Washington High School

Charles Town, West Virginia

Architect

Alpha Associates, Incorporated

The definition of a school is "an institution for the teaching of children". The architects for Washington High School (WHS) in Jefferson County, West Virginia designed a facility that expanded learning into an interactive, high tech, hands-on experience.

The population of Jefferson County, located in the Eastern Panhandle of West Virginia, increased by 15,000 from 1990 to 2006. In a State with 1.8 million people, the majority of school construction has focused on consolidations and replacement facilities. WHS was built to relieve overcrowding, becoming a second high school in Jefferson County.

The school contains grades 9-12, with an initial population of 1,200 students. Studies show that the "school within a school" concept provides a more intimate learning environment. The theory is to design core facilities that are shared by all grades, thus creating camaraderie and friendships across grade levels, while separating the basic learning classrooms into smaller wings. For WHS, a 9th/10th grade "house" and an 11th/12th grade "house" concept was chosen.

With even more growth anticipated, the core facilities of cafeteria, auditorium and gymnasium were designed to accommodate up to 1,500 students. The core facilities for WHS were also designed to encourage after hours community participation. The gymnasium, auditorium and cafeteria can be accessed via a separate "event" entrance, while the remainder of the school is restricted to visitors. Included in the community area are the normal support areas such as restrooms and concessions, as well as, a school store that can offer souvenirs during public events.

In addition to the core facilities, multi-grade shared spaces include separate Fine Arts and Technology wings, each featuring unique attributes. A 500-seat auditorium is the focal point of the Fine Arts wing, with fine arts classrooms surrounding the back stage area. The well planned design provides students with easy access to the stage area, as well as access to the band, choral, art and dance studios. A student can rehearse, dress and prepare for a performance, avoiding interaction with spectators.

Photos Courtesy of Wolfram's Professional Photography

WHS also placed a high priority on technology. Traditional spaces such as Tech-Ed and Agricultural-Ed are staples in any high school; however the WHS technology wing is unlike any in West Virginia. Unique to WHS are a technology filled television studio, forensics laboratory and print technology lab, all of which encourage adult and student use. The print technology laboratory is not only a teaching lab, but also a production shop allowing students to produce print work for external clients and other schools within the county. This area is also designed for adult continuing education during non-traditional school hours. Forensics education at the college level is a growing field with multiple colleges in West Virginia offering a Forensics major. Professors from Shepherd University were involved in the design of the WHS School Forensics laboratory and their input was vital in making this facility as current and high tech as possible.

Manufacturers

DIV. 5: *Columns:* **EDON**.
DIV. 7: *Metal Panels:* Centria; *Membrane:* Firestone; *Dome:* **EDON**.
DIV. 8: *Curtainwall, Entrances & Storefronts, Windows:* Kawneer.
DIV. 14: *Elevator:* Thyssen Krupp.

Extended Product Information

Columns & Dome: **EDON**

See advertisement on page 7.

EDUCATIONAL EU090116

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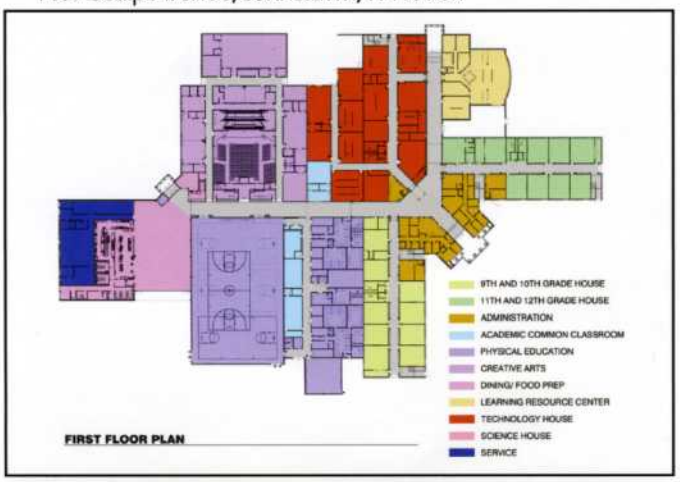
Architect

Alpha Associates, Incorporated
209 Prairie Avenue, Morgantown, WV 26501
www.alphaaec.com

Construction Team

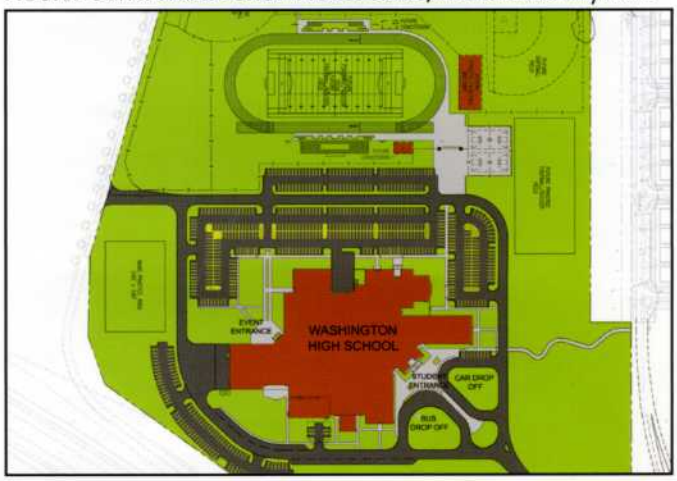
Structural Engineer:
Alpha Associates, Incorporated
209 Prairie Avenue, Morgantown, WV 26501
Construction Manager & Cost Estimator:
Turner Construction Company
620 Liberty Avenue, Pittsburgh, PA 15222
General Contractor:
Waynesboro Construction
7101 Guilford Drive, Frederick, MD 21704
Electrical & Mechanical Engineer:
H. F. Lenz Company
1407 Scalp Avenue, Johnstown, PA 15904



FIRST FLOOR PLAN

Project General Description

Location: Charles Town, West Virginia
Date Bid: Jan 2006
Construction Period: Mar 2006 to Mar 2008
Total Square Feet: 208,696 **Site:** 59 acres.
Number of Buildings: One.
Building Size: First floor, 171,986; second floor, 36,710; total, 208,696 square feet.
Building Height: Floor to floor, 13'4"; total, 27'.
Basic Construction Type: New/IIB/Structural Steel.
Foundation: Pier & grade beam, slab-on-grade.
Exterior Walls: CMU, curtainwall, metal siding.
Roof: Membrane, asphalt shingles, fiberglass dome.
Floors: Concrete. **Interior Walls:** CMU, metal stud drywall.



C.S.I. Divisions			COST	% OF COST	SQ.FT. COST	SPECIFICATIONS
		PROCUREMENT & CONT. REQ.	—	—	—	—
1.	1.	GENERAL REQUIREMENTS	2,652,243	9.32	12.71	Administrative requirements, quality requirements, temporary facilities & controls, product requirements, execution & closeout requirements, performance.
3.	3.	CONCRETE	1,743,300	6.12	8.35	Reinforcing, cast-in-place.
4.	4.	MASONRY	2,546,436	8.94	12.20	Unit.
5.	5.	METALS	2,616,267	9.19	12.54	Structural metal framing, joists, decking, cold-formed metal framing, fabrications.
6.	6.	WOOD, PLASTICS & COMPOSITES	278,664	0.98	1.34	Rough carpentry, plastic fabrications.
7.	7.	THERMAL & MOISTURE PROTECTION	1,558,503	5.47	7.47	Dampproofing & waterproofing, thermal protection, roofing & siding panels, membrane roofing, joint protection.
8.	8.	OPENINGS	1,228,940	4.32	5.89	Doors & frames, speciality doors & frames, windows, roof windows & skylights, hardware.
9.	9.	FINISHES	2,245,498	7.89	10.76	Plaster & gypsum board, tiling, flooring, acoustic treatment, painting & coating.
10.	10.	SPECIALTIES	291,178	1.02	1.40	Information, interior.
11.	11.	EQUIPMENT	803,412	2.82	3.85	Food service, educational & scientific, entertainment, athletic & recreational.
12.	12.	FURNISHINGS	2,352,003	8.26	11.27	Casework, furniture, multiple seating.
14.	14.	CONVEYING SYSTEMS	50,000	0.18	0.24	Elevators (1).
15.	21.	FIRE SUPPRESSON	407,201	1.43	1.95	Water-based fire-suppression systems, fire-extinguishing.
15.	22.	PLUMBING	1,371,969	4.82	6.57	Piping & pumps, fixtures, gas & vacuum systems for laboratory & healthcare.
15.	23.	HVAC	3,963,320	13.93	18.99	Piping & pumps, air distribution, central heating, central cooling.
16.	26.	ELECTRICAL	3,245,646	11.40	15.55	Medium voltage distribution, lighting.
16.	27.	COMMUNICATIONS	717,240	2.52	3.44	Data, voice, audio-video, distributed communications & monitoring systems.
16.	28.	ELECTRONIC SAFETY & SECURITY	358,934	1.26	1.72	Detection & alarm.
15.	44.	POLLUTION CONTROL EQUIPMENT	37,116	0.13	0.17	Water treatment.
		TOTAL BUILDING COST	**28,467,870**	**100.00**	**$136.41**	
2.	2.	EXISTING CONDITIONS	535,681			Subsurface investigation, site remediation.
2.	31.	EARTHWORK	2,661,096			Site clearing, earth moving, special foundations & load-bearing elements.
2.	32.	EXTERIOR IMPROVEMENTS	1,956,098			Bases, bollards, & paving, improvements, planting.
2.	33.	UTILITIES	948,798			Water, sanitary, storm drainage.
		PROJECT COST	**34,569,543**			**(Excluding architectural and engineering fees)**

UPDATED ESTIMATE TO FEBRUARY 2009: $157.67 PER SQUARE FOOT