

Saugus Middle/High School
Saugus, MA 11.14.16



LEED BD+C				LEED-Schools v4 Workplan				
Yes	?+	?(-)	No	Max.				
1	0	0	0	1	Integrative Process			Credit Resp. Due Date
1				1	IP	c1	Credit Integrative Process	d HMFH
5	5	2	3	15	Location and Transportation			
1			0	0	LT	c1	LEED for Neighborhood Development Location	NA
2				1	LT	c2	Sensitive land protection	d CSS
2				2	LT	c2	High priority site	d McPhail/CSS
2	2		3	5	LT	c4	Surrounding density and diverse uses (1 bonus pt if 4 pts threshold is met)	d HMFH/CSS
1	1	2		4	LT	c5	Access to quality transit	d HMFH/CSS
1	1			1	LT	c6	Bicycle facilities	d CSS
1				1	LT	c7	Reduced parking footprint	d HMFH/CSS
1	1			1	LT	c8	Green vehicles	c HMFH
2	6	4	0	12	Sustainable Sites			
Y				Req	SS	p1	Construction activity pollution prevention	d Samiotes
Y				Req	SS	p1	Environmental Site Assessment	d McPhail
1	1			1	SS	c1	Site assesment (Needs to be done at Conceptual Design Phase)	d HMFH/CSS
1	1	1		2	SS	c2	Site development - protect or restore habitat (1 bonus pt if 2 pts threshold is met)	d CSS
1	1			1	SS	c3	Open space (turf fields count as open, not vegetated; artificial turf does not count)	d CSS/HMFH
2	2	1		3	SS	c4	Rainwater Mgmt	d Samiotes
2		2		2	SS	c5	Heat island reduction	d CSS/HMFH
1				1	SS	c6	Light pollution reduction	d GGDe
1	1			1	SS	c7	Site master plan	NA
1				1	SS	c8	Joint use of facilities (Need written confirm. From school auth.)	d HMFH
6	2	3	1	12	Water Efficiency			
Y				Req	WE	p1	Outdoor water use reduction	d CSS
Y				Req	WE	p2	Indoor water use reduction	d GGDp
Y				Req	WE	p3	Building-level water metering	d GGDp
2				2	WE	c1	Outdoor water use reduction (1 bonus pt if 2 pts threshold is met)	d CSS
3	2	1	1	7	WE	c2	Indoor water use reduction	d GGDp
2		2		2	WE	c3	Cooling tower water use (current narrative doesn't include water tower)	d GGDm
1				1	WE	c4	Water metering	d GGDp

Charrette Notes

Not Applicable - not developing in a LEED certified neighborhood
 Opt 1 - previous land development
 Likely a brownfield (oil tanks/arsenic)

Opt 1: Confirm res/non-res densities w/in 1/4 mi (1pt-2pts); Confirm prox to diverse uses w/in 1/2 mi walk dist (1pt-2pts)

Opt 1: 3 bus rts below min trips; Opt 2 Pedestrian Access 1 pt 50%, 2 pts 60%, 4 pts 70%+ ped. access from all res. hoods
 Trails, lanes, or max 25 mph roads - connect to rapid transit or 10 diverse uses
 40% reduction required; 2/MS CR, 4/HS CR, plus Gym/Auditorium which ever is higher; planning for 300 spaces
 5% green car spaces (see printout),+Opt 1: 2% w/ charging (infrastructure req per Stretch Code); or Opt 2 Green Buses w/in 7 yrs

Phase I assessment or Phase II assessment per ASTM E1527-05
 Doc: typology, hydrology, climate, vegetation, soils, human use, health effects; **Pull CSS & Samiotes info from PSR & summarize**

Opt 1: restore 30% of landscape (1pt-2pts); or Opt 2: \$0.40/SF to a land trust/conservation org. = \$418,176 (1pt only)

30% of site is 313,632 SF- 30% open w/ 25% of that vegetated = 78,408 SF

2 pts 95th % storm, volume?; 3pts 98th % storm, volume?
 1 pt for 75% covered parking OR 2 pts for non-roof/roof heat island reductions (10 yrs growth)

No future development planned?; Need to achieve 4 of 6 LT & SS credits to qualify for this credit
 Share 3 spaces w/ public (Aud., Gym, Café., 1+ Classrooms, playing fields, parking); toilets avail after hrs.

Now prerequisite in v4
 More requirements in v4
 New prerequisite in v4; commit to share w/ USGBC for 5 years
 2 pts, no irrigation except for 2 yr est.; discretionary - athlet. Fields, playgrounds, & food gardens; 1 pt for 50% reduct.
 2 pts 30% efficient; 1 more pt @ 35% eff; 1 pt for kit. equip. (Tbl 3); 1 pt added w/ ea. 5% eff. Improv. (3 pts); 1 pt for lab
 Need water tested; and if based on design @ Devotion
 Submeter water use for 2 subsystems (indoor plumb fixt, dom hot H2O, irrigation, large boiler, reclaimed H2O, process H2O)

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13	7	2	9

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Y			
Y			
Y			
Y			
6			
6	1		9
	1		
	2		
1	1	1	
		1	
	2		
Yes	?+	?(-)	No
2	2	6	3

31 Energy & Atmosphere

Req	EA	p1	Fundamental commissioning and verification	c	Cx Agent	Start @ DD
Req	EA	p2	Minimum energy performance	d	GGDe	
Req	EA	p3	Building-Level energy metering	d	GGDe	
Req	EA	p4	Fundamental refrigerant management	d	GGDm	
6	EA	c1	Enhanced commissioning	d	Cx Agent	Start @ DD
16	EA	c2	Optimized energy performance (1 bonus pt if 8 pts threshold is met)	d	GGDe	
1	EA	c3	Advanced energy metering	c	GGDe	
2	EA	c4	Demand response	d	GGDm	
3	EA	c5	Renewable energy production (1 bonus pt if 2 pts threshold is met)	d	GGDe	
1	EA	c6	Enhanced refrigerant management	d	GGDm	
2	EA	c7	Green power and carbon offsets	c	HMFH	

16% improvement; PV/renewables increase eff to 18%?: 20% Improved Energy Perf for regional point
Cost?
Potential to move into Yes; requires agreement w/ Utility; 1 pt possible if no DR program at Utility
1 pt for 1%; 2 pts for 5%; 3 pts for 10% cost reduction; solar overlay dist - can use community based solar; 10 yr PPA's poss.
May be achievable w/ chilled water system; verify if kitchen equip meets req.; **Based on current HVAC design less likely to get pt.**
Does the town or school authority already have a program to purchase Renewable Energy Credits?

Y			
Y			
		3	2
1		1	
	1		1
		2	
1	1		
Yes	?+	?(-)	No
10	1	5	0

13 Materials & Resources

Req	MR	p1	Storage and collection of recycleables	d	HMFH	
Req	MR	p2	Construction and demolition waste management planning	c	HMFH/CM	
5	MR	c1	Building life-cycle impact reduction (1 bonus pt if 2 pts threshold is met)	d	HMFH	
2	MR	c2	Building product disclosure and optimization - EPD	d	HMFH/CM	
2	MR	c3	Building product disclosure and optimization - sourcing of raw materials	d	HMFH/CM	
2	MR	c4	Building product disclosure and optimization - material ingredients	d	HMFH/CM	
2	MR	c5	Construction and demolition waste management	c	HMFH/CM	

May require hiring a LCA specialist
1 pt for 20 full-value products; 2 pts for multi-attribute calculation based on cost and weight of products installed
1 pt for Leadership Extraction Practices: 25% by cost; enclosure & structure count no more than 30% of the 25%
1 pt for HPD or C2C (reporting). Spec and tracking work; manufacturers not quite there; 1 pt for calc. by cost - optimization
1 pt for 50% & 3 waste streams; 2 pts for 75% & 4 waste streams; PMA to verify

Y			
Y			
Y			
2			
2		1	
1			
2			
	1		
2			
		3	
		1	
1			

16 Indoor Environmental Quality Credit Resp.

Req	IEQ	p1	Minimum IAQ performance	d	GGDm	
Req	IEQ	p2	Environmental tobacco smoke control	d	HMFH	
Req	IEQ	p3	Minimum acoustical performance	d	ACOUSTICS	
2	IEQ	c1	Enhanced indoor air quality strategies	d	GGDm	
3	IEQ	c2	Low-emitting materials	d	HMFH	
1	IEQ	c3	Construction IAQ Management Plan	c	HMFH/CM	
2	IEQ	c4	Indoor air quality assessment		HMFH/CM	
1	IEQ	c5	Thermal Comfort	d	GGDm - HMFH	
2	IEQ	c6	Interior Lighting	d	GGDe	
3	IEQ	c7	Daylight	d	HMFH	
1	IEQ	c8	Quality Views	d	HMFH	
1	IEQ	c9	Acoustic Performance	d	ACOUSTICS	

Need to run background acoustical tests to est. baseline
CO2 sensors allow for opt 2 for an additional point
1 pt for 3 categories; 2 pts for 5 categories; 3 pts for 6 categories out of 7

1 pt. for Opt 1-flush out; 2 pts if IAQ testing is done post-construction pre-occ.; energy cost vs testing cost/timing; **Flush-out too?**
Therm. control for 50% of indiv-occ. spaces and 100% for multi-occ. spaces
1 pt for controls; 1 pt for quality (material reflectance values, CRI, etc.)

Difficult to meet the 75% threshold of areas to provide stipulated type of view.
Easier to achieve w/o direct pass-through doors; LEED worksheet effort high; Choice of HVAC system impacts mitigation

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Yes	?+	?(-)	No
1	3	2	0

Max.	
6	Innovation & Design Process

1	1		
1	1		
		1	
		1	
1	1		
1			

ID	Category	Description	Requirement	Prerequisite
1	ID	<i>Innovation in Design : Green Maintenance</i>	d	HMFH
1	ID	<i>Innovation in Design : Composting Program</i>	d	HMFH
1	ID	<i>Innovation in Design: Sustainable Building Elements Curriculum</i>	d	HMFH
1	ID	Achieve Pilot Credits:		HMFH
1	ID	Exemplary Performance: Reduced Parking		HMFH
1	ID	LEED™ Accredited Professional	d	HMFH

Potential innovation credit: managing plug loads/school competition/submetering Rocky Hill Farm partnership?
Potential innovation credit: snowmelt system at building entry
1-3 pts.
1-2 pts; typ. double the credit requirements

Yes	?+	?(-)	No
1	2	2	1

Max.	
4	Regional Priority Credits

		1	
1	1		
		1	
			1
1	1		
1			

RC	Category	Description	Requirement	Prerequisite
1	RC	Regional Priority Credit: Renewable energy production	d	GGDe
1	RC	Regional Priority Credit: Optimized energy performance	d	GGDe
1	RC	Regional Priority Credit: Surrounding Density & Diverse Uses	d	CSS
1	RC	Regional Priority Credit: Building life-cycle impact reduction	d	NA
1	RC	Regional Priority Credit: Site Development - Protect or Restore Habitat	d	GGDp
1	RC	Regional Priority Credit: Outdoor Water Use Reduction	d	GGDe

Threshold is 2 points w/ 5% renewable energy production offsetting cost
Threshold is 8 points @ 20% improved energy performance
Threshold is 4 points
Threshold is 2 points; need LCA for building
Threshold is 2 points
Threshold is 2 points

41	28	26	17
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Project Totals (pre-certification estimates)

4 more moved to 'Yes'. 69 total points in 'Yes' and 'Maybe Yes'. 2 more than at start. Need 14 more in 'Yes' for safety margin

LEED v4

110	
40-49	Certified
55+ Target	Silver
65+ Target	Gold
80-100	Platinum

Notes:
Notes added since charrette - red & bold