



## FCPS Rock Creek School

Replacement and Final Site Selection

### Design Meeting #11 – LEED Kick-off Charette - Notes

**Meeting Date:** 01 March 2018 | 9:30 AM | **Meeting Location:** FCPS Central Office Building, Board Room

**Current Design Phase:** Schematic Design

#### Attendees:

Name	Company	Present
<b>Planning Team</b>		
Mary Malone	Rock Creek School, Principal	X
Meghan Mackay Little	Rock Creek School, Assistant Principal	
Rick McTighe	Rock Creek School, Lead Custodian	
Rachel Ablondi	Parent of Rock Creek Student	
Sara Scovitch	Frederick County Developmental Center, OT/PT	
Amy Boehman-Pollitt	FCPS ACT Team Leader	
Steve Buckley	Frederick County Health Dept.	
Stacey Hiltner	Walkersville Middle School, Principal	
Paul Lebo	FCPS, Chief Operating Officer	
Michelle Concepcion	FCPS Special Education Programs	X (Middle only)
Tom Saunders	FCPS, Middle School Instructional Director	
Stephen Raff	FCPS, Elementary Instructional Director	X
Brian Staiger	FCPS, Construction Management	X
Roger Fritz	FCPS, Construction Management, Director	X
Tom Mulligan	FCPS, Construction Management	X
Beth Pasierb	FCPS, Facilities Planning Supervisor	X
Matt Evans	Dustin Construction	X
Robert Walsh	Co-Chair, Special Education Advisory Committee	
Gloria Mikolajczyk	MSDE	
Patrick Little	FCPS, Maintenance & Operations	
Adam Miller	FCPS, Maintenance & Operations	
<b>Design Team</b>		
Avneet Gujral	Sustainable Design Consulting	X
Danielle Waters	Sustainable Design Consulting	X
Jim Barto	Adtek Engineers	X
Jeff Alban	Adtek Engineers	X
Greg Drenning	Alban Engineering	X
Kori Purdum Matheis	Proffitt & Associates Architects	X

**Meeting Discussion - General:**

- 11.0 A brief overview of LEED (Leadership in Energy and Environmental Design) was provided. This is a sustainable design rating system that allows project teams to gain points for various credits. The State of Maryland requires publicly-funded projects to achieve Silver certification. The Board of Ed also strongly encourages sustainability. This project will pursue certification at the Silver level.
- 11.1 In addition to overall sustainability and energy efficiency, Indoor air quality credits are critical to pursue here due to health issues of students.
- 11.2 The Town of Walkersville has asked about water conservation, especially in terms of the pool. Will look into methods for minimizing need for fill water, etc.
- 11.3 SDC is already working with FCPS on some overall school system sustainable policies as part of other project certifications that may be able to be applied here, such as green cleaning and integrated pest management. These could be used for Innovation credits.
- 11.4 Discussion of LEED Boundary – SDC prefers to draw a line at the back of the Middle School and keep the Middle School site improvements separate – this will probably be most beneficial in terms of site credit calculations and compliance – will re-evaluate as we get the site plan finalized.
- 11.5 SDC presented an overview of some of the changes between the prior 2009 (v30 rating system and current v4 rating system. This project will be the first one completed by FCPS using LEED v4. There have been some changes to prerequisites, for instance the Fundamental Commissioning Prerequisite requires a DD phase review by the Commissioning Agent (CxA), which means we need to get a CxA on board soon. The new rating system also added multiple point thresholds within some credits.

**Meeting Discussion – First Draft Scorecard Review** (Note: Abbreviations such as LTc2 as noted below stand for the credit category and the sequential number within the category, so LTc2 is Location & Transportation Credit 2, which corresponds to notations on the Scorecard):

- 11.6 Move the Integrated Process credit to a “Yes” – Alban to perform shoebox modeling for the building prior to the end of the SD phase.
- 11.7 LTc2 | Sensitive Land Protection – Verify that the fact that we are in a wellhead protection area does not impact our ability to achieve this credit. Beth asked whether there might be potential for an innovation credit due to design measures aimed to protect the water supply – this may or may not be accepted by the reviewers, but SDC recommends that we think about drafting something to include in our design phase submission, then have a back-up credit in mind to go to if they deny it.
- 11.8 LTc3 | High Priority Site – Beth has some environmental site assessment information that was provided to the State – she will send it to us for use, then we can investigate the remainder.
- 11.9 LTc4 | Surrounding Density and Diverse Uses – Proffitt & Associates to review and comment on SDC’s initial density and diverse use completed during the site selection process for this site – since the aerial

photo used in the graphic was taken, the library has moved, houses constructed behind the school, etc., which means some re-calculation may be required.

- 11.10 LTc5 | Access to Quality Transit – SDC needs to look the at trips per day requirement for buses. Although this site is served by public transportation, buses may not run regularly enough to provide enough trips per day to qualify. We may gain a few points using an alternative approach, but it is not highly likely.
- 11.11 LTc6 | Bicycle Facilities – The credit requirements have been made a bit more stringent to require a bicycle network from the site. Route 194 is designated by SHA as a bicycle route (comes off of 15), to comply we will also need shower facilities within the building – should be able to use the ones in the Maintenance office area.
- 11.12 LTc7 | Reduced Parking Footprint - SDC to calculate parking ITE – FCPS needs to verify actual number of spaces desired. This is one where we need to determine what LEED boundary is most advantageous.
- 11.13 LTc8 | Green Vehicles – Option 1 – Green Vehicles and Charging Stations is most likely, need to see how many would be required. Option 2 – School Vehicles, not feasible for FCPS at this time, but SDC would like to gather data from FCPS about buses and other vehicles just for information and potential use on future projects. Beth will provide information.
- 11.14 SSp2 | Environmental Site Assessment – We need to complete a Level 1 Site Assessment soon. Note that if contaminants are found, we need to remediate to EPA RESIDENTIAL standards.
- 11.15 SSc1 | Site Assessment – SDC has this as a Yes, Adtek and Proffitt need to determine how much additional work this is to document and verify it is okay to pursue.
- 11.16 SSc2 and 3 | Site Development and Open Space – As the site design is completed, we need to review developed versus non-developed areas and how much we can vegetate, etc.
- 11.17 SSc4 | Rainwater Management – Beth asked if we could try to use SWM areas as teaching areas as well? This should be possible and will be further explored.
- 11.18 SSc5 | Heat Island Reduction – We need to work on some basic calculations to see if we can get enough highly reflective compliant hardscape areas without requiring concrete paving in vehicle areas.
- 11.19 SSc6 | Light Pollution Reduction – We will try for this one, Alban is to verify which category the site falls into for lighting levels.
- 11.20 SSc8 | Joint Use of Facilities - move to Yes.
- 11.21 WEc3 | Cooling Tower Water Use – We will leave this as a maybe, need to determine whether or not we will have a cooling tower, then can determine strategies.
- 11.22 WEc4 | Water Metering - We should be able to move this to Yes, may want to submeter the Food Service & Pool areas anyway just to help track usage internally.

- 11.23 EAc1 | Enhanced Commissioning - FCPS would like to do the typical basic enhanced commissioning, but also would like to get an estimate for envelope commissioning and then determine whether or not to proceed with that.
- 11.24 EAc2 | Energy Performance - Alban is looking into some strategies such as air cleaning that can help with efficiencies, the only potential hurdle with that system is that there is currently only one manufacturer. We will need to review further with FCPS and procurement whether this will be acceptable for this particular project due to the students' sensitivities. For 6 points, we need to achieve an approx. 16% energy savings, this seems like a reasonable threshold for now.
- 11.25 EAc3 | Advanced Energy Metering – Keep it as a high maybe, FCPS to review internally to determine whether they have a use for submetering. Costs could be anywhere from \$30,000-\$90,000 depending on the submeter and general electrical design. Costs can be reduced if the decision to submeter is made early on and the system designed to include certain efficiencies with that in mind.
- 11.26 EAc4 | Demand Response – We will move this to a No, FCPS does not want to risk fluctuation in HVAC functions, etc. if use is ramped down due to the sensitivity of student occupants.
- 11.27 EAc6 | Refrigerant Management – Keep as a high Maybe. Per Jeff Alban, this will depend on what type of HVAC system is selected.
- 11.28 MRc1 | Building Life-cycle – PAA to review how difficult it would be to achieve this credit – SDC to pull samples from some other projects for reference.
- 11.29 EQp2 | Environmental Tobacco Smoke Control – This now requires “No Smoking” signage at all building entrances.
- 11.30 EQc1 | Enhanced Indoor Air Quality Strategies – There are multiple options for compliance, SDC will help evaluate which makes the most sense for this project.
- 11.31 EQc2 | Low-Emitting Materials – SDC has assumed 1 Yes, 1 high maybe and 1 No, materials compliant with the new requirements are difficult to find, especially for ceilings, walls, and insulation.
- 11.32 EQc3 | Construction Indoor Air Quality Management Plan – This should be achievable. It prohibits smoking on-site or in the building during construction.
- 11.33 EQc4 | Indoor Air Quality Assessment – Compliance options include flush-out or air quality testing. We will need to determine which approach is best depending upon the final schedule – flush-out practicality depends upon the time of year. Testing only costs about \$1,000 per zone, however often an area needs to be tested multiple time before it passes, which means those costs can add up.
- 11.34 EQc9 | Acoustic Performance – This is also given a high Maybe – it is sometimes difficult to achieve, although the goal is to pursue it with the help of the acoustical design consultant.

- 11.35 In terms of Innovation Credits, we can mix and match Innovation, Pilot, and Exemplary Performance. Up to 4 points each can come from Innovation or Pilot credits and up to 2 points can come from Exemplary Performance (as spelled out in the reference guide, usually for doubling or achieving the next incremental percentage in the credit thresholds). We could pursue the Exterior Noise Reduction Pilot credit, that would fit well with the sensitive acoustical needs of some students. SDC will provide some information about the School as a Teaching Tool Innovation credit. It now requires teachers to receive training regarding sustainable practices. This information is attached.
- 11.36 Up to four additional points can be earned by achieving the Regional Priority points for the site’s zip code. The credits that apply to our project are indicated in green text on the attached scorecard. If we achieve one of these, we get not only the points listed for that specific credit, but one “bonus” Regional Priority point is added as well.
- 11.37 Next Steps – SDC will assign some additional detailed assignments to individual team members for review. Team members will provide feedback to PAA/SDC regarding their assigned credits within approximately 3 weeks, or around March 22.

#### **Two Week Projection**

- a. Develop schematic floor plan from bubble diagrams.
- b. Intermediate review meetings to be held to discuss the Aquatics and Food Service areas.

#### **Public Comment – No Public Comment was made.**

The next meeting is scheduled for **15 March 2018 at 9:30am at Rock Creek School. We will review a schematic floor plan and discuss structural systems.**

This summarizes the topics discussed at the meeting. Please review and address any comments and corrections to the Architect within 5 days of receipt of these minutes.

*Kori Purdum Matheis, RA, LEED AP BD+C*

Distribution via email – all attendees and Design Committee Members

#### **Attachments:**

- LEED v4 BD+C: Schools Project Scorecard, dated March 1, 2018 and updated to reflect meeting discussion.
- LEED v4 BD+C: Schools - Innovation: School as a Teaching Tool credit requirements, dated March 12, 2018

# LEED v4 BD+C: Schools

Project Scorecard

Project Information Form				
Y	?Y	?N	N	
Y				PIF1 Project Information
1				<b>Integrative Process</b> Possible Points 1
Y	?Y	?N	N	
1				IPc1 Integrative Process 1
4	4	6	3	<b>Location and Transportation</b> Possible Points 15
Y	?Y	?N	N	
				LTc1 LEED for Neighborhood Development Location 15
2				LTc2 Sensitive Land Protection +1 [RP] 1
		2		LTc3 High Priority Site 2
2			3	LTc4 Surrounding Density and Diverse Uses 5
		4		LTc5 Access to Quality Transit 4
	1			LTc6 Bicycle Facilities 1
	2			LTc7 Reduced Parking Footprint +1 [RP] 1
	1			LTc8 Green Vehicles 1
2	6	4	1	<b>Sustainable Sites</b> Possible Points 12
Y	?Y	?N	N	
Y				SSp1 Construction Activity Pollution Prevention
Y				SSp2 Environmental Site Assessment
1				SSc1 Site Assessment 1
		2		SSc2 Site Development: Protect or Restore Habitat [RP] 2
	1			SSc3 Open Space 1
	2	2		SSc4 Rainwater Management +1 [RP] 3
	2			SSc5 Heat Island Reduction 2
	1			SSc6 Light Pollution Reduction 1
			1	SSc7 Site Master Plan 1
1				SSc8 Joint Use of Facilities 1
3	2	2	5	<b>Water Efficiency</b> Possible Points 12
Y	?Y	?N	N	
Y				WEp1 Outdoor Water Use Reduction
Y				WEp2 Indoor Water Use Reduction
Y				WEp3 Building-Level Water Metering
2				WEc1 Outdoor Water Use Reduction 2
	1	1	5	WEc2 Indoor Water Use Reduction [RP threshold 5 points] [RP] 7
	1	1		WEc3 Cooling Tower Water Use 2
1				WEc4 Water Metering 1
9	7	4	11	<b>Energy and Atmosphere</b> Possible Points 31
Y	?Y	?N	N	
Y				EAp1 Fundamental Commissioning and Verification
Y				EAp2 Minimum Energy Performance
Y				EAp3 Building-Level Energy Metering
Y				EAp4 Fundamental Refrigerant Management

# Rock Creek School

Proffitt & Assoc.  
March 1, 2018



Energy & Atmosphere, cont.				
Y	?Y	?N	N	
3	1	2		EAc1 Enhanced Commissioning 6
6	2	2	6	EAc2 Optimize Energy Performance 16
	1			EAc3 Advanced Energy Metering 1
		2		EAc4 Demand Response 2
			3	EAc5 Renewable Energy Production 3
	1			EAc6 Enhanced Refrigerant Management 1
	2			EAc7 Green Power and Carbon Offsets 2
6		3	5	<b>Materials and Resources</b> Possible Points 13
Y	?Y	?N	N	
Y				MRp1 Storage & Collection of Recyclables
Y				MRp2 Construction and Demolition Waste Management Planning
		3	2	MRc1 Building Life-Cycle Impact Reduction 5
	1		1	MRc2 BPDO: Environmental Product Declarations 2
	2		1	MRc3 BPDO: Sourcing of Raw Materials +1 [RP] 2
	1		1	MRc4 BPDO: Material Ingredients 2
2				MRc5 Construction and Demolition Waste Management 2
6	7	2	1	<b>Indoor Environmental Quality</b> Possible Points 16
Y	?Y	?N	N	
Y				EQp1 Minimum IAQ Performance
Y				EQp2 Environmental Tobacco Smoke Control
Y				EQp3 Minimum Acoustic Performance
	1	1		EQc1 Enhanced Indoor Air Quality Strategies 2
	1	1	1	EQc2 Low-Emitting Materials 3
	1			EQc3 Construction Indoor Air Quality Management Plan 1
	1	1		EQc4 Indoor Air Quality Assessment 2
	1			EQc5 Thermal Comfort 1
	1	1		EQc6 Interior Lighting 2
	2	1		EQc7 Daylight 3
	1			EQc8 Quality Views 1
	1			EQc9 Acoustic Performance 1
4	2			<b>Innovation</b> Possible Points 6
Y	?Y	?N	N	
	1			INc1.1 Pilot - Exterior Noise Reduction 1
	1			INc1.2 Purchasing: Lamps 1
	1			INc1.3 Occupant Comfort Survey 1
		1		INc1.4 LEED O+M Starter Kit 1
	1			INc1.5 The School as a Teaching Tool 1
	1			INc2 LEED Accredited Professional 1
35	28	21	26	<b>Total</b> Possible Points 110

Certified 40 to 49 points Silver 50 to 59 points Gold 60 to 79 points Platinum 80 to 110 points

[RP] - Regional Priority credit (adds 1 point)

## LEED BD+C: Schools | v4

### Innovation: School as A Teaching Tool

March 12, 2018

#### Intent

Integrate the sustainable features of a school facility with the school's educational mission.

#### Requirements

##### **Establishment**

Provide school staff with the knowledge to identify what supports or impedes healthy, resource-efficient and environmentally sustainable learning spaces; and the foundation for imparting that knowledge to their students. Additionally, educate students on the connections between the built and natural environment; and the knowledge, skills, and behaviors to recognize and apply that learning in their own school facility.

##### **Performance**

Provide required documentation of teacher training **and** educating students from the below options.

#### ***Training Teachers***

##### **Option 1.**

Provide access to the Green Classroom Professional Certificate program to all full-time school staff and ensure at least 75% pass the exam. The education portion of the Green Classroom Professional (GCP) may be delivered through the self-paced online modules, or by an in-person workshop led by a member of the design team, local USGBC community or school leader, utilizing GCP training materials found at <http://www.usgbc.org/classroom/gcp>. The assessment portion of the GCP should be completed via the online exam.

##### **Documentation guidance:**

- Submit a roster of full-time school staff.
- Provide documentation that a policy has been adopted to ensure that, for all future years of the school's certification, at least 75% of school staff have successfully passed the GCP exam.

**Option 2.**

Provide at least 75% of full-time school staff with training on the primary elements of green schools, including knowledge about what supports or impedes healthy, resource-efficient and environmentally sustainable learning spaces. The training should be designed by a professional with working knowledge of green building principles and the strategies that were incorporated into the school's LEED project. Administer a written assessment of learning at the conclusion of training with every training attendee.

After completing the training, participants should be able to identify the ways in which classroom professionals can:

- Support the health of school occupants, including teachers, students and staff
- Provide the best physical environment possible for student academic performance
- Decrease absenteeism due to environmental factors
- Support environmentally responsible practices by saving energy, saving water and improving indoor environmental quality
- Foster an appreciation among future generations for environmentally sustainable practices
- Become part of the green schools and green building communities
- Apply for elective continuing education credits to maintain a teaching credential

**Documentation guidance:**

- Submit a description of the training that includes syllabus
- A copy of materials (digital or print) provided to school staff including the assessment
- Credentials of the instructor(s)
- A roster of full-time school staff, including the individuals who completed training and those who passed the assessment.
- Provide documentation that a policy has been adopted to ensure that, for all future years of the school's certification, at least 75% of school staff complete training and pass the assessment.

**AND*****Educating Students:*****Option 1.**

Provide annually a subscription to the K-12 Learning Lab ([www.learninglab.usgbc.org](http://www.learninglab.usgbc.org)) for at least 25% of all full-time educators at the school, ensuring that at least one educator per grade has access to the annual subscription. Within 10 months of LEED certification and for every subsequent year of certification, provide 10 or more hours of classroom instruction per year per full-time student from the LEED Academy section of Learning Lab, which contains curricular materials related to the built environment.

**Documentation guidance:**

- Submit a simple implementation plan that includes the strategy for meeting the 10 hours-per-student requirements
- A roster of full-time school staff, including individuals for whom a subscription to Learning Lab has been provided



- Written approval from the school's administrative body, including documentation that a policy has been adopted to ensure that, for all future years of the school's certification, at least 25% of teaching staff have access to the Learning Lab subscription and are delivering at least 10 hours of instruction per student per year.

**Option 2.**

Design curriculum based on the high-performance features of the building, and commit to implementing the curriculum within 10 months of LEED certification. The curriculum should not just describe the features themselves but explore the relationship between human ecology, natural ecology and the building ecology of the building. Curriculum must meet local or state curriculum standards, be approved by school administrators, and provide 10 or more hours of classroom instruction per year per full-time student.

**Documentation guidance:**

- Submit a narrative describing the content of the curriculum and how it was created
- An Owner signatory confirming the curriculum meets local and state standards, provides 10 hours of instruction per student per year, and will be implemented within 10 months of certification
- A written approval from the school's administrative body, including documentation that a policy has been adopted to ensure that, for all future years of the school's certification, the school provides at least 10 hours of instruction per student per year from the approved curriculum.

**Resources:**

School as a Teaching Tool <https://www.usgbc.org/schoolasteachingtool>

Green Classroom Professional: <https://www.usgbc.org/classroom/gcp>

K-12 Learning Lab: <https://learninglab.usgbc.org/>

K-12 Learning Lab info: <https://www.usgbc.org/articles/systems-thinking-and-career-exploration-9%E2%80%99312-students-learning-lab>