



Adaptive Reuse

Turning Vacant Buildings into Schools

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Adaptive Reuse: Trading Spaces

- v Adaptive reuse – what is it?
- v What types of facilities
 - Υ Retail facilities
 - Υ Strip Malls
 - Υ “Big-Box” buildings
 - Υ Grocery stores
 - Υ Churches
 - Υ Museums
 - Υ Office and Manufacturing



This historic mule barn was incorporated into the final design of the East Valley Institute of Technology



Adaptive Reuse: Turning Vacant Buildings into Schools

Addressing a “Growing” Problem

- v Since WWII, growth has taken the form of suburban sprawl and urban disinvestment
- v The typical mother spends an average of one hour per day behind the wheel (National Trust 2002)
- v Only 13 percent of students walk or bike to school (US Transportation Dept 2001)
- v Construction of a new school on a district’s perimeter can alter the direction of future development for the entire community



Adaptive Reuse: Turning Vacant Buildings into Schools

A Narrowing of Options

Why are districts turning to adaptive re-use?

- v Need for quick facility solutions to problematic overcrowding
- v Lack of undeveloped land
- v Availability of abandoned commercial and industrial buildings



Over 300 former Walmart facilities are for sale across the U.S. (AS&U 2004)

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Building Community

Adaptive Reuse Promotes Smart Growth

- v **Reuse candidates are typically centrally located facilities**
 - γ Walkable schools
 - γ School as center of community
- v **Utilization of existing structures**
 - γ From Eyesore to Opportunity
 - γ Historic Preservation
- v **Mixed-Use Land Developments**
- v **Revitalized Communities**

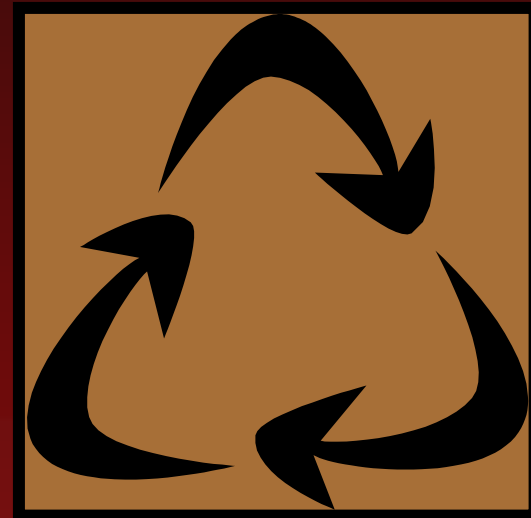
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Sustainable Solutions

Large-scale recycling

- v Unwanted buildings avoid costly abandonment or demolition
- v Reuse of structure and materials
- v Preservation of neighborhoods



Determining Feasibility

- v Structurally Sound Building
- v Adaptive Facility
- v Properly Zoned
- v Resolvable safety / security issues
 - Υ Secure location
 - Υ Removal of hazardous materials
- v Potential for accessibility
- v Code Compliance



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Project Case Studies

v **Commercial Facilities**

- Υ Maryvale Mall (abandoned mall)
- Υ Guerrero Elementary (grocery store)
- Υ Winn Dixie 9th Grade Center (grocery store)
- Υ Moore Square Middle (downtown city block)

v **Manufacturing Facilities**

- Υ Lufkin Road Middle (manufacturing & research facility)
- Υ E-26 Elementary (manufacturing facility)

v **Government and Office Facilities**

- Υ Robert F. Kennedy Charter High School (post office)
- Υ River Oaks Special Optional School (office building)



Commercial Facilities

Maryvale Mall

- v Purchased & renovated a 1950's shopping mall facility into an elementary and middle school
- v Acquisition cost: \$7.3 million
- v Square footage: 133,000
- v Project total: \$16 million
- v School capacity: 1,600 Students

Maryvale Mall

Cartwright SD

- v Cartwright area example of urban disinvestment
- v Overcrowded schools
- v Large minority population
- v Multiple families in single-family houses made enrollment projections difficult
- v Lack of land



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Maryvale Mall

- v Original mall built in 1950's in Phoenix's first subdivision
- v Building had undergone several renovations/additions over the years, including transformation from outdoor mall to enclosed facility
- v Dilapidated facility had sat vacant for years



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Maryvale Mall

- ✓ Elementary entry designed as streetscape
- ✓ Skylights incorporated for daylighting
- ✓ Designed to maximize flexibility
- ✓ Community Center and Clothes Closet
- ✓ Shared kitchen and media center
- ✓ Transitional school for displaced students during renovations

Maryvale Mall

END RESULT:



Movie Theater



Auditorium

Bowling Alley



District Warehouse

Skating Rink



Gymnasium

Parking Lot



Playground/Fields



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Maryvale Mall

Catalyst for Change

- Υ Maryvale Ballpark
- Υ New \$10 million library and multi-generational community center
- Υ Residential revitalization and new construction
- Υ Commercial reinvestment



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Guerrero Elementary

- v Former Smith's Grocery Store transformed into Pedro Guerrero Elementary School
- v Use of one-way vehicle entries and eight-foot screening walls to shield commercial traffic
- v U.S. EPA selected Guerrero Elementary as a model of IAQ guidelines due to its state-of-the-art air filtration system and proper chemical storage



The stucco exterior and boxy structure only hint at the building's origins as a Smith's grocery store

Winn Dixie 9th Grade Center

- v 52,474 square feet
- v Has adequate water and sewer



- v Does not have adequate play area
- v Potential: convert to an elementary school
- v Challenge: 10 year lease

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Moore Square Middle School

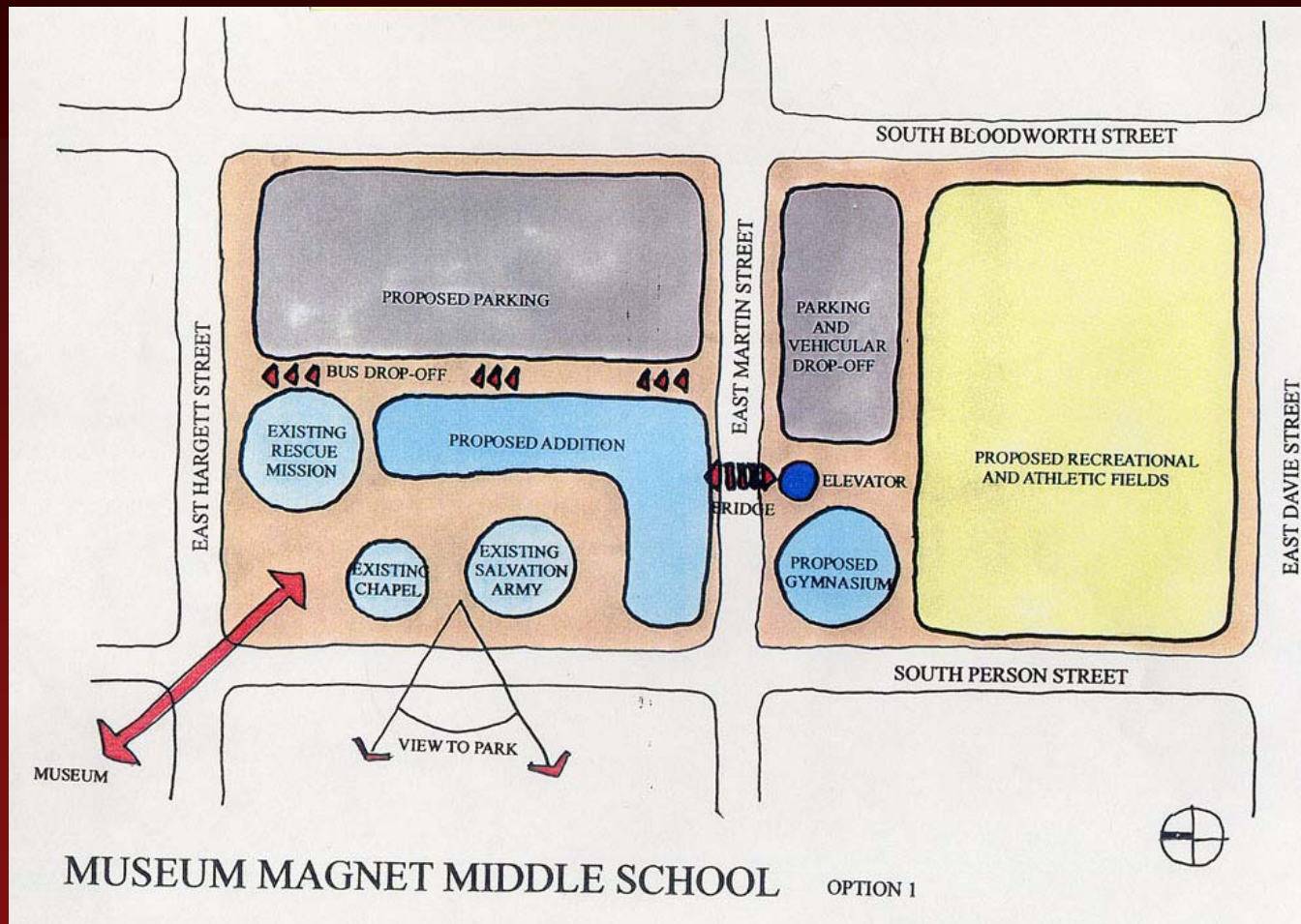
- ✓ Purchased property in downtown Raleigh in 1997; opened in 2002
- ✓ Typical middle school is for 1,000 students and requires 25+ acres
- ✓ Space constraints did not allow for an auditorium and extended playing fields
- ✓ Project total: \$14M
- ✓ School capacity: 651 with objective to occupy 2 city blocks totaling 8 acres

Moore Square Museum Magnet Middle School



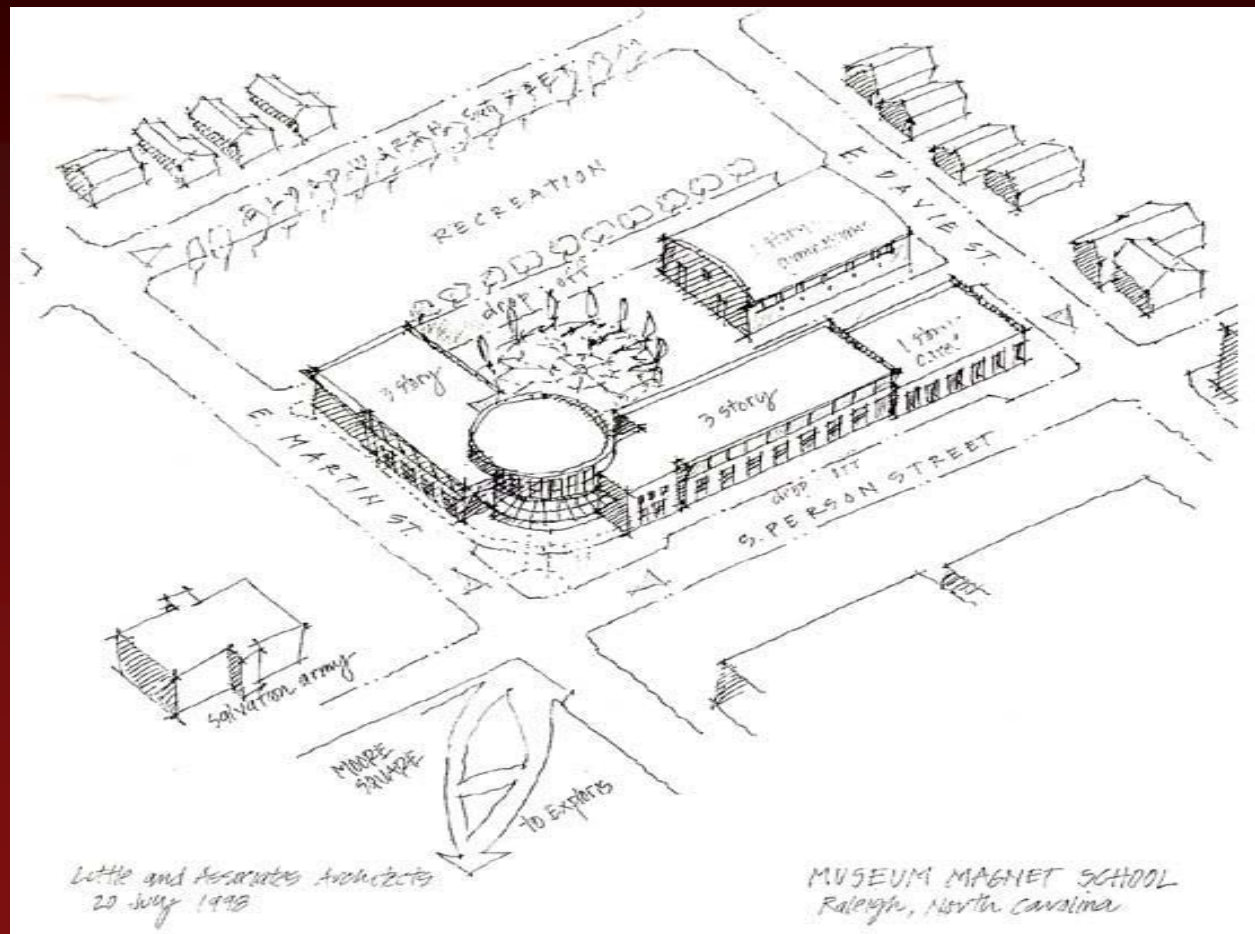
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Moore Square Middle School



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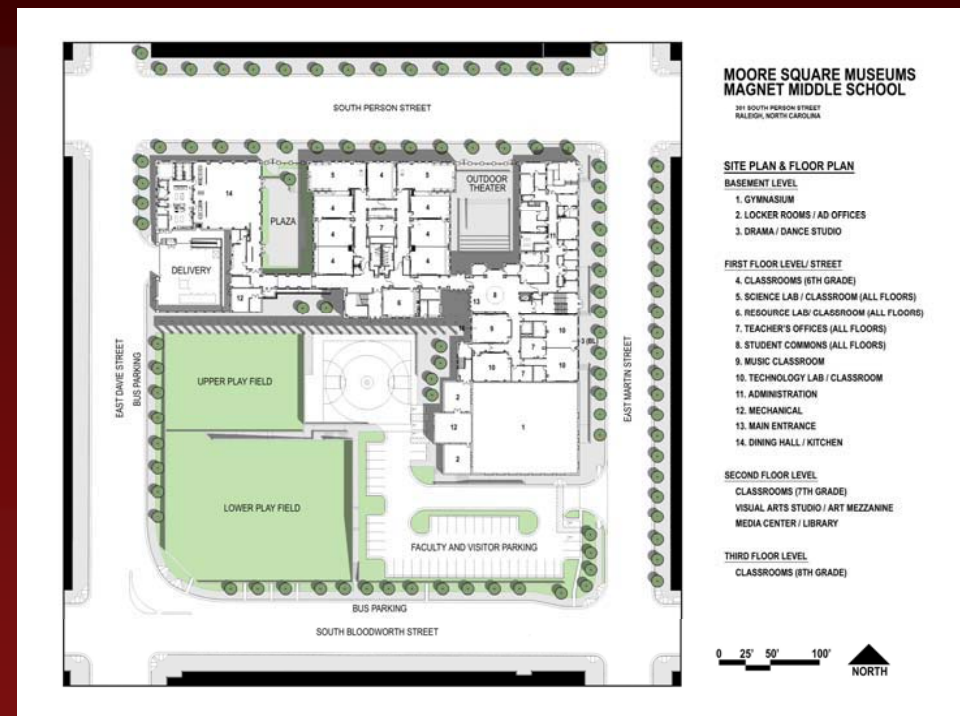
Moore Square Middle School



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Moore Square Middle School

- v Built on a downtown city block with obvious space constraints – 125,000 sf
- v Student capacity is 651 with 43 teaching spaces vs. typical 981 students & 61 teaching spaces
- v Classrooms are 3 story vs. more typical 2 story
- v Students take mini-field trips instead of relying on ‘school’ facilities
- v Offered as a “museums” magnet school with a base assignment



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Moore Square Middle School

- v Compact design to include a gym, limited playing fields, parking areas & outdoor amphitheatre, roof art terrace
- v Each story houses one grade level
- v Has won several awards:
 - Υ National Architectural Design award for “Impact on Learning”
 - Υ “Community Appearance” Award
 - Υ **“EPA National SmartGrowth”** Award



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Office and Manufacturing

Lufkin Road

- ✓ Purchased a former manufacturing facility in 1998 turning it into a standard middle school a year later
- ✓ Located in a industrial area with traffic and “hazardous chemical” issues
- ✓ Square footage: 144,000
- ✓ Project total: \$22.3 M
- ✓ School capacity: 1,200 YR



Lufkin Road

- v The two-story office section was converted to classrooms & administrative spaces
- v The high bay manufacturing area was renovated to include cafeteria, gym, media center & music room as well as classroom spaces



Lufkin Road

- v Demolished interior of building & added stairwells to meet code requirements
- v Aggressive design, approval & bidding process compressed into 3 months
- v Construction time reduced from 18 months to 6 months



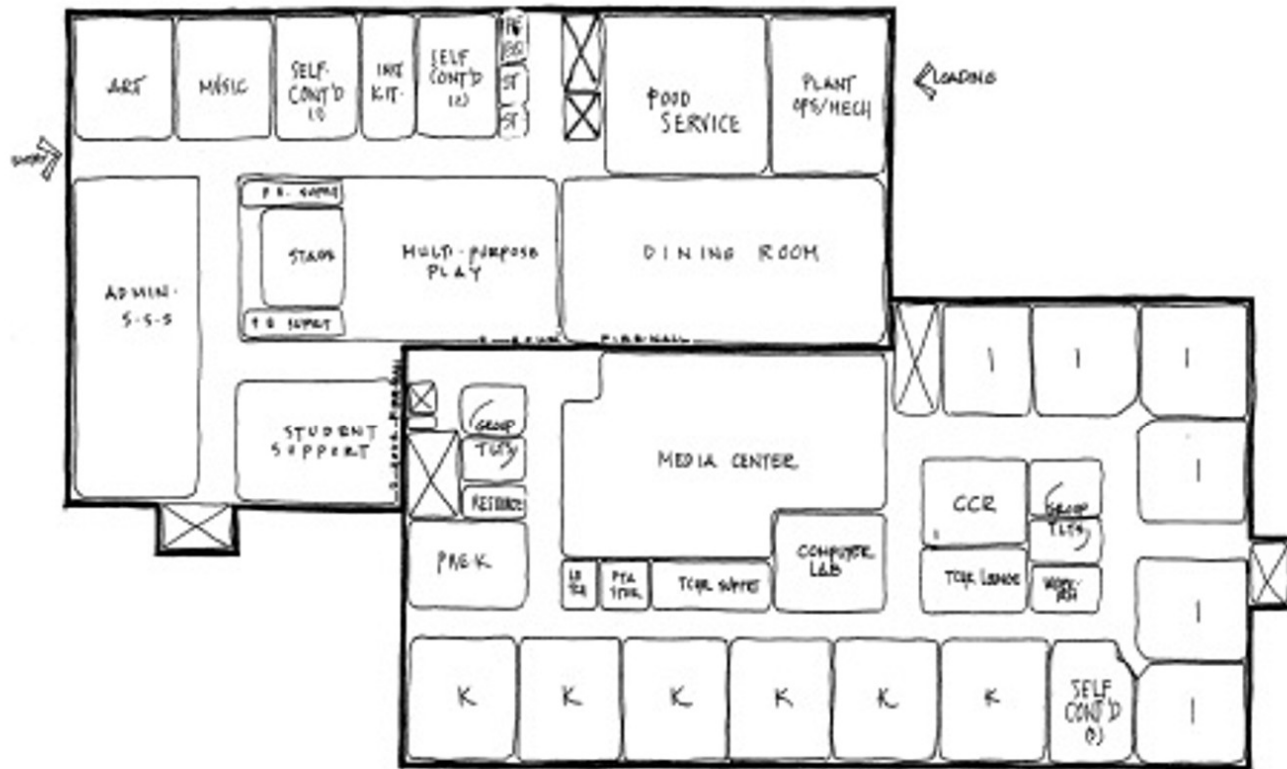
E-26 Elementary

Manufacturing Facility – Apex



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E-26 Elementary



GROUND FLOOR ORGANIZATIONAL DIAGRAM

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E-26 Elementary

- Renovated into an 800 student elementary school



Created a second floor in the high-bay area
•77.2 K SF Expansion to 104.6 K SF

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Government and Other Facilities

Robert F. Kennedy Charter HS

UNM's "Children and Architecture"

Students helped transform
post office into their new HS

- Υ Direct Planning Input
- Υ Helped select design
elements and materials
- Υ Participated in construction
- Υ Laid 5,000 adobe bricks
- Υ Activities integrated into
curriculum



Robert F. Kennedy Charter HS

Photographer: Jamie Stillings
Edutopia Magazine, April 2005

River Oaks Middle School

Purchased & renovated 2 ½ story office building in 2005 turning it into an 'alternative' middle school

- v Square footage: 32,000
- v Project total: \$5.1M
- v School Capacity: 125



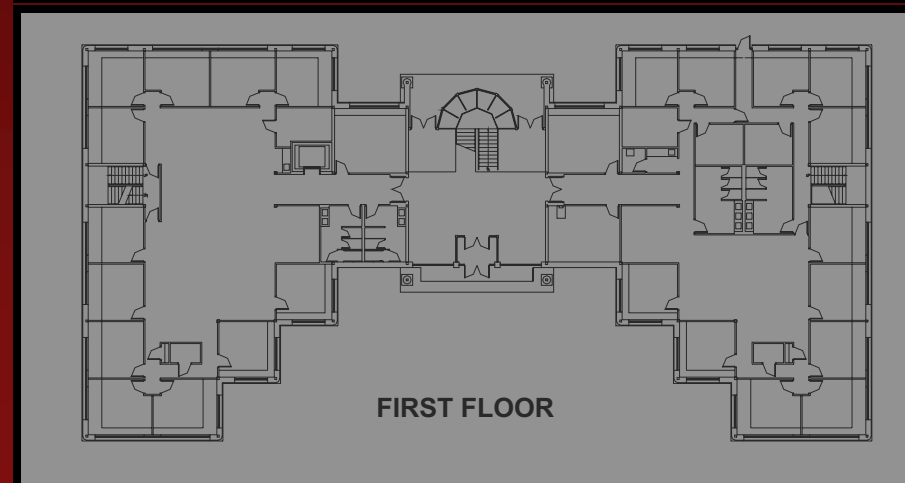
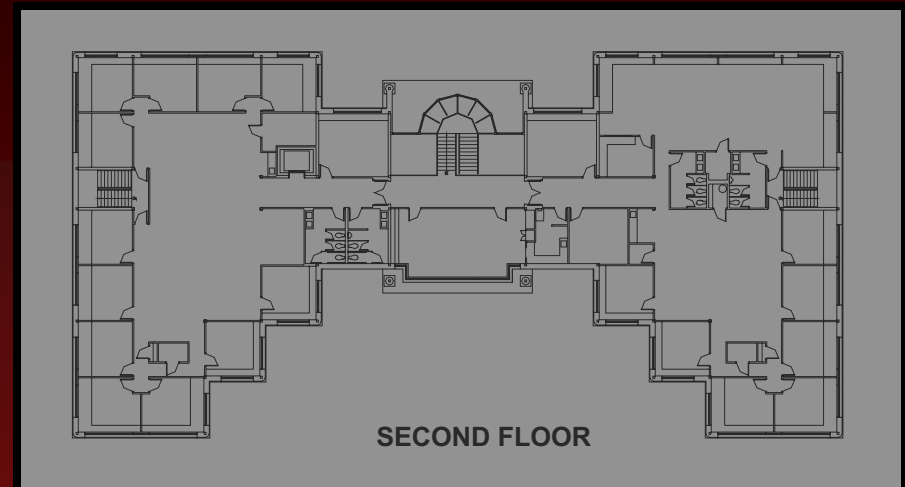
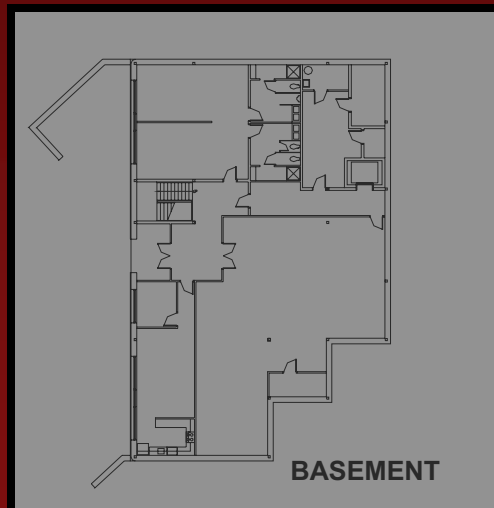
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River Oaks Middle School

RIVER OAKS MS

ORIGINAL FLOOR PLANS

BUSINESS OCCUPANCY

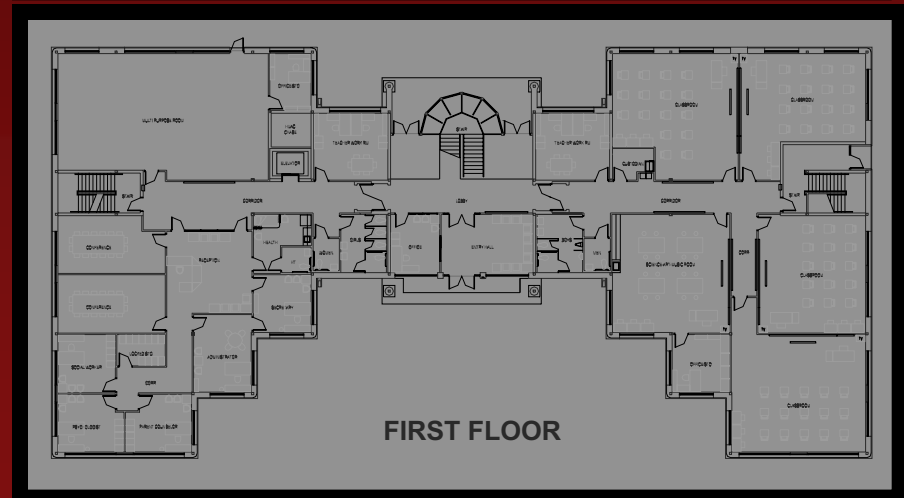
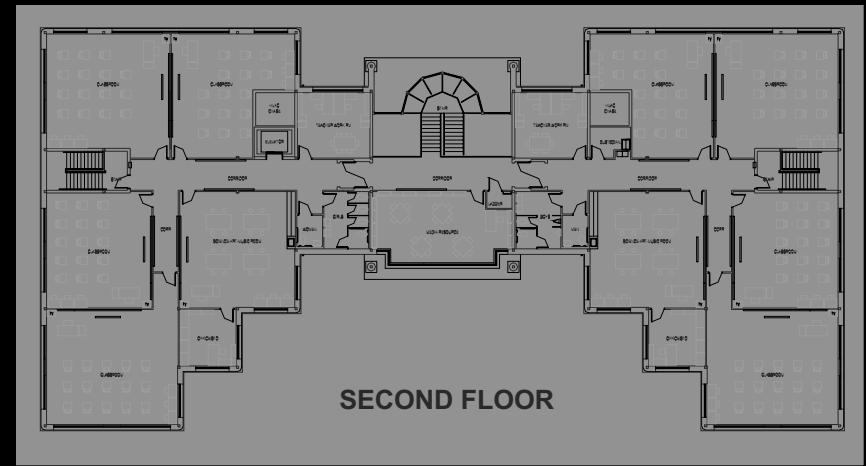
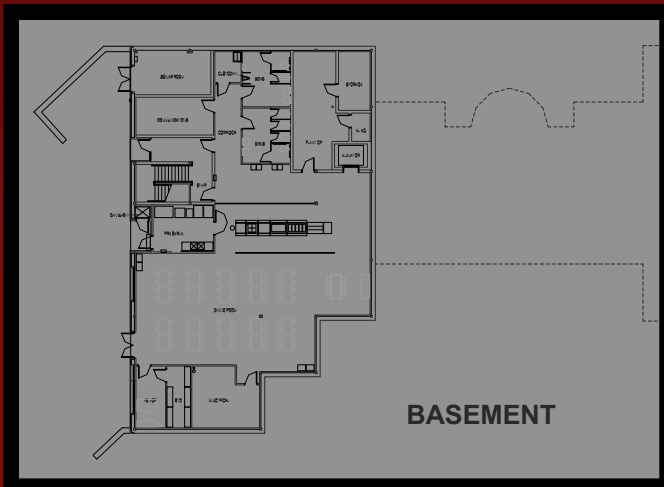


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River Oaks Middle School

RIVER OAKS MS RENOVATION FLOOR PLANS

BASEMENT 6,000 SF
1ST FLOOR 12,500 SF
2ND FLOOR 12,500 SF



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River Oaks Middle School

- v 80% of interior was demolished and converted to classrooms.
- v Retrofitted stairwells and lavatories
- v Design and construction, September 2004 – October 2005
- v Does not have an outside play area, but does have room for a basketball court



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River Oaks Middle School

- ✓ 1:9 student/teacher ratio
- ✓ Students are there for up to 2 ½ months
- ✓ Construction utilized 2 ½ floors with dining hall on lower level
- ✓ Excellent location for accessibility from all areas



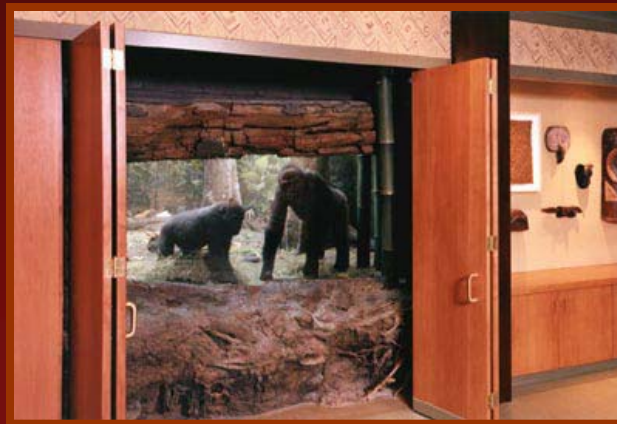
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Partnership for Learning

Use of museums and other facilities offer unique learning opportunities



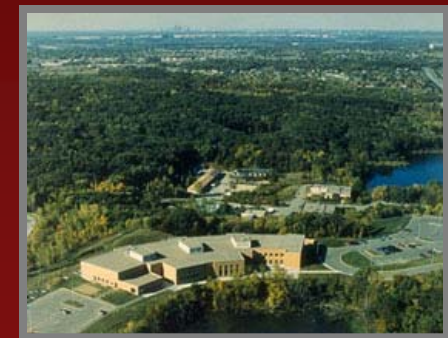
Henry Ford Academy
Dearborn, Michigan
Concordia Architects



Congo Gorilla Forest Classroom
Bronx, NY
Helpern Architects



Seattle's The Center School
Bassetti Architects



High School of Environmental Studies
"Zoo School"
HGA Educational Design Group

Adaptive Reuse: Turning Vacant Buildings into Schools

Advantages to Adaptive Reuse

- ✓ Community ownership of existing structures
- ✓ Reduced costs
- ✓ Time savings
- ✓ Design work mostly interior
- ✓ Central location
- ✓ Access to public transportation
- ✓ Big boxes offer ample square footage and large lots for outdoor development
- ✓ Public perception of fiscal stewardship



Adaptive Reuse: Turning Vacant Buildings into Schools

Challenges of Adaptive Reuse

- v Zoning issues
- v Aesthetic challenges
- v “Box” design has high ceilings / no windows
- v Possible traffic, safety and parking concerns
- v Need to break facility into smaller spaces
- v Materials used in commercial buildings may create challenges for educational use
- v Potential for contaminated soil or hazardous materials
- v Existing or adjacent tenants



Maryvale Mall – skylights were utilized to compensate for a lack of windows in the boxy external structure



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