

# 2012 Exhibition of School Planning and Architecture

## Woodrow Wilson High School

Washington, DC

Lee J Brockway Award - Renovation  
High School

Architect - **cox graae** + **spack** architects

Associate Architect - Fanning Howey

# Woodrow Wilson High School Modernization





# A Diamond in the Rough

## Community Environment:

The rejuvenation of Woodrow Wilson High School brought a decaying, but beloved community landmark into the 21<sup>st</sup> century.

The competition-winning design renovated 300,000 square feet, reorganized key parts of the campus to promote program synergies, adaptively re-used all of the historic elements, re-purposed underutilized and unused existing spaces, and strategically added 76,000 square feet of infills and additions in a contextually sensitive, yet contemporary style. The once labyrinthine, multi-level connections between buildings were expanded, simplified and made fully accessible.





# Old & New

## Community Environment:

Woodrow Wilson High School has a history of serving the community, but over the decades the change in academic configuration has caused the public-use space to be poorly arranged. The design re-organized program elements in order to create three centers which can be operated and accessed independently:

### *Athletic Center*

- Main Gym relocated into the expanded original Auditorium next to the Natatorium
- New Auxiliary Gym with showers and lockers built in excavated space below with direct connection to the Stadium playing field
- Exercise Facility located on a new floor structure inserted into the re-purposed two story interior of the Power Plant

### *Visual and Performing Arts Center*

- New Auditorium relocated to the old Gymnasium.
- New central lobby with direct access to Choral Arts/Dance, Black Box and Auditorium
- Underground parking for school's day use and after-hours community use of the Center

### *Academic Center*

- Relocating the busy major public and support spaces to the lowest floor so that academic floors could be consolidated above.
- Developing a clear and inviting school arrival and entrance point where once there were three - narrow and inaccessible.





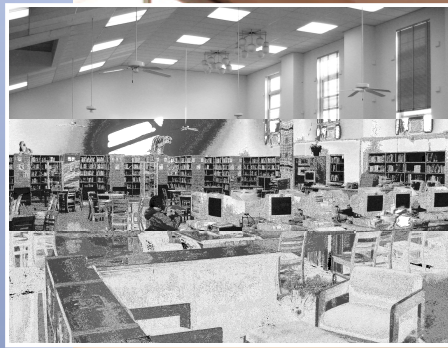
# World Class Facilities

## Learning Environment:

The original 1935 Gym was converted to a single level library in the 1970s. The new design took advantage of the generous 2-story height for the Black Box Theater and Choral Room on one side and a new two-level Media Center with adjacent Computer Labs, Cyber Café and Media Production facility.

The original Gym was converted to a full performance 850-seat auditorium with the addition of thrust and back stages, scene shop, dressing rooms, band room, music and practice rooms.

The 2D and 3D art rooms were expanded and designed to provide access to an adjacent outdoor Arts Terrace.





# Academy Approach

## Learning Environment:

Despite limitations of the physical environment, Wilson has developed a highly successful academy program. The design of the modernization transforms the existing main building into a series of schools-within-a-school, which align the building program with the current curriculum.

### *Schools-Within-A-School*

Each academy is designed to create a self-contained learning environment including dedicated space for academy-level administration, classrooms, science labs, resource rooms, and teaming space.





# Breathtaking Transformations

## Physical Environment:

The crowning glory of the newly modernized Wilson is the Crossroads, a once unfriendly outdoor courtyard in the center of the Academic Building that is now transformed into the heart of the school as a central atrium space with a uniquely dramatic skylight.

This 10,000 sf four-story space is the gateway to the Campus from the school's new main entrance. It is accessible on all sides from primary cross-campus circulation pathways, and provides a new major venue for school and community functions. Students frequently meet in this sunlit and landscaped environment to collaborate and socialize between classes and during the lunch hour.





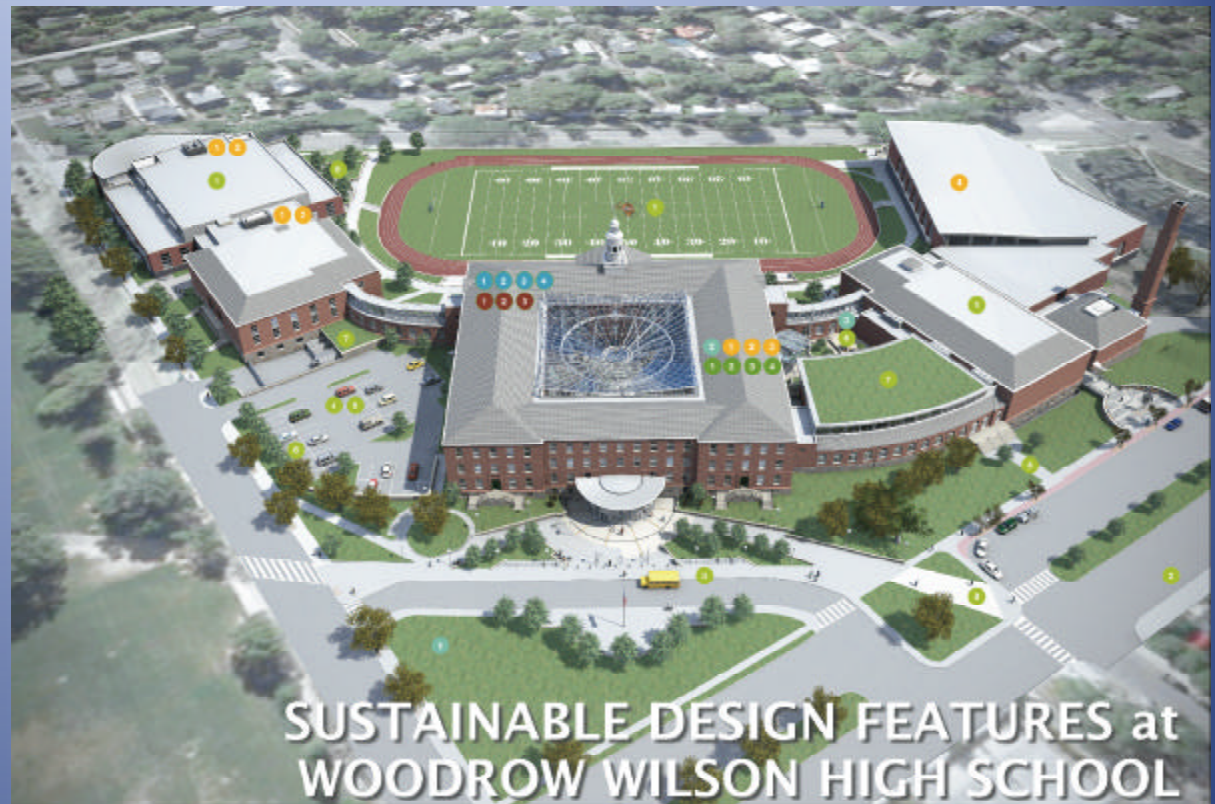
# Sustainable Future

## Physical Environment:

Wilson is designed and constructed to achieve LEED Gold certification. Important sustainable features were creatively woven into to the historic fabric yet in such a way that they could also serve as teaching tools.

Sustainable highlights include:

- 90% re-use of existing structures
- Rainwater collection for graywater use
- Photovoltaic panels
- Extensive green Roofs
- Ultra-low flow plumbing fixtures
- Pervious paving systems
- Energy efficient mechanical systems



## SUSTAINABLE DESIGN FEATURES at WOODROW WILSON HIGH SCHOOL



CGS  
CONCRETE GROUP SERVICES

GCS | SIGAL | LLC

FANNING HOWEY

OPEFM  
Office of Public Education  
Facilities Modernization

DISTRICT OF COLUMBIA  
PUBLIC SCHOOLS

### Sustainable Building Design

LEED is an internationally recognized green building certification system. Developed by the U.S. Green Building Council (USGBC), LEED provides building owners and operators with a framework for identifying, prioritizing, and implementing sustainable and measurable green building design, construction, operations and maintenance solutions.

LEED promotes sustainable building and development practices through a series of rating systems. The resources projects that implement strategies for better environmental and financial performance. The LEED rating systems are developed through an open, consensus-based process. The systems are designed to be balanced and transparent, providing a credible, technical industry system that recognizes scientific, technical and social opportunities for sustainable technology and innovation. The system is designed to be a tool for measuring and improving the performance of buildings, and for setting goals.

The implementation of Woodrow Wilson High School is designed to achieve LEED Gold Certification during the 2009 LEED for Schools v3.0 review.

### Categories

#### Sustainable Sites

The location of a project is the foundation for the sustainability of individual buildings or an entire neighborhood.

The sustainability of a project has two essential aspects:

- Transportation
- Site selection
- The design and management, and
- Sustainable management.

### Energy and Atmosphere

Energy has emerged as a critical economic issue and the primary driver for policy action. Sustainable patterns of energy supply and demand have become a critical and long-term impact on everything from household budgets to international relations. Buildings and the built environment, and the management of buildings, neighborhoods, and cities systems can dramatically impact energy efficiency and energy consumption, sustainable energy supply. Efforts to address energy through green building focus on two or three connected elements:

- Energy demand
- Energy efficiency
- Renewable energy, and
- Improving energy performance

### Water Efficiency

LEED encourages and promotes efficiency measures that significantly reduce the amount of water used by buildings while still meeting the needs of the project and its occupants. These measures protect all the water usage associated with buildings:

- Fresh water for restrooms
- Outdoor water for landscaping, and
- Process water for industry or purposes and building systems.

### Materials and Resources

Building generates a large amount of waste throughout the life cycle, from construction to building operation to demolition. Construction of sustainable

### Indoor Environmental Quality

According to the US Environmental Protection Agency, Americans spend 90% of their time indoors. Most construction of new buildings is significantly higher than outdoor levels. Consequently, indoor environmental quality is a major concern for building occupants, along with a major concern for building owners, designers, and comfortable environments for the occupants and the time for the day or building-related health conditions, meeting the goal requires attention to two kinds of issues:

- Indoor air quality, and
- Thermal comfort, lighting and acoustics.

### Innovation in Design

The LEED rating system offers innovation in design credits to encourage projects to go above and beyond the code requirements and explore innovative ways to bring innovation in LEED recognition and innovation in design credits.

- Exemplary performance, and
- Innovation

### Regional Priority

Since environmental priorities may differ between different geographical regions, the highest priority programs to address the unique challenges and opportunities that are important to the area that the project is located. The LEED Green Building Rating System is designed to be a tool for measuring and improving the performance of buildings, and for setting goals.



# A Community Effort

## Planning Process:

Integral to the success of Wilson's modernization was the extensive formalized engagement of the school and community throughout programming, design and construction. Regular presentations, meetings, design charrettes, and workshops with student representatives, faculty, school administration, the Chancellor's Office, parent organizations, community associations and commissions and many other stakeholders ensured an informed and collaborative process.

Through these sessions with the school and its community the district's generic Educational Specifications were tailored to address Wilson's unique requirements and lead to the vision of creating schools-within-a-school to support the existing learning academies.



Ribbon Cutting Ceremony  
August 2011



Construction Tour for the Public



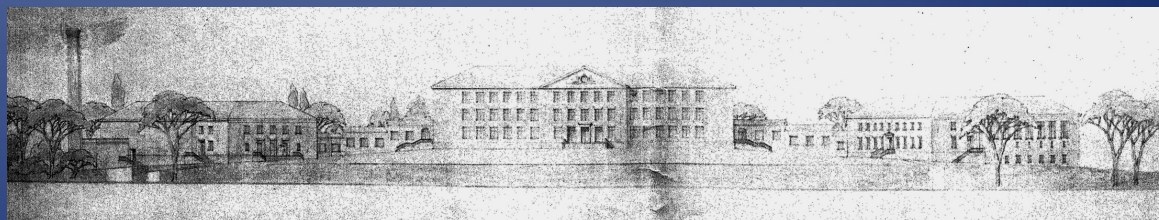
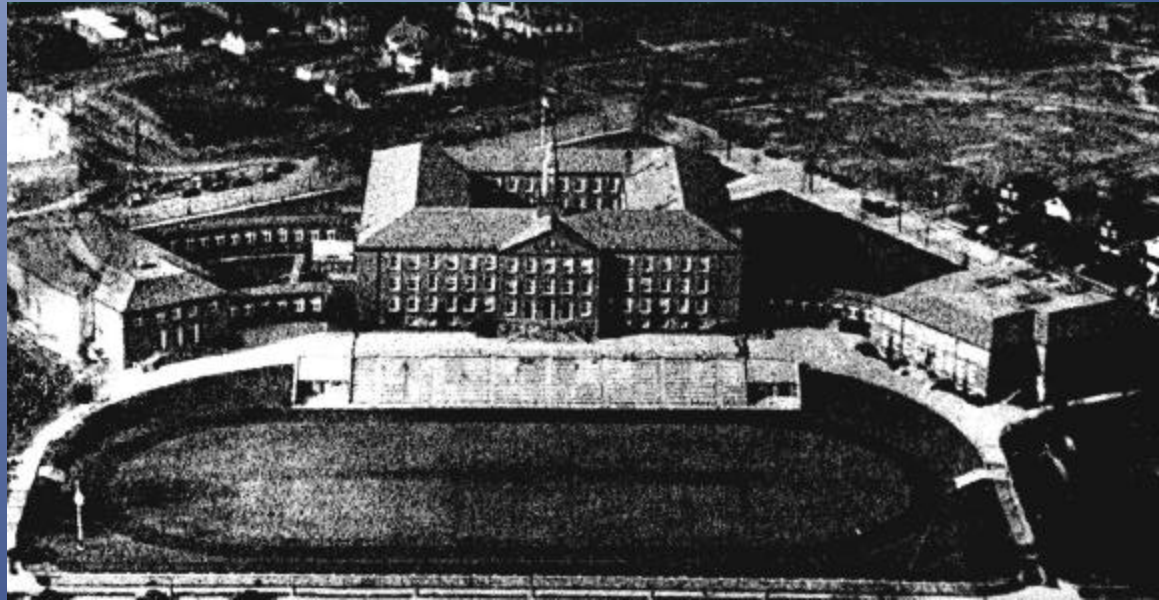
# Respecting the Past

## Planning Process:

Woodrow Wilson High School was constructed between 1934-1935 in a Georgian Revival style. The initial design was begun by DC Municipal Architect Albert L. Harris, and then largely completed by Municipal Architect Nathan C. Wyeth after Harris's. The design was closely overseen by the Commission of Fine Arts who pushed for a high-quality architectural design to be appropriate for the school's commanding site in the nation's capital.

An additional challenge for the already complex modernization project was successfully navigating the District's very robust review and approvals process for landmarked historic structures. The detailed restoration and careful adaptive re-use of existing structures, and the sensitive insertion of new construction required working closely with the U.S. Commission of Fine Arts and the DC Historic Preservation Review Board.

The project was recently recognized with the prestigious State Historic Preservation Officer's Award from the District of Columbia's Office of Historic Preservation and the District of Columbia Preservation League. DC Mayor Vincent Gray praised the preservation efforts at Wilson as "a shining example of transforming a historic campus into a first-class facility with an extraordinary design."





# Exhibition of School Planning and Architecture Project Data

Submitting Firm :	cox graae + spack architects
Project Role	Architect
Project Contact	Christoffer Graae, AIA LEED AP
Title	Principal
Address	2909 M Street NW
City, State or Province, Country	Washington, DC
Phone	202.965.7070

Joint Partner Firm:	Fanning Howey
Project Role	Associate Architect
Project Contact	Ed Schmidt
Title	Principal
Address	210 N Lee Street, Suite 208
City, State or Province, Country	Alexandria, VA
Phone	703.519.9822

Other Firm:	DCPEP – JV of Brailsford & Dunlavey and McKissack & McKissack
Project Role	Project Management
Project Contact	Beth Penfield
Title	Project Manager
Address	1140 Connecticut Ave NW, Suite 400
City, State or Province, Country	Washington, DC
Phone	202.266.3433

Construction Firm:	GCS SIGAL, LLC
Project Role	GC (modified Design-Build)
Project Contact	Kerric Baird
Title	Senior Vice President
Address	2231 Crystal Drive, Suite 200
City, State or Province, Country	Arlington, VA
Phone	703.302.1552

# Exhibition of School Planning and Architecture

## Project Details

<b>Project Name</b>	Woodrow Wilson High School Modernization
<b>City</b>	Washington, DC
<b>State</b>	Washington, DC
<b>District Name</b>	District of Columbia Public Schools
<b>Supt/President</b>	Kaya Henderson, Chancellor
<b>Occupancy Date</b>	August 2011
<b>Grades Housed</b>	9-12
<b>Capacity(Students)</b>	1600
<b>Site Size (acres)</b>	10.34
<b>Gross Area (sq. ft.)</b>	376,500 sf
<b>Per Occupant(pupil)</b>	235 sf / student
<b>gross/net please indicate</b>	gross
<b>Design and Build?</b>	Yes
<b>If yes, Total Cost:</b>	\$95 million
<b>Includes:</b>	hard cost and FF&E
<b>If no,</b>	
<b>Site Development:</b>	
<b>Building Construction:</b>	
<b>Fixed Equipment:</b>	
<b>Other:</b>	
<b>Total:</b>	



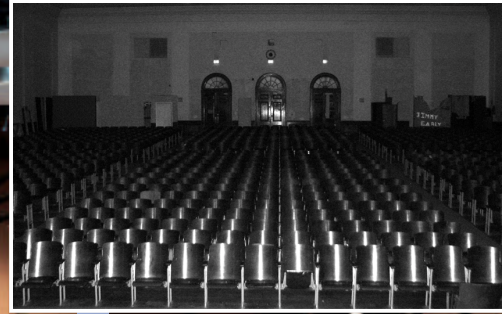


Media Center Facilities





# Performing Arts



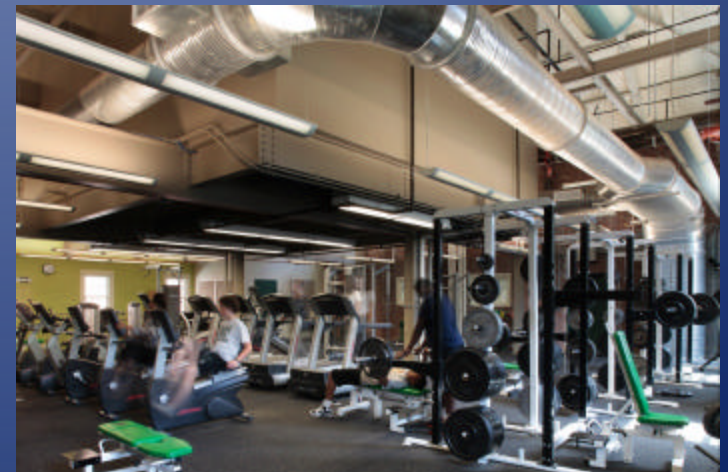
VPAC Entrance





Crossroads and Cafeteria





Athletic Center Facilities



New Main Entrance

