

2014 Exhibition of School Planning and Architecture

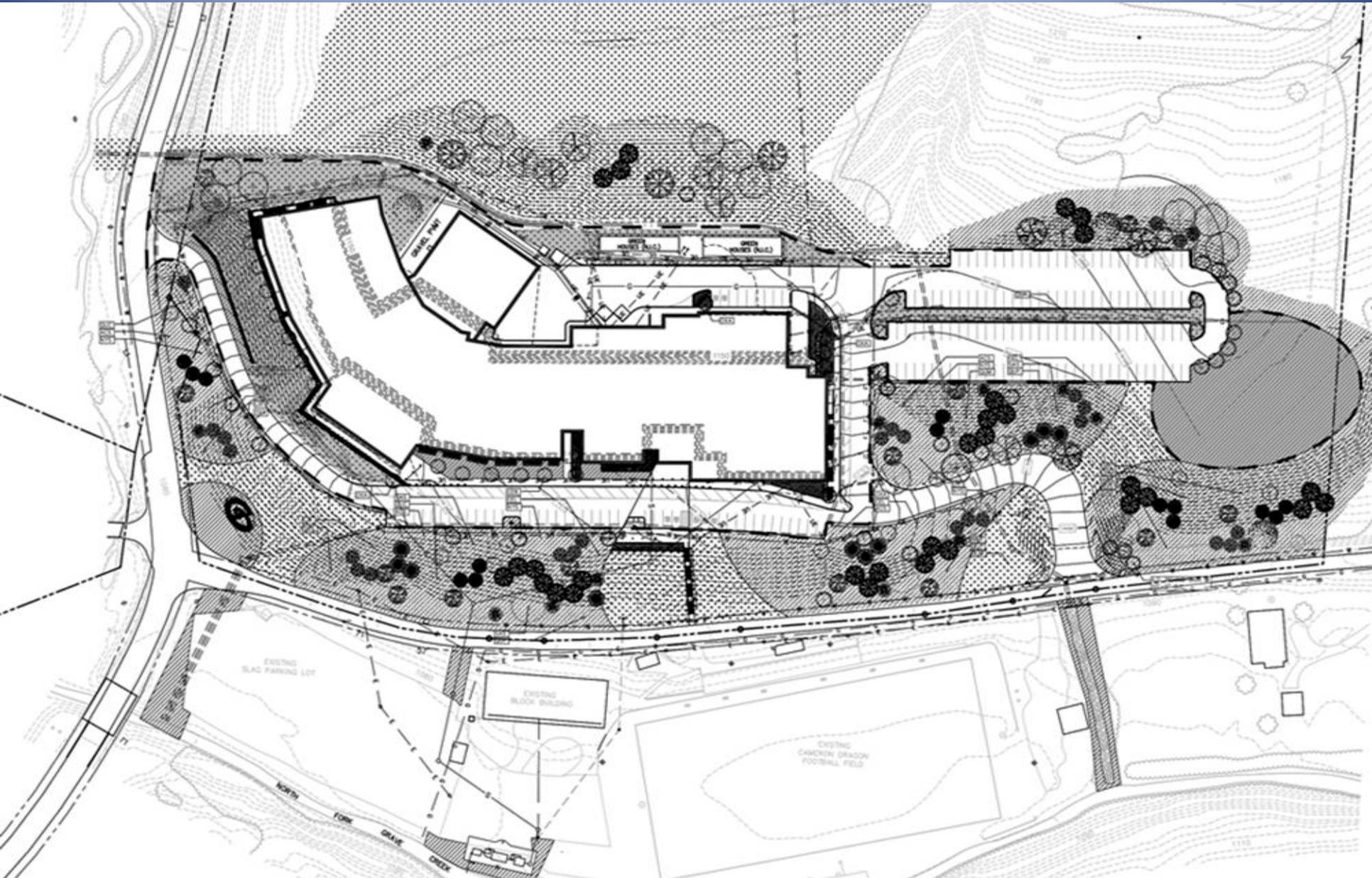
Cameron High School

Marshall County Schools
Cameron, West Virginia

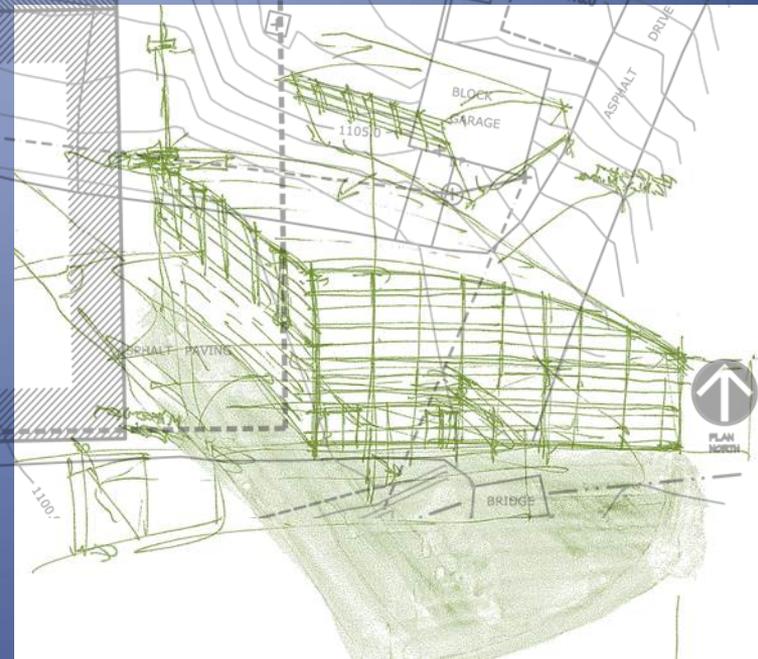
Cameron High School



Cameron High School



Early plans for the school actually started in a wholly different direction. The school district first was only considering an auxiliary gym addition to their existing mid-20th century school. During early planning with district and school administrators, teachers, architects and community members for the addition project, the gym addition morphed into an element in a countywide bond issue for renovations and additions to several of the districts facilities which included the existing school this project ultimately replaced. After several site visits and consideration by the participants in the bond issue planning, it was decided to develop a parcel adjacent to existing school athletic facilities. The acquiring of this property was done mostly at no cost, in a partnership agreement with a major industry corporation in the region who controlled the property. With the site selected, the early planning partners modified the addition plans with the hope of creating a community facility, that would serve as a focal point and inspiration for a school to be built at some time "down the road" on the site. This early iteration of the project became a core component in the bond issues successful passage.



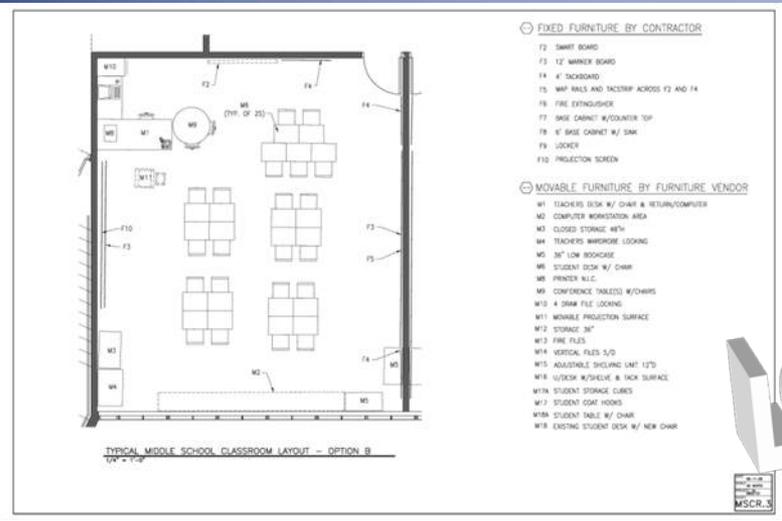
After the passage of the bond, more changes transpired. After review of the proposed renovations for the existing school, including government funding agency assisting that based upon the conditions, cost of sense to build a completely new school. So after further the project evolved, again while attempting to maintain the community previously established as well as the physical characteristics reviewed and voted upon by district residents.

Planning Process

The ultimate "big picture" delineated, the planning team expanded to include the experience of professional educational planners to facilitate outlining the vision of the committee of educators and district administrators teaming to plan for the new school and specify these educational goals. The committee of educators included representatives from the Math, English, Science, Social Studies, Music, Art, Special Education, Vocational, Physical Education, Health, Guidance, and Media/Library Departments. The committee also included representatives from the custodial, cooking, secretarial staff as well as community, boosters, and school administrators.

Highlighted goals and vision of the committee included: Students, feel safe, secure and connected within their learning environment and have access to a variety of technologies as tools for learning, have access to technology as a primary environment for learning including virtual learning, and Learn in settings that are authentic and "hands-on" for their and contemporary experiences; that Teachers appropriate planning spaces that promote support collaboration with other staff and community members, organize by departments, grade groupings, or other

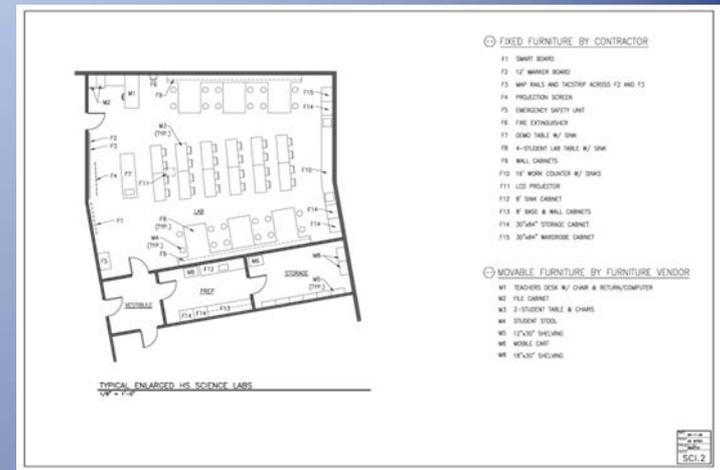
Learning Environment



methods to best serve the needs and interests of students, and participate in a variety of school activities that involve their children and their personal recreational and educational interests; the Community share school and other community facilities to provide the support needed for students to succeed, and maintain "links" between the school and the community and its agencies through technology. The committee envisioned that the facility create an aesthetically pleasing environment with a focal entry point, easily accessible office area, and appropriate student gathering areas.



The developed educational specifications were applied to the site, budget and other constraints of the facility and early concept designs for these academic departments were developed. Multiple meetings with each academic department were held throughout the design process (over 30 additional departmental design meetings were held during preliminary design) to help maintain the goals and vision of the educational plan. As the project moved from design to construction phases, breakfast type meetings in addition to meetings in retreat settings, walkthroughs of the facility construction, and community project updates were held with members of the community, committee and district officials to ensure the completed project aligned with this vision. Further development of an Owner's Project Requirements (OPR) document was completed. The OPR established a baseline of performance expectations for all building categories and components with an emphasis on those systems selected for commissioning. This document was developed as part of an initial sustainable design charrette with the owner, design team, commissioning agent, and construction manager.



Physical Environment

The site analysis consisted of designing the combined middle and high school on a severely sloping site adjacent to exiting athletic facilities.

Building form originated from complexity and analysis of the site integrated with the required function and adjacencies of the required spaces. With an existing grade of 33% and parameters that the majority of the building be single story, a complex geometry emerged organically wrapping the curvature of the hill while simultaneously stepping up the slope with a series of reinforced concrete retaining walls following the existing grades. The resulting 3 tiered levels + mezzanines reduce overall site excavation and provide daylighting opportunities to each of the academic departments. The retaining walls also serve as building enclosure walls and contribute to passive conditioning by thermal mass. The predominant exposed orientation is to the south. This facade is emphasized with insulated translucent panel walls/clerestories with a U-Factor of .08 and light transmittance of over 8% for diffuse daylighting. Glass curtainwall is used to highlight main and secondary public entrances and accomplish the Owner's desire for transparency in areas to encourage community voyeuristic interchange between both public and private. This transparency extends into the common use spaces and onto captured views overlooking existing campus features, the public realm, and views of natural rural topography. The translucent panel provides an active facade element at night in private areas with shoji-like translucency. Translucent panel skylights are utilized at interior spaces to expand daylight harvesting throughout which is integrated into the buildings lighting controls.



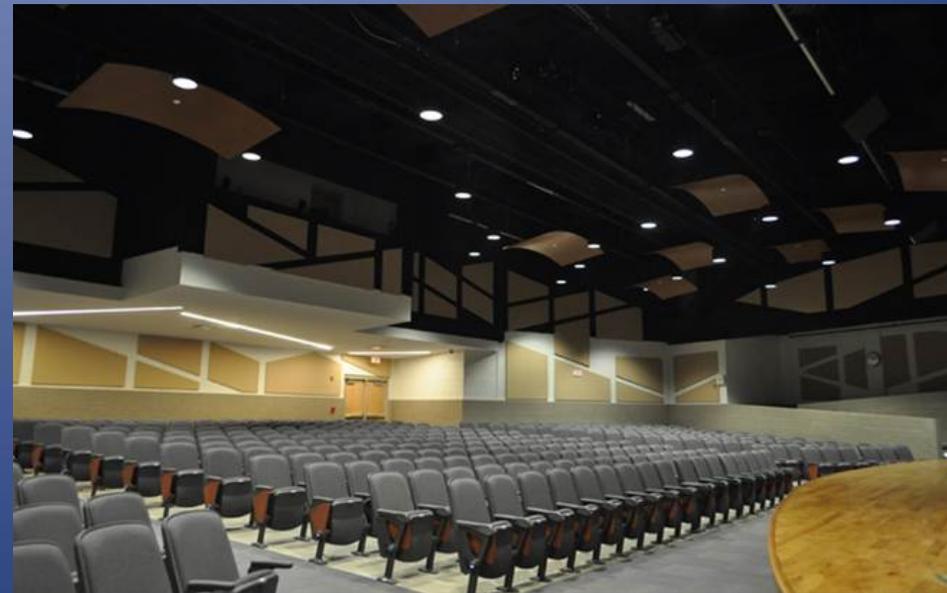
Collaboration with local industry developed design constraints related to potential mine subsidence and necessitated eschewing traditional load bearing masonry walls and required an intricate system of rotated grids for the steel superstructure of the facility. The design aesthetic that emerged integrated and emphasized the structural and mechanical systems as an exposed element and integrated teaching tool. Additional early design complexities also included reclamation of existing brownfields and an existing operating gas well on the site, wetland and stream mitigations, and incorporation of solar electric generation and native landscaping into the design.



The educational goals called for Middle and High School areas with both separate and integrated facilities. The facility features Departmentalized classroom groupings. A School wide WI-FI and Interactive "smart" boards in all classrooms are incorporated to support the Owner's future "paper-less" goals. The Science Suite and labs are arranged with adjacency to the Agricultural Science Suite for program integration and include a commercial grade, USDA approved Meat Lab for comprehensive learning and planned collaboration with a regional land grant university's college of agriculture.

Community Environment

As a rural school, the planning team emphasized that selected spaces would also be available to the local community. Adjacencies and multiple potential "occupancy" scenarios were studied, and theatrical, common use, and physical education spaces were stressed. Theatrical sound, lighting and stage rigging systems are employed. The phys. ed. spaces incorporate an interior suspended jogging track and fitness rooms which overlook the main gymnasium. "Exergaming" facilities (a community exercise/wellness program coupled with interactive gaming) adjoin the physical education spaces and a "scatter" style cafeteria/Commons employed to assist in the education of healthy food choice selection. The Commons area enjoys transparency and views.



Safe Schools considerations included CPTED transparency as an element in safety, with administrative areas strategically placed for supervision of entrances and commons areas. An electronic access control and security system integrated into the Owner's district wide system is also incorporated into the project. This system features card/video access and door latch/camera monitoring systems. Roof mounted HVAC equipment was predominantly eliminated for additional security and maintenance considerations.

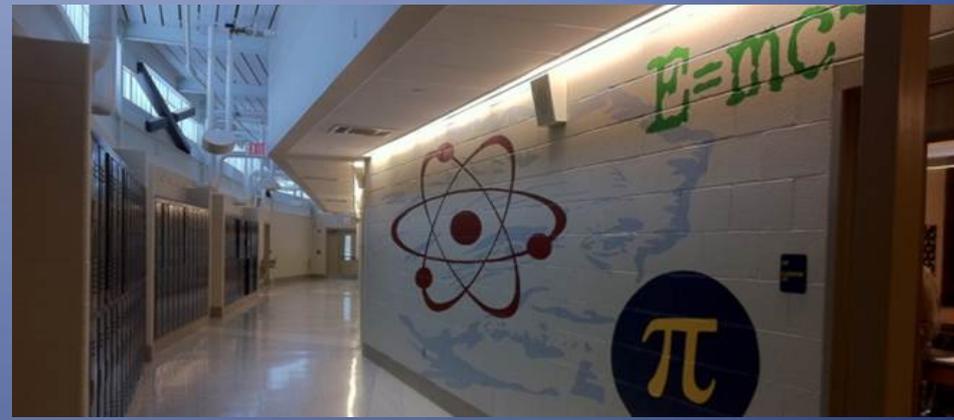




Additional Sustainable design goals included reduced life cycle costs met through incorporation of LEED accreditation goals, the use of air terminal units, "chilled beams", desiccant wheel dehumidification, refrigerant-less chilled water loops and interactive smart metering incorporated as an integrated teaching tool. Electric resistance snow/ice-melt system for exterior concrete walkways and stairs to reduce inclement weather life safety concerns, ongoing maintenance, and the impact of snow clearing machinery and deicing chemicals.

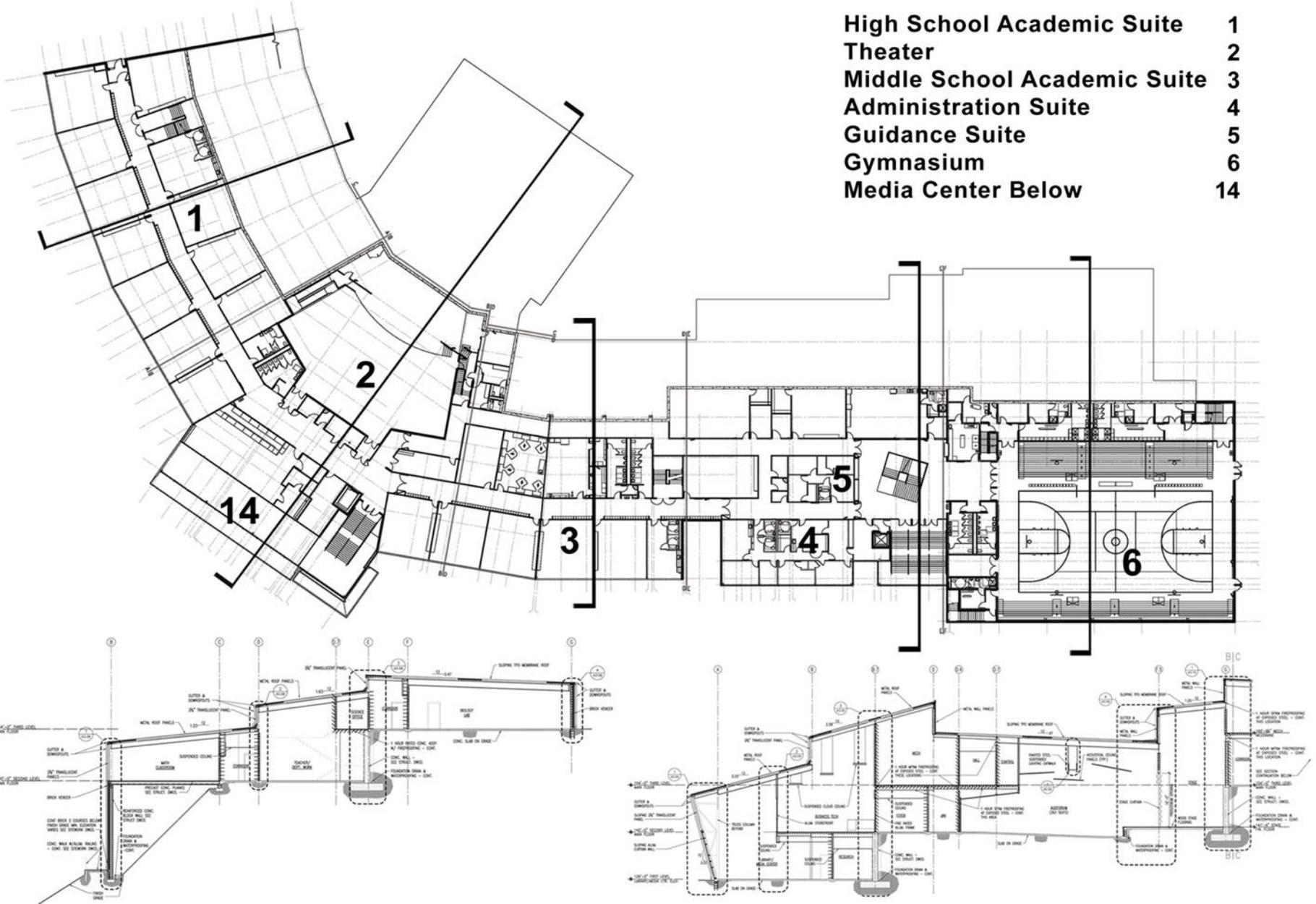


Post occupancy evaluation, lessons learned, and commissioning of the substantially complete project is ongoing and planned to verify the physical and educational attributes of the facility meet the planned goals as well as completion of the LEED certification process.



Level 2 Floor Plan

- High School Academic Suite 1
- Theater 2
- Middle School Academic Suite 3
- Administration Suite 4
- Guidance Suite 5
- Gymnasium 6
- Media Center Below 14



Exhibition of School Planning and Architecture

Project Data

Submitting Firm :	McKinley & Associates
Project Role	Architect & MEP Engineers of Record
Project Contact	Patrick J. Rymer, AIA
Title	Project Architect
Address	32 20 th Street - Suite 100
City, State or Province, Country	Wheeling, West Virginia 26003
Phone	304-233-0140

Other Firm:	Jezerinac Geers & Associates, Inc.
Project Role	Structural Engineer of Record
Project Contact	Ronald M. Jezerinac, PE
Title	Chariman
Address	5640 Frantz Road
City, State or Province, Country	Dublin, Ohio 43017
Phone	614-766-0066

Other Firm:	Food Facilities Concepts, Inc.
Project Role	Food Service Consultant
Project Contact	Mike Ventresca
Title	Vice President / Project Manager
Address	1100 Washington Ave, Suite 302
City, State or Province, Country	Carnegie, Pennsylvania 15106
Phone	412-276-9090

Other Firm:	Stafford Consultants, Inc.
Project Role	Civil Engineer of Record
Project Contact	Kenneth R. Crowe, PE
Title	Chief Structural Engineer
Address	1105 Mercer Street
City, State or Province, Country	Princeton, West Virginia 24740
Phone	304-425-9555

Other Firm:	Hays Landscape Architecture Studio .
Project Role	Landscape Architecture Consultant
Project Contact	Wm. Gabriel Hays, ASLA, RLA
Title	Principal
Address	145 East Main Street
City, State or Province, Country	St. Clairsville, Ohio 43950
Phone	740-695-6505

Other Firm:	L.L. Dunn & Company
Project Role	Commissioning Agent
Project Contact	Larry L. Dunn, PE, LEED AP, QCxP
Title	President
Address	1740 Roxbury Road
City, State or Province, Country	Columbus, Ohio 43212
Phone	614-486-5908

Other Firm:	Project & Construction Services, Inc.
Project Role	Construction Manager as Advisor
Project Contact	Ron Blatt
Title	Project Manager
Address	2000 Main Street, Suite 212
City, State or Province, Country	Wheeling, West Virginia 26003
Phone	304-242-5066

Construction Firm:	Nello Construction Company
Project Role	General Trades Contractor
Project Contact	George Leasure
Title	President
Address	100 Houston Square
City, State or Province, Country	Canonsburg, Pennsylvania 15317
Phone	724-746-1900

Exhibition of School Planning and Architecture

Project Details

Project Name	New Cameron High School
City	Cameron
State	West Virginia
District Name	Marshall County Schools
Supt/President	Alfred Renzella
Occupancy Date	December 2012
Grades Housed	6 - 12
Capacity(Students)	450 Students
Site Size (acres)	40+ Acres
Gross Area (sq. ft.)	130,000 SF
Per Occupant(pupil)	289 SF / Student
gross/net please indicate	gross
Design Build?	No
Includes:	
If no,	
Site Development:	\$1.55 M
Building Construction:	\$29.6 M
Furniture, Fixtures & Equipment:	\$400 K
Other: Surveys/ Geotechnical/ Insurance/ AE Fees/ CMA Fees/ Materials Testing/ TAB/ Commissioning Fees:	\$5 M
Total:	\$33.8 M