



FCPS Rock Creek School

Replacement and Final Site Selection

Design Meeting #9 - Notes

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

Current Design Phase: Schematic Design

Attendees:

<u>Name</u>	<u>Company</u>	<u>Present</u>
Planning Team		
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	X
Sara Scovitch	Frederick County Developmental Center, OT/PT	X
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	X
Michelle Concepcion	FCPS Special Education Programs	X
Tom Saunders	FCPS, Middle School Instructional Director	X
Stephen Raff	FCPS, Elementary Instructional Director	
Brian Staiger	FCPS, Construction Management	X
Roger Fritz	FCPS, Construction Management, Director	
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	X
Adam Miller	FCPS, Maintenance & Operations	X
Design Team		
Cathy Purple Cherry	Purple Cherry Architects	X
Ashley Marshall	Purple Cherry Architects	X
Sandra Carpenter	Becker Morgan Group	X
Jim Barto	Adtek Engineers	X
Parvaneh Famili	Alban Engineering	X
Sergio Esquivel	Alban Engineering	X
Kori Purdum Matheis	Proffitt & Associates Architects	X

Meeting Discussion:

9.0 Project Status Updates

- a. **Area Summary Update –**
 1. Current Base Bid Ed Spec Area = 81,103 GSF
 2. All co-located spaces have been removed from the scope of work.
 3. **01 February 2018 Update – FCPS directed Design Team to proceed with design of all four alternates - Future Capacity, Greenhouse, Alternative Specialized Program, and Parks and Gym. It was noted that questions about the Alternative Specialized Program needs and combined use with RCS spaces will need to be discussed in the future.**
 4. **Add Alternate Ed Spec Area = 23,454 GSF**
 5. **Total Base Bid + Add Alternate Ed Spec Area = 104,557**

- b. **Budget Update** (Note: No revisions proposed since the last meeting) –
 1. Total Project Budget (including soft costs) = \$46,959,762
 2. Total Site, Testing, & Construction Budget = \$37,070,262

- c. **Schedule Update** – The schematic design submission to the State may be pushed back slightly depending upon the outcome of the Educational Specifications and Site Selection approvals and receipt of local planning approval. Timing of this will be determined within the next month. Even if the SD submission moves back slightly, the remainder of the project schedule will remain unchanged.

- d. **LEED Update** – Targeting LEED kick-off charette for Thursday, March 1 Design Review meeting.

- e. **Summary of Activities for the past Two Weeks –**
 1. Design team updated bubble diagrams based upon the last design meeting.
 2. Walkersville Middle School Site survey work is being translated to CAD.
 3. Design team worked on additional information for Site Selection submission to State and responses to Town of Walkersville Planning Commission comments.
 4. Initial Geotechnical exploration scope approved – authorization given to ECS to proceed, awaiting schedule dates.

9.1 General/Admin.

- a. Beth Pasierb is working on submission of site selection information to State for approval. The Design Team is helping fill out forms, obtain a capacity letter from DUSWM, and prepare a site plan exhibit to accompany the submission. The Town of Walkersville asked a few questions during the meeting last week that the design team is helping respond to.
01 February 2018 Update – The design team has provided the letter from DUSWM, the site plan exhibit, and responses to the Town of Walkersville letter. Beth to advise whether any additional information is required.

- b. Brian Staiger suggested that he lead a field trip to the newly completed Frederick High school to allow any interested members of the design committee to observe materials and design elements.
01 February 2018 Update – The field trip to FHS will occur on Feb 15 at 12:30 PM.
- c. **Beth and Brian noted that the State has questioned some of the square footages called out in the Educational Specifications that were submitted. They are working on justification for the Ed Spec, which was designed to ensure adequate space for storage of equipment and ease of mobility for students. The design team will provide updated typical classroom and shared learning space plans to document the spatial needs with furniture and equipment layout.**

9.2 Site and Building Design

- a. Reviewed proposed location of building on site – see attached SP-01 diagram that was brought to the meeting for discussion. There was additional conversation about the balance between the MS fields and the meaningful connection between the two buildings. Beth expressed concern that the buildings are too far apart. The only way to pull the buildings closer together is by shifted some of the fields from what was agreed upon during the last meeting.
 - 1. Per the Middle School Curriculum Director, typical Gym needs for a school with up to 5 PE classes are as follows: 1 group at Health, 1 group in Gym, plus at least 3 station areas outside, then they also need some areas for concurrent recess. These areas do not all have to be formal fields – for instance, 2 classes could use one soccer field simultaneously.
 - 2. It was agreed that the proportions of the Rock Creek 150'x150' field could be adjusted. It could be triangular, rectangular, etc. as needed.
 - 3. A full-size softball field is not required at this school since there is no use of the fields by outside user groups. Several of the schools in the County are asking for removal of the softball backstops. A decision will be made later about whether or not a backstop is desired for PE classes to use for batting practice.
 - 4. The connection between the two schools should either come from cafeteria or end of Art hallway – the Art hallway is really only good if we can move some of the existing parking out and make is so that the loading drive is all that would need to be crossed by students.
- b. Size and use of the courtyard was discussed –
 - 1. The courtyard should have a covered patio area (outdoor maker space usage, classroom space) with mix of wheelchair seating and fixed seating.
 - 2. One of the play areas could be located within the courtyard – there is a desire to incorporate swings, if possible, a mix of standard transfer swings and platforms for wheelchairs.
 - 3. Prefer no grass – just a mix of soft/paved surfaces and landscaping.
- c. A question was asked about provision of fields space for WMS during construction. Dustin would like to do utility relocations and new fields first – ideally summer of 2019. To be able to use the fields right away, the soccer would likely need to be artificial turf because sod would need time to get established. During construction, MS would be able to have soccer & b-ball – would temporarily fence off from construction area. May need to put some temporary parking or fields in over to east of the existing school.

- d. For economy and ease of construction, the construction manager and FCPS would prefer an orthogonal layout for building in general – they would like to make the courtyard rectangular rather than having one side at an angle. The design team will try to get classroom pods identical and line up column lines straight across the building, even on both sides of the courtyard.
- e. The RCS cafeteria and kitchen should move to the southeast corner of the new building to keep loading dock near WMS dock.
- f. It was noted that the pool may want to be used by the local special needs community – it will be located at the northeast corner and this could be accomplished by using the existing Maryland Ave parking with a door directly to exterior from the pool area, therefore it would not need to be directly adjacent to the other Parks & Rec areas. This will also put it near the loading area for delivery of chemicals.
- g. Jim noted that the Fire Marshal will likely require a Fire lane around most of the new building – this could potentially double as asphalt path for student use around the building.
- h. By next Tuesday, Adtek will lay out the required setbacks, indicate a conceptual bus loop and parking along the west property line, then establish a building restriction line to the east based on grading, field/circulation space, etc. and will provide a CAD file to the architects showing the remaining potential building footprint area. The west property line is likely to be the most controversial due to proximity of houses and questions about screening were already raised by the Town. We need to go back to the Town for review once we have the plan a little more developed.
- i. A proposed new site/building diagram was developed to meet the site and building constraints. See the attached photo. The south side of the building will house the gym, elementary, and middle level pods. The north side will house the high school, future capacity, and alternative program areas.

9.3 Mechanical/Electrical/Plumbing Systems Discussion

- a. Mechanical options – we are proposing 4 options to review and include in the life cycle cost analysis at the DD phase – the State requires minimum of 3. See attached summary of the four systems proposed.
- b. The design team will consider all aspects of the system in analysis, first costs including potential issues with geology for geothermal, scheduling/duration for construction, then operating costs. We will also consider how systems will impact students and include a list of pros/cons for use and impacts on students (noise, drafts, etc.)
- c. Maintenance prefers a VAV system due to ease of maintenance – they have not had humidity control issues in their buildings with similar systems as is sometimes the case. Their second choice would be VRF. Would prefer to stay away from hybrid systems just for simplicity of maintenance, except for the geothermal option where a hybrid would be considered to help cut down on first costs and wellfield size.

- d. An emergency generator is required – at a minimum it should be sized to hand the Admin and Health areas, Medical Equipment, and Shelter-in-place areas, with additional items to be determined. Tom just put a new generator in at the existing RCS – could provide information about loads and size for a basic starting point.
- e. Pool – separate dedicated AHU for dehumidification and heating. Needs to be able to have space heating independently from the remainder of the school. Must consider humidity and impacts on lift systems, etc. Also types of water treatment, water heating, chemicals, etc. Air quality is a big concern due to student health issues.
- f. Maintenance shop at WMS – could use some additional space for maintenance offices, storage. Currently use B building for maintenance van storage parking – is there any space that we could provide on our site for some van parking?
- g. Existing WMS outdoor storage shed – school uses it for furniture, etc. storage as well as tractors. If it is to be demolished, we would need to determine how much new storage space would be required to be provided elsewhere to accommodate its loss.

9.4 Classroom Layout Review

- a. Conceptual classroom layouts were reviewed. Beth is working on a presentation to the State to justify the Ed Spec SF. It should happen next week and she would like updated classroom layouts to use. Purple Cherry to create prototypes for 3 levels of CR (classroom) plus the Shared Learning Space by next Tuesday.
- b. In each classroom the needs vary some – students in wheelchairs get a tray that they use for their worksurface, ambulatory students sit at tables. In some CR all students are in wheelchairs, in some CR all are ambulatory, some are a mix of both.
- c. The classrooms need to have open floor space for mat areas in addition to the space required for furniture.
- d. Need a lift both in the classroom and bathroom – ceiling track in bathroom definitely, probably mobile floor lift in classrooms – could use them only in rooms where required. The changing table area in the corner of the CR must have a curtain around it for privacy.
- e. Within each cluster, 4 CR could have the separate storage room within the classroom then 1 CR could have no storage room to give more floor space for that one room to accommodate classes with more lay out space needs.
- f. Classroom RR – no stall is required for the toilet area in most CR bathrooms.

9.5 Two Week Projection

- a. Refine bubble diagrams and concept site plan.

- b. Begin Geotech exploration – crew scheduled to be at WMS next Thursday and Friday, Feb 8-9.

9.6 Public Comment – No Public Comment was made.

The next meeting is scheduled for **15 February 2018 at 9:30am at Rock Creek School.**

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:

- SP-01 and BD-01 Site and Building blocking diagrams dated 1/30/18 (as presented at the meeting)
- 2018 02 01 Updated Site & Building Diagram (as developed at the meeting – to be used to continue development of design)
- Typical classroom layout, sheet BD-03 dated 1/30/18 (as presented at the meeting)
- Rock Creek School HVAC Alternatives Handout dated February 1, 2018 (as presented at the meeting)



PURPLE CHERRY
architects

1 Melvin Avenue
Annapolis, MD 21401
info@purplecherry.com
410.990.1700 Fx: 410.990.1704
701 Water Street E
Charlottesville, VA 22902
434.245.2211

Copyright © 2017
Purple Cherry Architects
All Rights Reserved.

WARNING:
THIS DOCUMENT IS AN INSTRUMENT OF
PROFESSIONAL SERVICE PREPARED BY PURPLE
CHERRY ARCHITECTS. IN RELIANCE UPON THIS
DOCUMENT BY ANY PARTY OTHER THAN PURPLE
CHERRY ARCHITECTS IS A VIOLATION OF LAW THAT
WILL BE PROSECUTED TO ITS FULLEST EXTENT.

**ROCK CREEK
SCHOOL**

WALKERSVILLE MIDDLE
SCHOOL SITE

DRAWING	DATE
BLOCKING DIAGRAMS	01.30.18

REVISION SCHEDULE		
#	REVISION	DATE

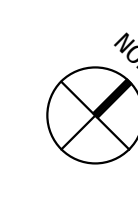
JOB NO: 17-017
DRAWN BY: AM

**BLOCKING -
REVISED
LAYOUT**

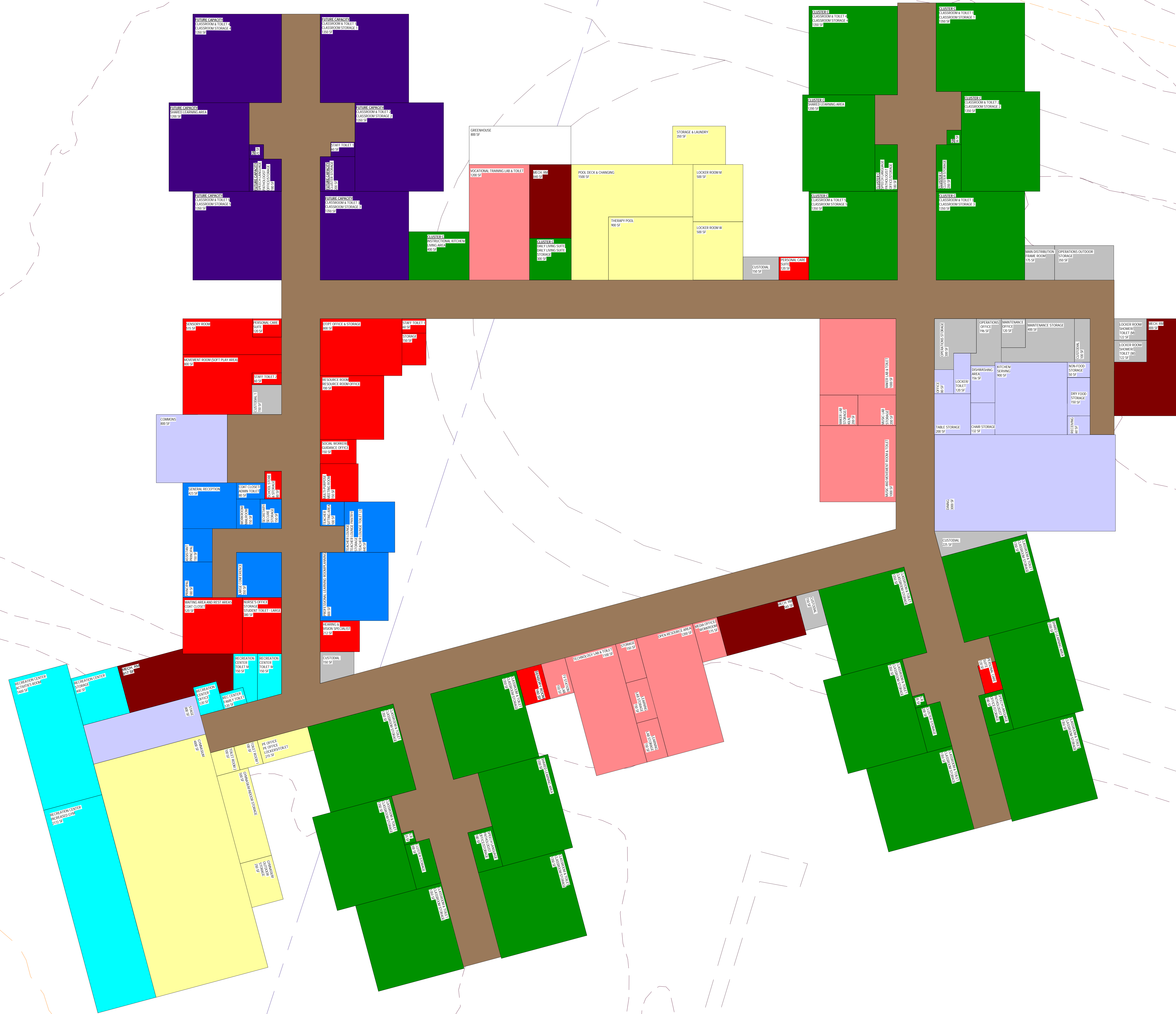
BD-01

PRELIMINARY
MAY OR MAY NOT CONTAIN ALL PROJECT SCOPE INFORMATION
NOT FOR CONSTRUCTION - PROGRESS PRINT

- COLOR KEY**
- ADMINISTRATION
 - STUDENT SERVICES
 - TEACHING CLUSTERS
 - EDUCATIONAL SUPPORT
 - PHYSICAL EDUCATION
 - PUBLIC COMMONS
 - BUILDING SERVICES
 - GREENHOUSE
 - FUTURE CAPACITY
 - PARKS & REC
 - MECHANICAL
 - CORRIDORS



RCS | OPTION 1
1/30' = 1" = 0'



18020818.20 19PM



PURPLE CHERRY
architects

1 Melvin Avenue
Annapolis, MD 21401
info@purplecherry.com
410.990.1700 Fx: 410.990.1704
701 Water Street E
Charlottesville, VA 22902
434.245.2211

Copyright © 2017
Purple Cherry Architects
All Rights Reserved.
THIS DOCUMENT IS AN INSTRUMENT OF PROFESSIONAL SERVICE PREPARED BY PURPLE CHERRY ARCHITECTS, A DIVISION OF THE PURPLE CHERRY GROUP, INC. NO PART OF THIS DOCUMENT MAY BE REPRODUCED OR TRANSMITTED IN ANY FORM OR BY ANY MEANS, ELECTRONIC OR MECHANICAL, WITHOUT PERMISSION IN WRITING FROM PURPLE CHERRY ARCHITECTS. A VIOLATION OF LAW MAY BE PROSECUTED TO ITS FULLEST EXTENT.

ROCK CREEK SCHOOL

WALKERSVILLE MIDDLE SCHOOL SITE

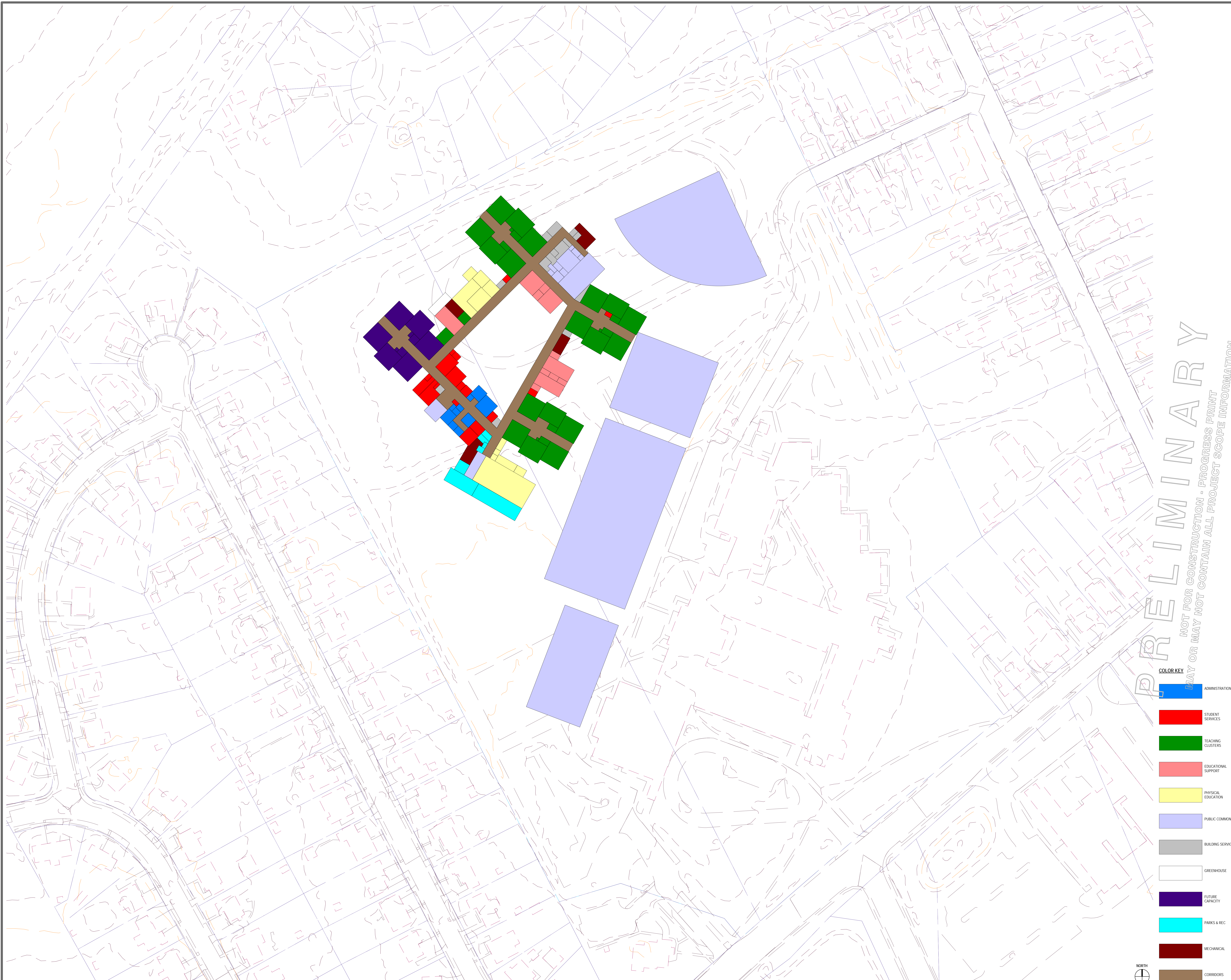
DRAWING	DATE
BLOCKING DIAGRAMS	01.30.18

REVISION SCHEDULE	
#	DATE

JOB NO: 17-017
DRAWN BY: AM

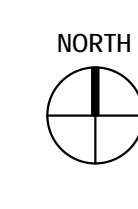
BLOCKING DIAGRAM ON SITE REVISED LAYOUT

SP-01



PRELIMINARY
MAY OR MAY NOT CONTAIN ALL PROJECT SCOPE INFORMATION
NOT FOR CONSTRUCTION - PROGRESS PRINT

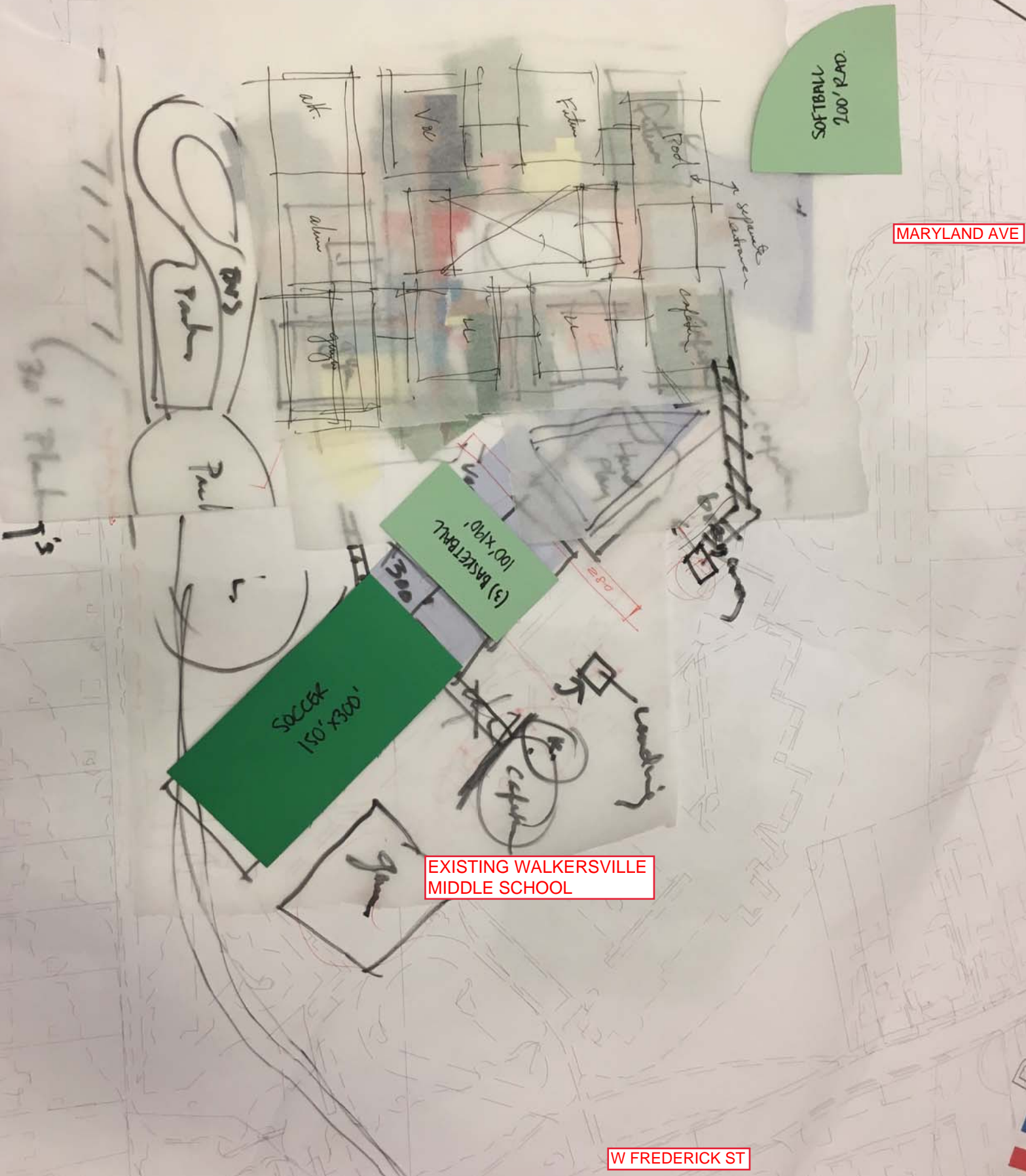
- COLOR KEY**
- ADMINISTRATION
 - STUDENT SERVICES
 - TEACHING CLUSTERS
 - EDUCATIONAL SUPPORT
 - PHYSICAL EDUCATION
 - PUBLIC COMMONS
 - BUILDING SERVICES
 - GREENHOUSE
 - FUTURE CAPACITY
 - PARKS & REC
 - MECHANICAL
 - CORRIDORS



RCS | OPTION 1
1" = 50'

1802018.02.21 PM

17-22 ROCK CREEK SCHOOL
DESIGN MEETING #9
FEBRUARY 1, 2018
SITE AND BUILDING BUBBLE DIAGRAM

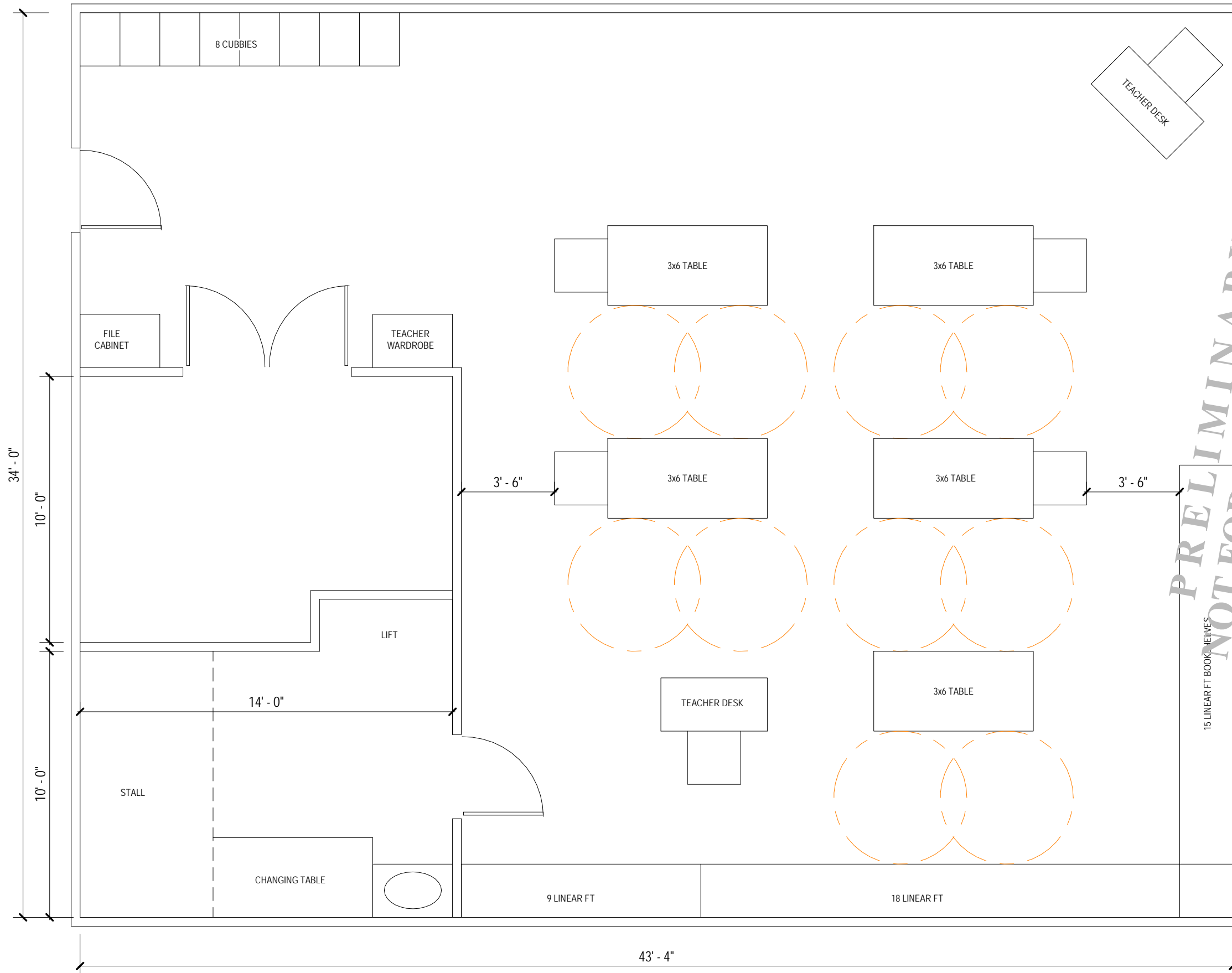


MARYLAND AVE

EXISTING WALKERSVILLE
MIDDLE SCHOOL

W FREDERICK ST

1/30/2018 5:24:23 PM



PRELIMINARY CLASSROOM LAYOUT

1/4" = 1'-0"



Purple Cherry Architects

1 Melvin Avenue
Annapolis, MD 21401
info@purplecherry.com
410.990.1700 Fx: 410.990.1704

Copyright © 2017
Purple Cherry Architects
All Rights Reserved.

WARNING:
THIS DOCUMENT IS AN INSTRUMENT OF PROFESSIONAL
SERVICE PREPARED BY PURPLE CHERRY ARCHITECTS.
ALTERATION OF THIS DOCUMENT BY ANY PARTY OTHER
THAN PURPLE CHERRY ARCHITECTS IS A VIOLATION OF
LAW THAT WILL BE PROSECUTED TO ITS FULLEST
EXTENT.

ROCK CREEK SCHOOL
WALKERSVILLE MIDDLE SCHOOL SITE

DRAWING	DATE
BLOCKING DIAGRAMS	01.30.18

JOB NO: 17-017
DRAWN BY: KM

PRELIM.
CLASSROOM
LAYOUT

BD-03

Rock Creek School

HVAC System Alternatives

1. Water Source Heat Pump:

- a. A water source heat pump system consist of a central condenser water loop (supply and return pipe) operating at a wide temperature range condition (40f-90f) serving individual compressorized refrigeration units that utilize an internal reversing valve allowing the individual water to air or water to water heat pumps to absorb heat from the loop for heating or reject heat to the loop for cooling. The water loop is either heated by a boiler and heat is rejected by a cooling tower or the ground (geothermal) can be used as a heat sink. In a hybrid geothermal system a boiler and cooling tower can be combined with a geothermal system to provide supplemental heat generation and heat rejection.
- b. Water to Air Heat Pumps can operate in either a heating mode or cooling mode at any time.
- c. Each Heat Pump is thermostatically controlled to either heat or cool the space by conditioning recirculated room air.
- d. A geothermal system utilizes “free” stored energy from the constant temperature Earth (55f-58f) so it is more efficient than other types of systems.
- e. Water cooled equipment will have a longer life than air cooled equipment and doesn’t work as hard when ambient heating or cooling conditions occur.
- f. WSHP’s are heating and cooling recirculation air units. A separate decoupled dedicated outdoor air system (DOAS) is needed to precondition the ventilation air.
- g. Heat pumps can be easily replaced in the future. The infrastructure (pipes, ducts etc.) can be reused. The Earth HX will last as long as the building.

2. Variable Refrigerant Volume/Flow System (VRV/VRF):

- a. The system is an air based heat pump system compared to option 1 which is a water based system. The system absorbs or rejects heat to the atmospheric heat sink via refrigerant based medium.
- b. The compressor unit is outside and it connects multiple indoor fan coil units via refrigerant piping.
- c. Any indoor unit can either heat or cool at any time.
- d. Each Fan Coil Unit is thermostatically controlled to heat or cool the space by conditioning recirculated room air.
- e. It typically is a close second in energy efficiency to a geothermal system since it eliminates water pumps and minimizes heat exchangers.
- f. Individual room fan coil units can be in the room ductless type or remote ducted type.
- g. The future of refrigerants is unknown. When the units need to be replaced, if the refrigerant type isn’t a “drop in” then all connecting refrigerant piping may need to be replaced.
- h. Air Cooled equipment typically has to be replaced before water cooled type.
- i. A VRV/VRF system are heating and cooling recirculation air units. A separate decoupled dedicated outdoor air system (DOAS) is needed to precondition the ventilation air.

- j. The VRV/VRF System uses its own control system. The EMS can only integrate into it.
 - k. This is considered a decentralized system. A failure of one component will not affect other areas of the building. The installed capacity will be greater (\$\$\$) than a central system that uses diversity in the building load/equipment sizing.
 - l. No water pipes used for heating or cooling however refrigerant and piping is typically located throughout the building unless all fan coil units are located in central equipment rooms and ducted to the occupied spaces.
- 3. 4-Pipe Fan Coil Units (FCU's):**
- a. Uses a Central Cooling plant consisting of chillers and central heating plant consisting of boilers.
 - b. Heating and cooling pipes need to distribute energy to each fan coil unit.
 - c. A fan coil unit is similar to a heat pump unit without a refrigeration system. It is merely a fan and a coil(s) that is thermostatically controlled to heat or cool the space by conditioning recirculated room air. Fan coil units have a long life expectancy since they are not compressorized.
 - d. It is considered a decentralized "water to air" system since each space is served by its own controlled fan coil unit.
 - e. Similar to Options 1 and 2, Fan Coils can heat or cool the space only by conditioning recirculated air. A separate decoupled dedicated outdoor air system (DOAS) is needed to precondition the ventilation air.
 - f. The system will provide very consistent and controllable space temperature and humidity control.
 - g. The system will be more expensive to install and less efficient to operate than a VAV system.
 - h. The ATC system will control all aspects of the system.
 - i. A 4 pipe system can heat or cool any space at any time.
- 4. 4-Pipe Variable Air Volume (VAV) System:**
- a. Uses a central cooling plant consisting of chillers and central heating plant consisting of boilers.
 - b. Heating and cooling pipes need to distribute energy to each central Air Handling Unit.
 - c. A central Air Handling Unit can serve multiple spaces and each room will be provided with a thermostatically controlled VAV terminal unit with hot water heating coil.
 - d. This system is considered an "all air" central system since it provides heating, cooling and ventilation air via a common duct. Air from all spaces are returned, diluted with outside air, mixed then conditioned and supplied to each space.
 - e. The system uses an economizer "free cooling" cycle thus typically more energy efficient than a Fan Coil Unit System.
 - f. The system does not control relative humidity except as a byproduct of the air conditioning process. A DOAS controls relative humidity and provides heat recovery.
 - g. Ductwork is larger than other systems thus additional infrastructure space is typically required.
 - h. The ATC system will control all aspects of the system. The controls are typically more complex for a VAV system compared to others.
 - i. There are less heating and cooling control valves and less chilled water piping compared to a FCU system.
 - j. A 4-pipe system can heat or cool any space at any time.