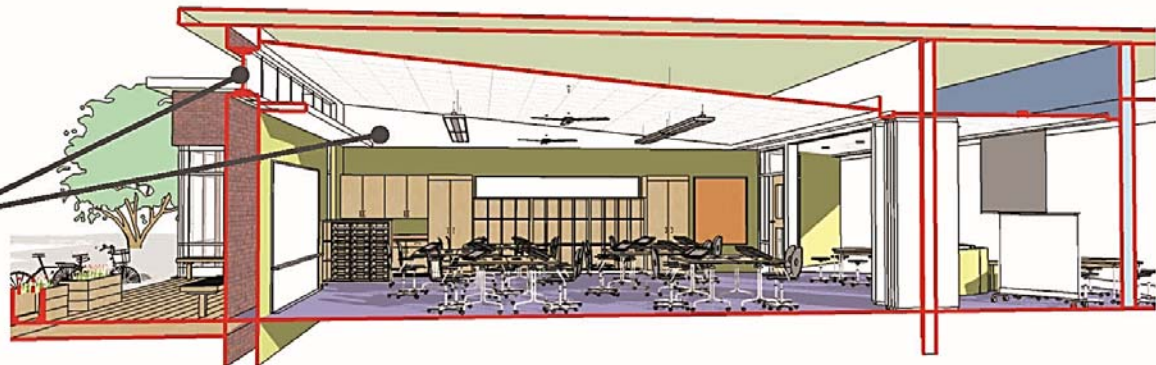
## FLEXIBILITY/COLLABORATION

- Dispersed teaching walls
- Good visibility/connected clusters
- Break-out (flexible space)
- Adjacent to planning rooms
- Operable wall (large group)

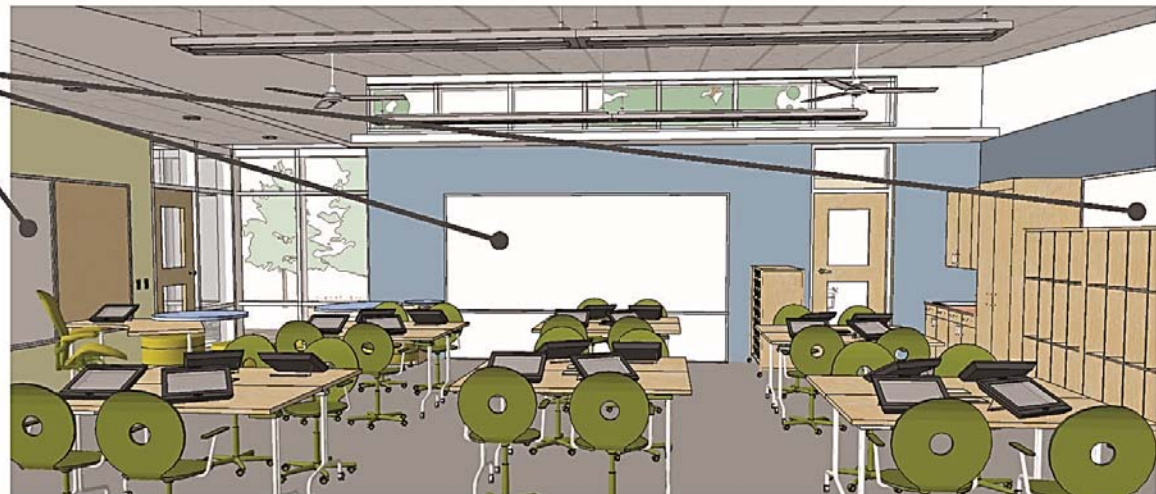
## UBIQUITOUS TECHNOLOGY

- Interactive display and resources
- Wireless environment
- 1 on 1 computing
- Distance learning capable

## MOBILE/ADJUSTABLE FURNISHINGS (inc. storage)



CLASSROOM SECTION



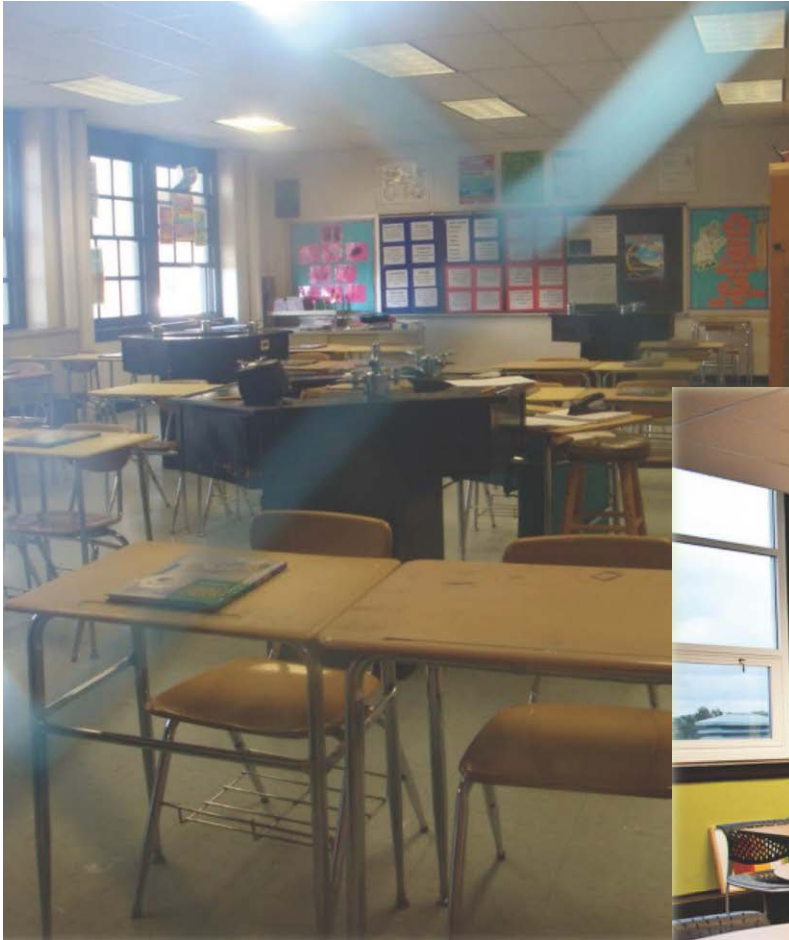
CLASSROOM PERSPECTIVE



# High Performance/Flexible



# High Performance/Flexible





# High Performance/Flexible

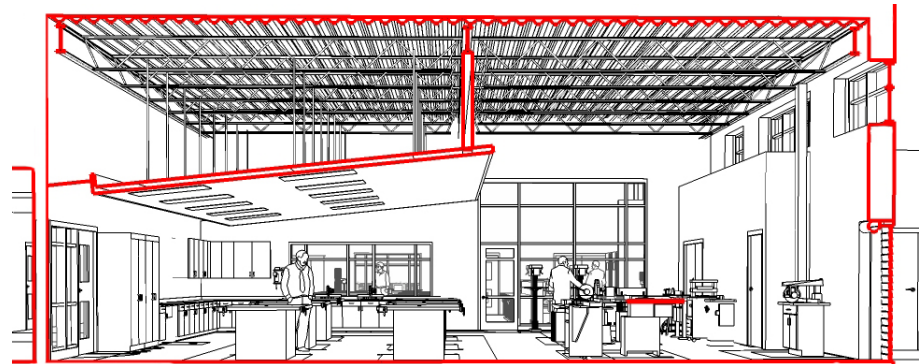
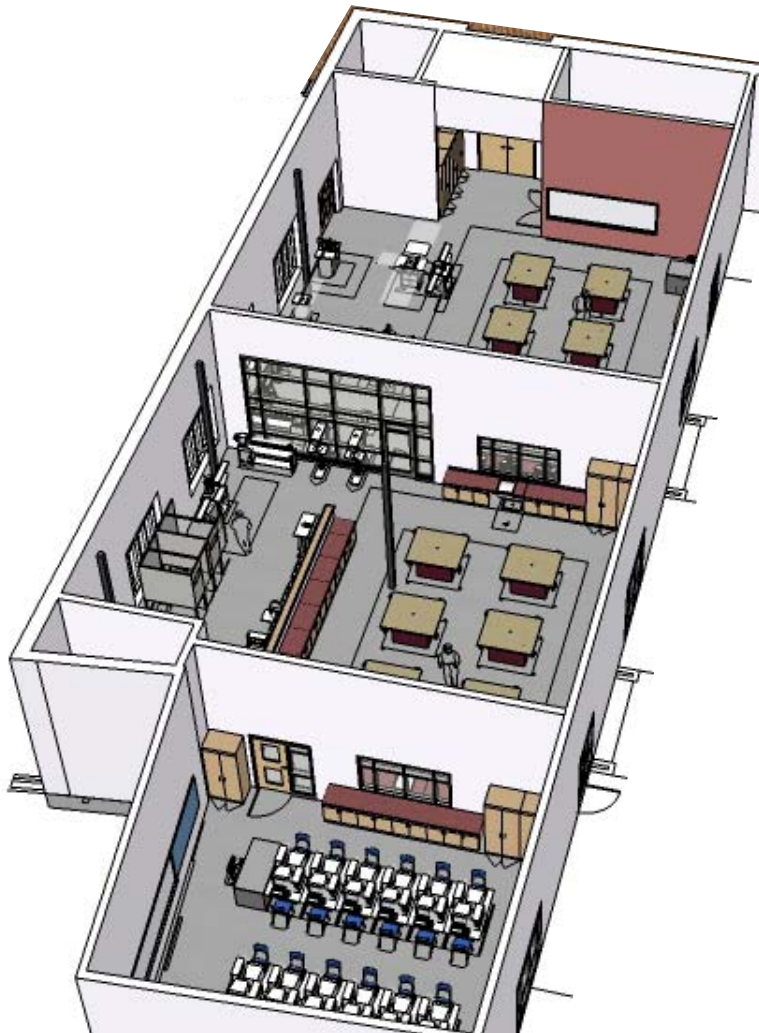


# High Performance/Flexible





# Small, Combined MS/HS

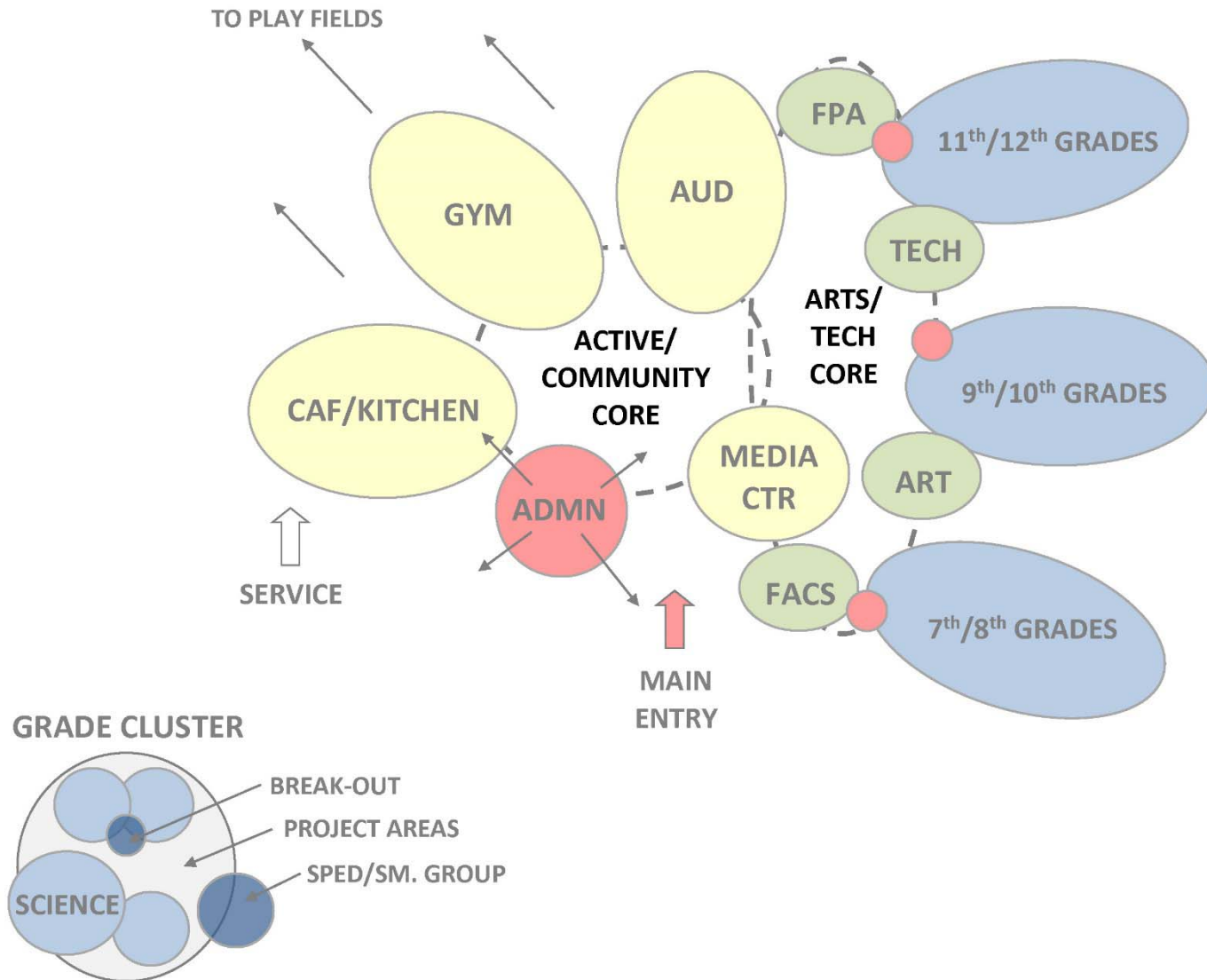


# Small, Combined MS/HS





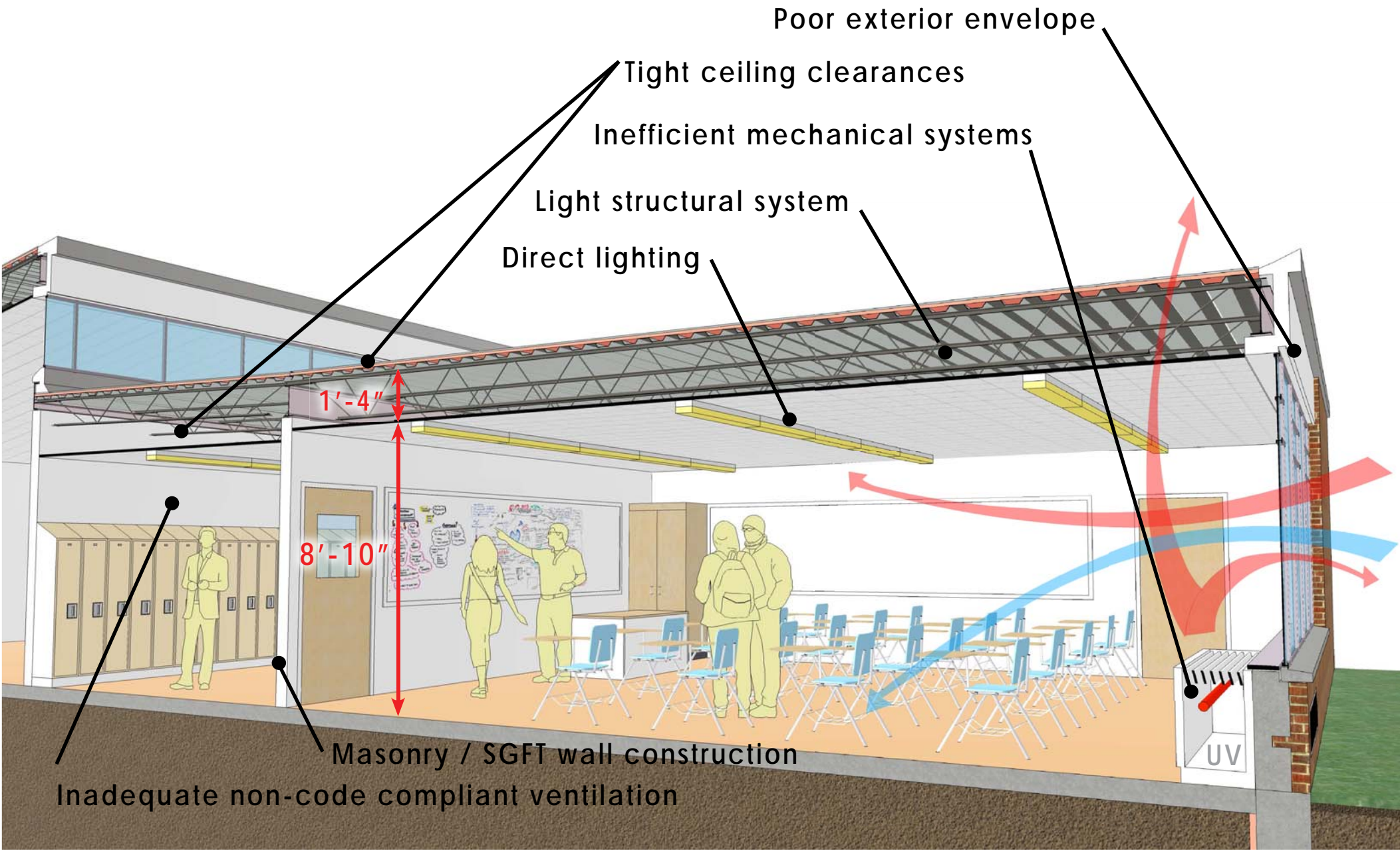
# Small, Combined MS/HS





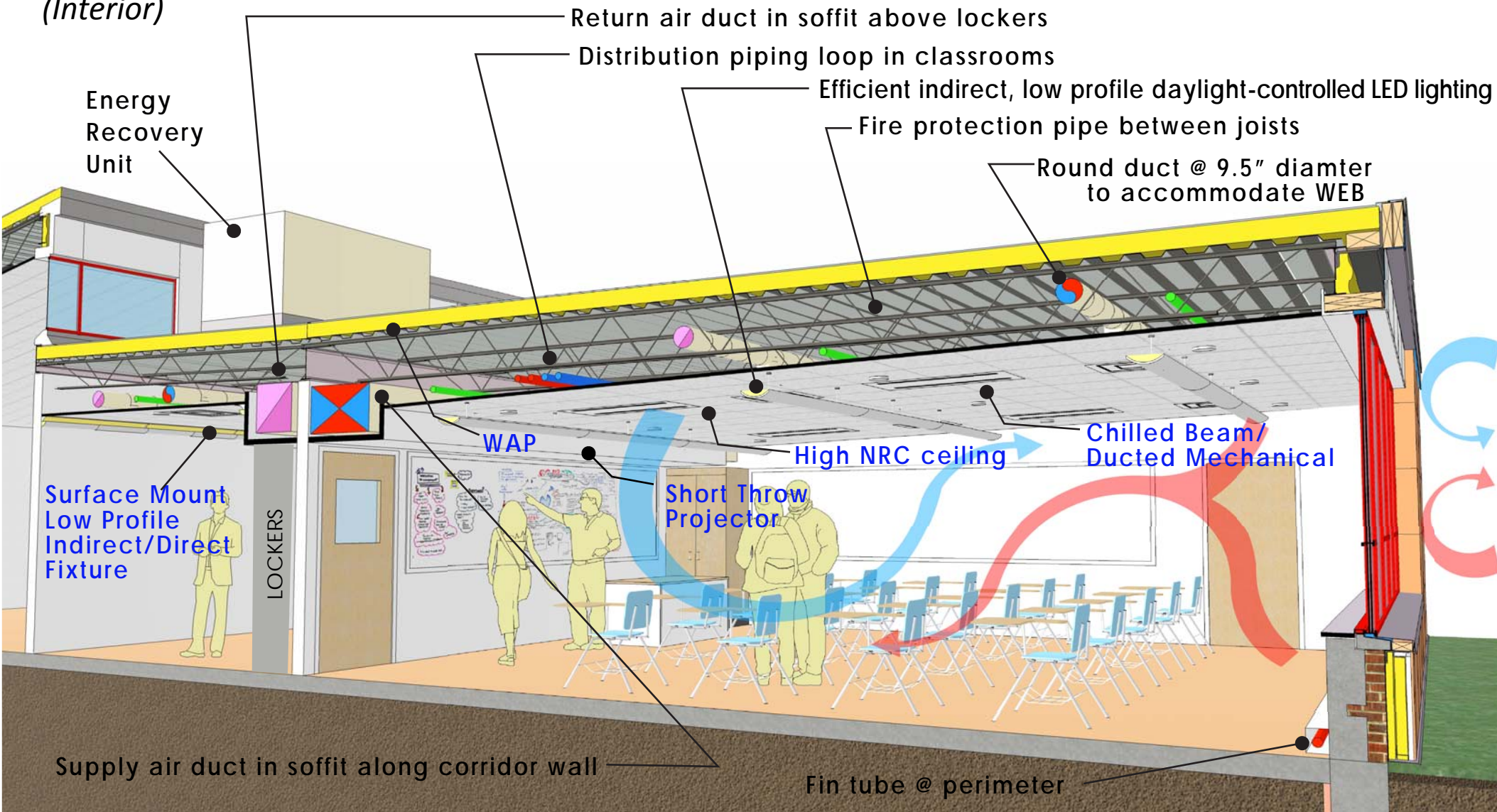


## RENOVATION CHALLENGES & SOLUTIONS





## RENOVATION CHALLENGES & SOLUTIONS (Interior)





RENOVATION CHALLENGES & SOLUTIONS  
(Exterior Envelope)

EXISTING ENVELOPE

ROOF *R-VALUE* = 25.0

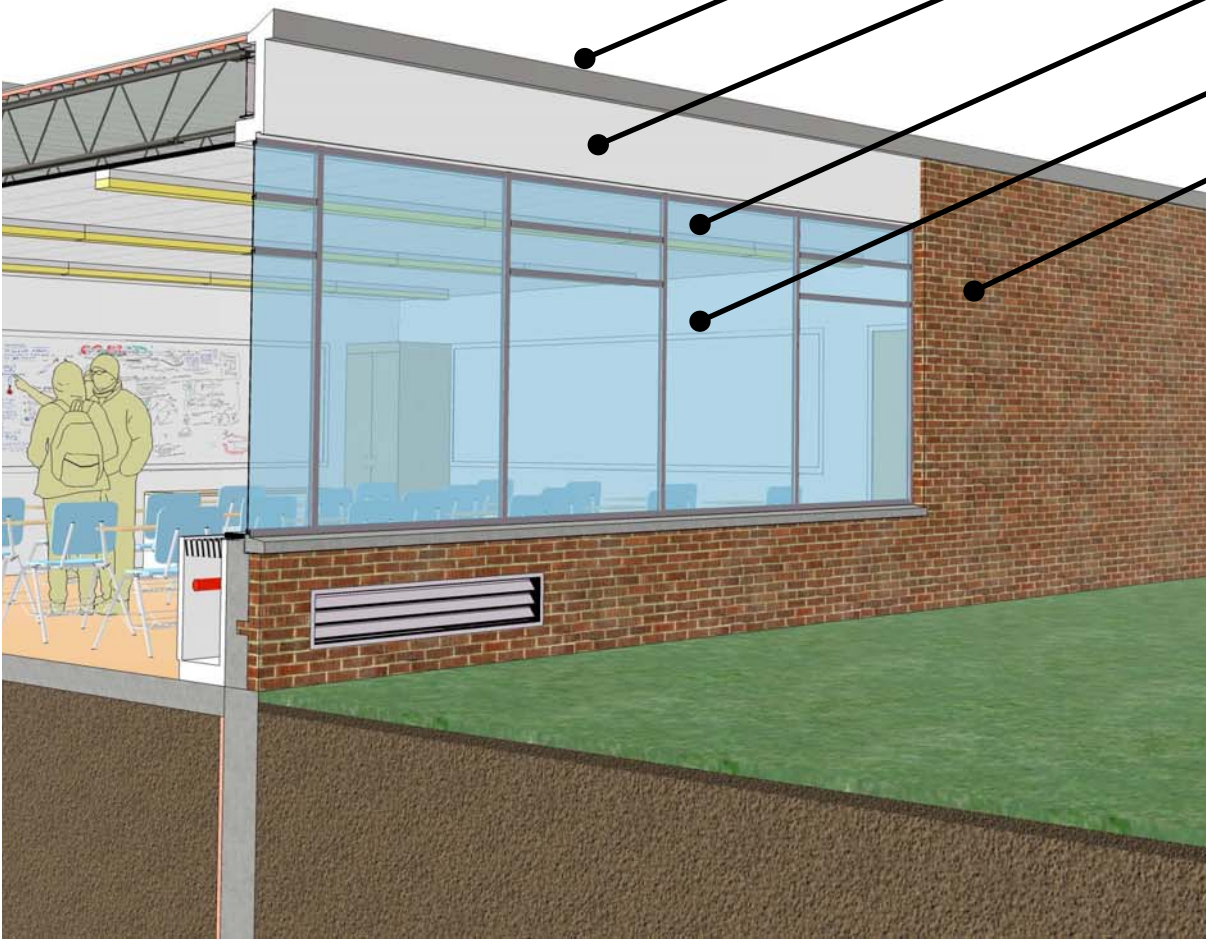
ROOF EDGE *R-VALUE* = 7.0

WINDOWS *R-VALUE* = 0.77

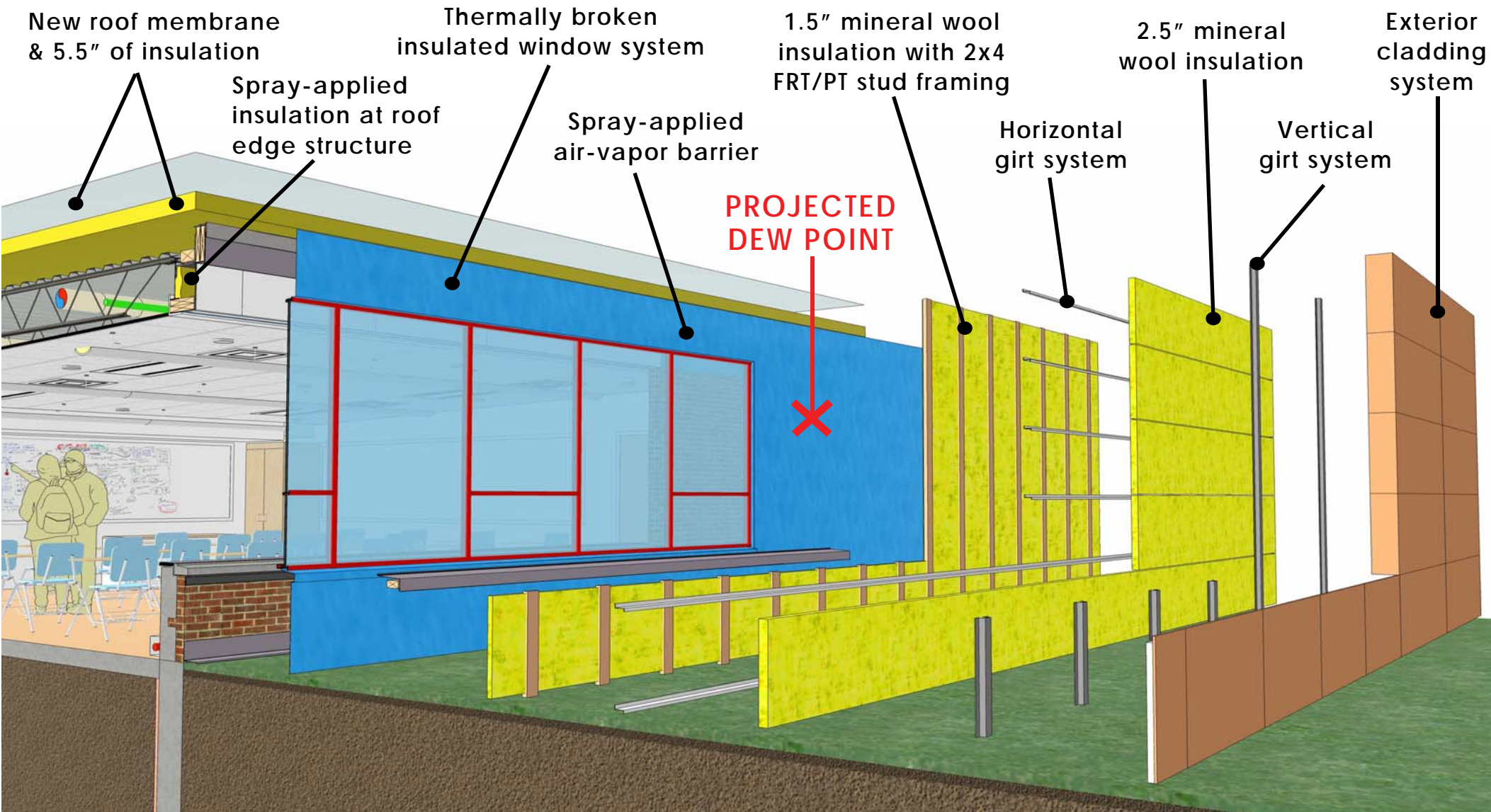
WINDOWS *SHGC* = 0.81

WALL *R-VALUE* = 2.4

Average Weighted  
R-Value of Total  
Wall System = 2.67



## RENOVATION CHALLENGES & SOLUTIONS (Exterior Envelope)





## RENOVATION CHALLENGES & SOLUTIONS (Exterior Envelope)



### Cladding Systems

**COST**  
(per square foot)

		2012	2015
	Terra Cotta	\$75	\$75
	Fiber Cement	\$60	\$65
	Phenolic Panel	\$55	\$55
	Composite Metal Panel	\$35	\$50
	Corrugated Metal Panel	\$27	\$45

RENOVATION CHALLENGES & SOLUTIONS  
(Exterior Envelope)

HIGH-PERFORMANCE ENVELOPE

ROOF *R-VALUE* = 30.0

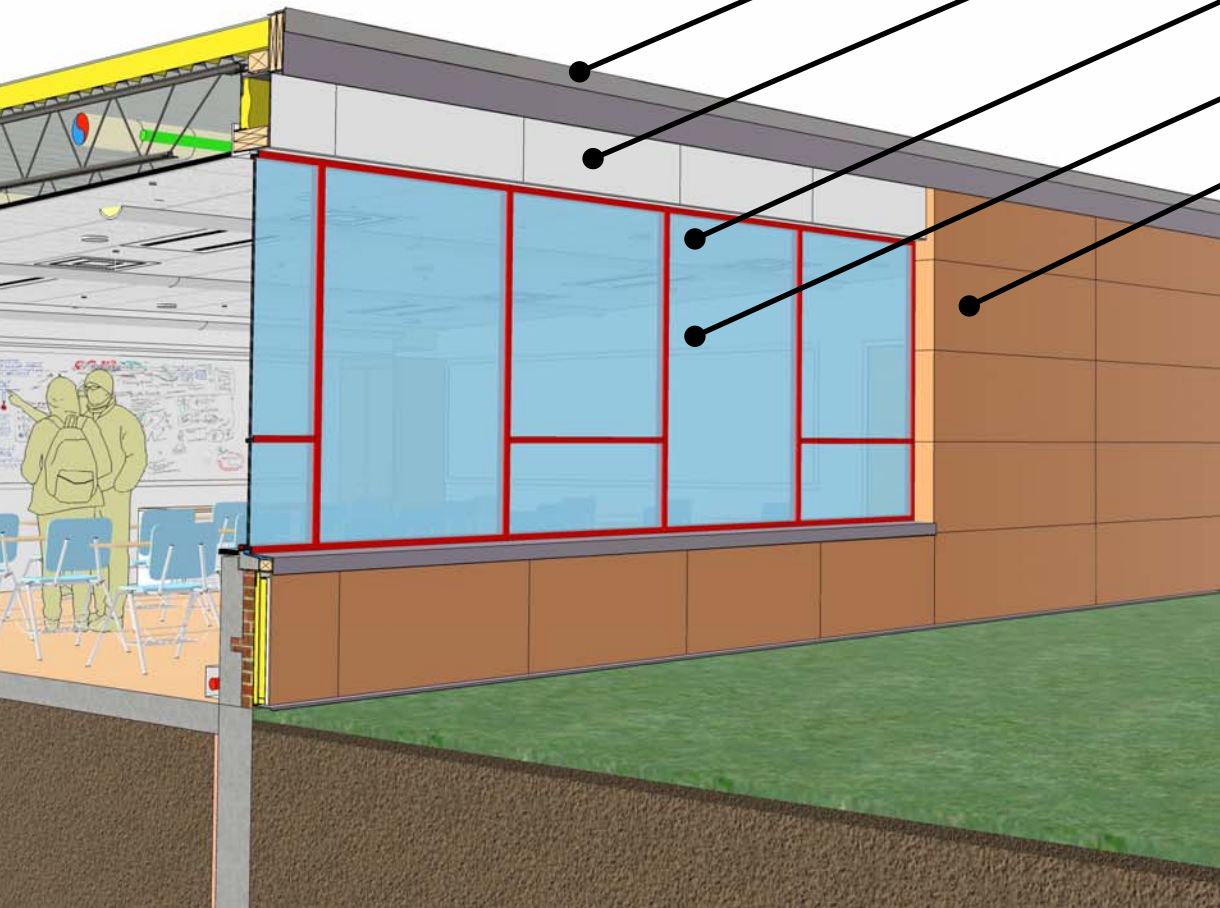
ROOF EDGE *R-VALUE* = 19.2

WINDOWS *R-VALUE* = 3.13

WINDOWS *SHGC* = 0.37

WALL *R-VALUE* = 19.45

Average Weighted  
R-Value of Total  
Wall System = 12.64





# Sustainable Design

*Essex Technical HS - Danver, MA*



## Sustainable Sites

- Brownfield Remediation
- Parking preferred for LEV's
- Stormwater Management
- Roof & Pavement Design
- Containing off-site spillover of site lighting
- Joint use of facilities - Adult Ed, 24/7 hrs, public use of building

## Water Efficiency

- Rainwater collection (60,000 gal) combined with water saving plumbing fixtures resulted in 40% reduction in water use.
- \* rainwater collection use for building flushing.

## Energy & Atmosphere

- Efficient heating & cooling equipment
- Increased building envelope insulation
- Building site orientation
- Energy efficient windows
- Provisions for roof & ground mounted PV Arrays
- Enhanced Commissioning
- Energy Management & Verification System to measure building performance

## Materials

- Construction waste management for recycling
- Recycled content materials
- Use of regional materials
- Certified wood products

## IEQ

- Low VOC emitting materials & finishes
- Separate spaces & ventilation for pollutants within the building
- Occupant controls for lighting
- Efficient lighting systems
- High efficient fixtures
- Indirect Fixtures
- Light Sensors
- Classroom use of natural light, light shelves & solar shading for thermal comfort & optimize vents



## Sustainable Design



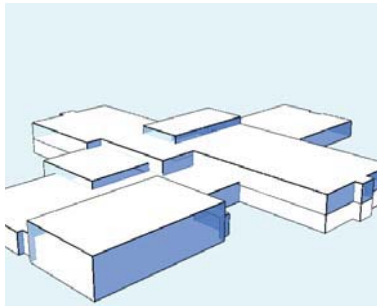
*John D. Runkle School, Brookline, MA*



## Zervas School

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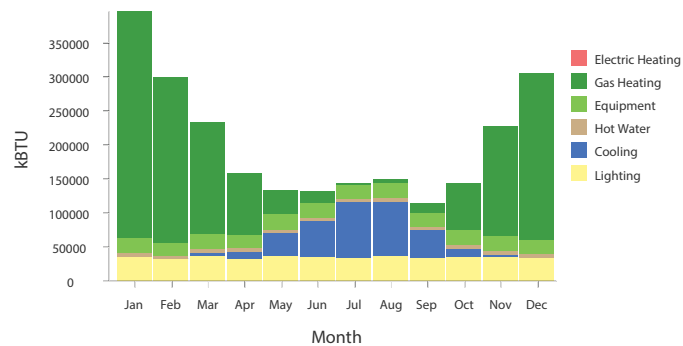
### SketchUp Model



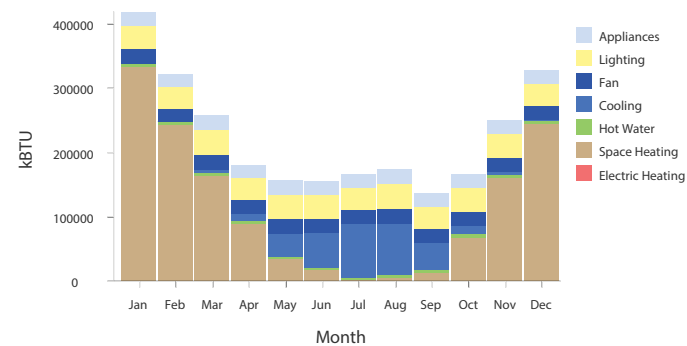
### Resource Use & Utility Cost

Annual Electricity	1,277,356 kBTU	\$67,384
Annual Heat	1,435,245 kBTU	\$17,496
Annual Water	641,790 gal	\$2,432
Feed in Tariff Electricity	0 kBTU	\$0
Feed in Tariff Heat	0 \$/MMBTU	\$0
Total Annual Utility Cost		\$87,313

### Energy Footprint (kBTU)



### Monthly Consumption (kBTU)



### Energy Use

2,712,600 kBTU  
37 kBTU/ft<sup>2</sup>

### CO<sub>2</sub> Emission

632,396 lbsCO<sub>2</sub>  
1,216 lbsCO<sub>2</sub>/person



## SCHOOL ENERGY PERFORMANCE

### II. Monitoring Performance with Energy Modelling--2013

Energy Measurements are provided as EUI (energy use intensity), which are Kbtu/SF /year

#### Building

#### Total Energy Use (EUI)

"Stretch Code" project

(designed to 20% better than MA Code 8th Ed.)

45

Zervas School--New Option

(per Energy Model)

37

Target for a "Net-Zero" School

25





## MT. GREYLOCK REGIONAL SCHOOL

### FEASIBILITY STUDY 2015

