

## SHAMBLEE LIBRARY

The Shamblee Library is a branch of the Fort Worth Library located just southeast of downtown Fort Worth. The building occupies a prime location in a historic district two blocks east of Interstate 35W, 3.07 miles from the Central Library.

**Official Name:** Ella Mae Shamblee Library

**Building Address:** 1062 Evans Avenue

**Library Facility Code:** EMS

### Site Description

The building is situated on a landscaped lot of 0.61 acres, facing Evans Avenue. The topography of the site slopes gently downward, from the north toward the public entrance. The primary maintenance responsibility for the site falls under the supervision of the City of Fort Worth Parks and Community Services Department. Routine maintenance includes cutting of the grass and landscaping around the building and parking lot. Drawing EMS -1 illustrates the site of the Shamblee Library (11" x 17" overleaf).

### Architectural Description

Construction of the building was completed in 2008, as a new addition to the historic Our Mother of Mercy School. The facility appears to be well built and in good condition, with the exception of a few building code deficiencies. Drawing EMS-2 depicts the Ground and Upper Floors of the Shamblee Library (11" x 17" overleaf). Drawing EMS-3 depicts the square footage of each room on both floors of the building (also 11" x 17" overleaf) as tabulated in Table A5.12.1.

**Square Footage:** There are currently 13,445 building gross square feet (bgsf). There are 9,624 net assignable square feet (nasf) within the facility. The library currently occupies the entire building.

## Evaluations for both public & staff spaces of the facility

**Table A5.12.1**

Existing Square Footage Tabulation, Room-by-Room, Shamblee Library

### Upper Floor

room no.	room name	square footage net assignable	building gross
201	Kitchen	162.60	
202	Storage	122.22	
203	Performance Hall	1,667.82	
204	Vestibule		137.46
assigned rooms and spaces		1,952.64	
unassigned walls, pipe chases, etc.			606.60
TOTAL			2,559.24
EFFICIENCY			76.30%

### Ground Floor

room no.	room name	square footage net assignable	building gross
101	Circulation Desk	982.96	
102	Adult Reading	1,596.47	
103	Teen Collection	327.25	
104	Children's Collection	822.94	
105	Multi-Media	745.52	
105A	Reference Collection	489.05	
106	Office	116.00	
107	Staff Work Room	674.29	
108	Exhibit Gallery	470.98	
109	Landing		410.84
110	Lower Vestibule		182.13
111	Conference Room	247.81	
112	Staff Break Room	274.30	
113	Book Drop	53.98	
114	Staff Work Area	107.54	

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**Table A5.12.1** (continued)

Existing Square Footage Tabulation, Room-by-Room, Shamblee Library

**Ground Floor** (continued)

room no.	room name	square footage net assignable	building gross
115	Office	175.14	
116	Maintenance Storage	212.88	
117	Electrical Room		98.97
118	Elevator Equipment		28.40
119	IT Room		131.37
120	Janitor		39.27
121	Toilet		56.11
122	Mechanical Room		84.37
123	Corridor		456.90
124	???	45.55	
125	???	58.20	
126	Women's Toilet		173.51
127	Men's Toilet		145.79
128	Janitor		42.71
129	Lobby	270.14	
130	Vestibule		77.32
assigned rooms and spaces		7,671.00	
unassigned walls, pipe chases, etc.			3,215.09
TOTAL			10,886.09
EFFICIENCY			70.47%

**Summary**

	floor	net assignable square footage	building gross square footage	efficiency
100	Ground Floor	7,671.00	10,886.09	70.47%
200	Upper Floor	1,952.64	2,559.24	76.30%
TOTAL		<b>9,623.64</b>	<b>13,445.33</b>	<b>71.58%</b>

## Existing Facility Assessment

The T/PW facilities database attributes 12,590 bgsf to the Shamblee Library, which is an approximation, and includes the enclosed space in both buildings.

**Trade Area Population**

The population within the 9-minute trade area is 108,755, as determined by the Customer Analytics Consultants.

**Driving Distance/Times to Other Libraries**

Seminary South	3.42 miles	7 minutes
Central Library	3.07 miles	6 minutes

**Demographics**

Households with children	13,368
Persons age 17 and under	30,539
Persons age 18 to 64	66,255
Persons age 65+	11,961
Percent Black/African-American	25.0%
Percent Hispanic	53.9%

**Output Measures**

The Library Consultants calculated a number of measurements of operating efficiency and their respective rankings among the 15 current FWL libraries. Table A5.12.2 summarizes our findings for the Shamblee Library.

**Table A5.12.2**

Output Measures, Shamblee Library

output	measure	ranking
Contacts per capita	20.72	5 of 15
Cost efficiency per contact	\$2.15	11 of 15
Cost efficiency per SF to operate	\$41.83	2 of 15

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### Collections

The current total collection size is 30,018. At 0.28 items per capita, the collection does not compare favorably to the minimum standard of 2.00 items per capita.

The responsiveness of collections to younger core customers reveals that the population under 17 years of age is 28.1 percent of the total, and the combined Children's/Teen collections are 46.5 percent of total. The library materials and services more likely to be used at Shamblee are Spanish Materials, Juvenile DVDs, Reference, and DVDs.

The space required to house the collections in an ADA/User-Friendly standard is 3,418 square feet, or 27.0% of the total building size.

### Computers & Seating

Based on the per capita number of computers provided for the public, the Shamblee Library, with 29, is well below "Basic" when compared to Texas State Library standards. To achieve the "Basic" level by the year 2020, Shamblee will need a total of 54 public computers.

The current public seating ratio, including computers is one seat per 414 (1:414) collection items. This compares very favorably to the neighborhood library standard of 1:1,500 to 1:1,800 collection items.

### Site & Building Capacity

The Shamblee Library currently provides nine parking spaces on site. At just under 13,500 gross square feet, 67 parking spaces would be needed in order to meet the minimum standard of one space per 200 bgsf of building, as it is currently sized.

## Existing Facility Assessment

Staff workspace is 11.15% of total net assignable square feet (nasf) of the building – a shortfall when compared to the minimum standard of 15% for buildings of up to 15,000 gross square feet. In terms of square footage, the shortfall equates to 371 nasf less than the minimum need of 1,444 nasf.

**Table A5.12.3**  
Site & Building Capacity, Shamblee Library

<i>unit of capacity</i>	<i>current 2010</i>	<i>2010 need to standards</i>	<i>current vs. standards</i>
Net assignable square feet	9,624	11,370	84.6%
Building gross square feet	13,445	13,376	100.5%
Site area, in acres	0.61	1.23	49.8%
Parking spaces	9	67	13.4%

### Growth Potential

**Adaptability:** The building is composed of open spaces, with structural spans ranging from 12 to 22 feet east-to-west and from 14 to 27 feet north-to-south. One exception is the Performance Hall 203, which is a clear span room of 35 by 40 feet. Changes to the configuration of the spaces appear to be feasible.

**Expandability:** Additions to the north or northwest appear most feasible, using the land of the existing parking lots for future horizontal expansion. It is not conceivable that vertical expansion could be achieved, given a preliminary analysis of the roof structure.

### Technology Assessment

Historic computer usage at the Shamblee Library is presented for fiscal years 2007 through 2009 in Table A5.12.4, tabulating PC logins, PC logins to library visits, and wi-fi connections.

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**Table A5.12.4**

Historic Computer Usage, Shamblee Library

<i>service item</i>	<i>2007</i>	<i>2008</i>	<i>2009</i>
PC Logins	14,599	13,705	24,430
PC Logins to Visits Ratio	29.9%	24.1%	22.4%
Wi-Fi Connections	n/a	216	1,005

**Computer Network:** This new building was designed with technology mind. In the public area, power boxes in the floor deliver power. Tables in the public area are equipped with pop-up power panels. Network connectivity is provided to the public lab via jacks in the wall for some and via jacks in floor boxes for others. Some spare jacks are available. Even so, the area to which staff would like to relocate the lab offers only power, not network jacks. The manager’s office is well equipped with power, data, and voice outlets on at least three of four walls. Power for Wi-Fi users is available around the perimeter of the public space where seating is available. Wi-fi has been available since the building opened in 2008.

**Public Computers:** A summary of the distribution of public computers is provided in Table A5.12.5 below. Computer reservation stations and print release stations are not included in the Adult Services quantity.

**Table A5.12.5**

Public Computer Distribution, Shamblee Library

<i>computer location</i>	<i>quantity</i>
Public Access Catalog (PAC)	4
Adult Services	15
Teen Services	4
Children’s Services	6
TOTAL	29

## Existing Facility Assessment

All of the PACs provided are for a standing position. None is at a position for wheelchair use. Staff believes the six Internet computers provided in the Children’s area are sufficient. In the Teen Services area, two teens often work together at one computer. Staff believes the quantity of Internet computers provided is sufficient, although weekends are busier. Computers are not within the line of site of staff from the service desk. Customers have difficulties due to the older versions of the software. The library’s public computers were used 25.2% more hours per computer than the system-wide average.

**Public Technology:** A digital signage system is in use. A material security system is used to secure the multiple entrances. The TV is installed in the public area. A second TV is located in the Teen Services room and is to be used for gaming. The library is equipped to use the digital signage system, but it is not in use.

**Computer Training:** Training is not offered.

**Self-Service:** One self-check-out station is provided, although the unit was out of order on the day of the consultant’s visit. The unit is located across from the circulation desk.

**Study Rooms & Meeting Spaces:** A ten person conference room includes a printer, flat panel video display, and a table with recessed power although the power is not connected. A recessed screen is installed in the meeting room. A portable projector is available for use.

**Technology for Staff:** A total of eleven staff computers are provided. Materials are returned into multiple drops, including two in the lower level, one at the desk, and two outside. One of the outside drops gets minimal use because it is too low. However, staff checks the return twice a day. A computer is provided in the downstairs area by the too-low book return, but it is not used. One staff computer is provided at the single, multi-

purpose service desk. Staff computers are provided in each office and on workroom desks.

### Site Improvements

**G2010 Roadways:** There are no driveways on site, other than the entrance and exit to the parking lot, which are in good condition. *composite rating: 4.*

**G2020 Parking Lots:** A striped parking lot for nine cars, including one space reserved for the handicapped, is situated to the north of the building. Five angled, on-street parking stalls are positioned in front of the building, including one handicapped stall. Storm water drainage from paved parking areas appears to be effective during moderate rains. *composite rating: 4.*

**G2030 Pedestrian Paving.** Handicapped access to the primary public entrance appears to be compliant, as is the back entrance from the parking lot. However, none of the other egress points from the building provide an accessible route. The concrete steps on the south side of the building provide an area of refuge for a wheelchair. *composite rating: 3.*

**G2040 Site Development.** A variety of lighting on the site uses metal halide lamps and appears adequate. Bollards, building- and pole-mounted light fixtures are all used. Two flag poles but no bike rack are provided at the public entrance. Five benches and an exterior book drop box are located near the entrance, on Verbena Street. *composite rating: 4.*

**G2050 Landscaping.** Small trees, shrubs, and flower beds are planted around the building. *composite rating: 4.*

**G3000 Site Utilities.** Underground utilities that appear to be available at the site include water, sanitary sewer, storm sewer, gas, and telephone. Overhead utilities that appear to be available at the site include cable television and power. *composite rating: 4.*

### Substructure

**A1010 Foundations:** As indicated on the original construction drawings, the building utilizes a foundation comprised of steel-reinforced concrete grade beams supported by steel-reinforced concrete pier footings under each column and approximately 18 to 23 feet on center around the perimeter, and approximately 14 feet on center under the interior of the building. No evidence of settlement was observed. *rating: 4.*

**A1030 Slabs on Grade:** Interior concrete floors are six-inch thick slab-on-grade type, reinforced with #4 and #5 re-bars, per the original construction drawings. The only possible evidence of settlement was observed in the Entrance Lobby, where a crack has developed in the terrazzo floor. *rating: 3.*

### Building Shell/Exterior Envelope

**B1020 Superstructure:** The building's superstructure is comprised of load-bearing steel columns, supporting steel beams and open-web steel joists supporting the roof deck. Masonry walls appear to provide lateral bracing at select locations around the perimeter. *rating: 4.*

**B2010 Exterior Walls:** The building uses a brick veneer, backed by metal studs in most locations, with cast stone accents at select windows. Insulation appears to have been provided within the exterior wall cavity, as indicated on the original construction drawings, but is difficult to verify from visual inspection. *rating: 4.*

**B2020 Exterior Windows:** Window units are typically fixed glass, with insulated glass in aluminum frames. Aluminum storefronts at the entrances of the building also utilize fixed insulated glass in aluminum frames. Glass block is also used in the public area. Replacement window units have been installed

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in the historic building. All fenestration is in very good condition. *rating: 4.*

**B2030 Exterior Doors:** The entrance doors are automatic opening-type with aluminum frames with vision glass, which appears to be tempered. All other exterior doors in the building are hollow metal in hollow metal frames. *rating: 4.*

**B3010 Roofing:** The roof of the building is primarily flat, utilizing a membrane roofing system. Sloped roof areas use a standing seam metal roof. The substrate material under the roofing membrane is metal decking, as indicated on the original construction drawings and evidenced upon visual inspection. *rating: 4.*

### Interior Items

These items were surveyed and rated on a room-by-room basis, and include composite ratings for all rooms in the entire building.

**C1020 Interior Doors & Hardware:** The interior doors are solid core wood in hollow metal frames. Door hardware consists of lever handles, which are ADA compliant. Panic hardware is provided on all exit doors. *composite rating: 4.*

**C3010 Wall Finishes:** Predominate wall finishes throughout are light colored paint on drywall partitions. Selected areas have fabric wall covering. Toilet Rooms 126 and 127 have ceramic wall tiles. The light colors offers good light reflectance and do not appear to be a cleaning or maintenance problem, with the exception of areas prone to damage by book trucks, such as Staff Work Room 107. *composite rating: 4.*

**C3020 Floor Finishes:** Floor covering throughout the building is predominantly carpet tile, with terrazzo in high traffic areas, vinyl composition tile used in utility/staff areas and sheet vinyl in Performance Hall 203. Ceramic tile is used in Toilet Rooms 126

## Existing Facility Assessment

and 127. Generally, floor finishes are in very good condition. *composite rating: 4.*

**C3030 Ceiling Finishes:** The dominant ceiling finish throughout the building is two-foot by two-foot lay-in suspended acoustical ceiling tile, with metal panel ceiling in select areas. Paint on drywall is used in the Toilet Rooms 126 and 127, Janitor's 120 and 128, and Mechanical Room 122. All ceiling finishes appear to be in very good condition. *composite rating: 4.*

### Vertical Movement & Egress

**C2010 Stairs/Ramps:** An enclosed, fire stair is not provided for this multi-story building, but may not have been required. Exterior concrete stairs appear to be original to the Our Mother of Mercy School building. *rating: 4*

**D1010 Elevators:** One elevator is provided for this multi-story building. *rating: 4.*

**Z1020 Handicapped Accessibility:** The building provides four means of egress to grade level, of which two are fully accessible routes. However, none of the other egress points from the historic Performance Hall provide an accessible route, even though they appear to have been reconstructed. Toilet Rooms appear to meet current TAS standards. *rating: 3.*

### Equipment & Furnishings

**E2010 Millwork & Casework:** The cabinetry in each space appears to be original to the building, and is in working condition. The Circulation Desk appears to function adequately. *composite rating: 4.*

**E2020 Furnishings, Fixtures, & Equipment:** In general, the furnishings in each space are those installed when the building opened, and are in very good condition. *composite rating: 4.*

### Mechanical System Description

There are nine packaged rooftop units (RTU's) with direct expansion (DX) refrigeration and natural gas heat exchangers for this facility. Rooftops units are all constant volume units. Additionally, there are two DX split systems, one of each serving the Electrical and Information Technology (IT) Rooms 117 and 119, respectively.

### Plumbing System

**D2020 Domestic Water Distribution:** Copper piping is utilized throughout the building. Water pressure appears adequate with a 2-inch city water service to the building. There is a Wilkins 950XL double check valve assembly in the 2-inch city water service as it enters the facility. *rating: 4.*

**D2020 Domestic Water Heater:** There are a total of four tankless water heaters for this facility. The main water heater is an instantaneous gas-fired, wall mount unit located in the Janitor Room. It is a Flash Water Heater T-K Jr. model with 140,000 Btu/hr input rating. Also included on this system is a Leonard's mixing valve assembly. Assembly not included with water temperature gauges so unable to confirm actual delivery water temperatures. The other water heaters are electric instantaneous units with 4,160 watts input by Chronomite Instant-Flow. These units are original to the facility (2008) and are in good condition. *rating: 4*

**D2030 Sanitary Collection:** Piping is a combination of PVC and cast iron. *rating: 4.*

**D2040 Storm Water Collection:** Scuppers, aluminum gutters, and downspouts provide roof drainage. Piping for interior roof drainage appears to be mostly adequate. *rating: 3.*

### Air Conditioning System

**D3050 Packaged Units:** There are nine packaged rooftops units that serve various rooms throughout the facility and are original to the facility (2008). These units are direct expansion with refrigerant R-22 and natural gas heat exchangers. All units are Carrier brand with a total nominal tonnage for the building of 45 tons with a Season Energy Efficiency Ratio (SEER) of 13 on the smaller units and an Energy Efficiency Ratio (EER) of 11 on the larger units. Rooftop units are mounted on vibration isolation curbs.

There are two smaller Mitsubishi split systems that utilize refrigerant R-410A and serve Electrical Room 117 and IT Room 119. Units also installed in 2008. Each of these units has a ceiling mounted cassette indoor unit and a separate roof mounted condensing unit. Both of these condensers, CU-1 and CU-2, have very damaged condenser fins. CU-2 is very close to roof edge and should be provided with a protected roof guard or relocated away from roof edge. *rating: 4.*

**D3040 HVAC Distribution Systems:** All heating, ventilating, and air conditioning (HVAC) systems are ducted supply and partial ducted return air. *rating: 4.*

### Automatic Temperature Controls

**D3060 Automated HVAC Controls:** All systems are connected in a computerized control system. There is a computer dedicated to the control system on site. *rating: 4*

### Interior Mechanical Items

These items were surveyed and rated on a room-by-room basis, and include composite ratings for all rooms in the entire building.

**D2010 Plumbing Fixtures:** Men's Toilet 127 has two counter-mounted handicap accessible lavatories, one urinal, and one floor-mounted flush valve handicap accessible water closet. The urinal and water closet flush valves are sensor operated. All fixtures are vitreous china and in good condition. Women's Toilet 126 has two counter-mounted handicap accessible lavatories and three floor-mounted flush valve water closets with one of the water closets handicap accessible. Flush valves are sensor operated. All fixtures are vitreous china and in good condition. The public unisex Toilet 121 has one wall-mounted lavatory and one floor-mounted flush valve water closet. Fixtures are handicap accessible, are vitreous china, and are in good condition. The flush valve is sensor operated.

Kitchen 201 has one stainless steel single compartment sink that is handicapped accessible. There is one floor mounted mop sink in Janitor room 128 and in good condition. There is one bi-level electric stainless steel water cooler in Lobby 129. This fixture is in good condition. *composite rating: 4.*

**D3040 Ventilation:** Throughout most of the facility, air movement was good. *composite rating: 4*

**D3040 Diffusers:** Diffusers are predominantly ceiling mounted. Air devices are original to the building and appear to be in good condition. *rating: 4.*

**D3060 Local Automatic Temperature Control:** The RTU's are controlled with room located temperature sensors. Electrical and IT Rooms are controlled by electronic thermostat. There does not appear to be any humidity controls or capability to limit high humidity levels. *composite rating: 4.*

### Fire Protection System

**D4010 Fire Protection Sprinklers:** The facility is fire protected throughout with a wet pipe system. The Book Drop room has an Inergen Clean agent self-contained system. *rating: 4.*

### Electrical System Description

The electrical distribution system consists of one 800A, 120/208V, 3-phase, 4-wire main distribution panel and six 120/208V, 3-phase, 4-wire branch circuit panels. The six branch panels are as follows: panel "H" (400A) feeds mostly HVAC equipment, panels "P", "PA", and "P2" (all 100A) feed mostly receptacle and similar loads and panels "L" (225A) and "LA" (100A) feed mostly lighting loads. The main distribution panel feeds all branch panels and the elevator. All panels are located in dedicated electrical rooms with the exception of panel P2, which is located in a Storage Closet by Conference Room 111. Lighting is automatically controlled. The facility has no emergency power system.

**D5010 Service Equipment:** All equipment is original and new. There is no evidence that feeders need to be replaced. *rating: 4.*

**D5010 Power Distribution Panels:** All branch panels have adequate spare capacity for normal maintenance and future growth. Overcurrent protection for panels "LA", "PA" and "P2" are set at 225A when they should be 100A. This needs to be addressed immediately to prevent possible fire in case of panel overload. *rating: 3.*

**D5020 Lighting & Branch Wiring:** Branch circuits are new and in good condition. There is no evidence that branch circuits, and other conductors need to be replaced. *rating: 4.*

**D5040 Emergency Power:** The building does not have emergency power distribution system. *rating: 0.*

### Interior Electrical Items

These items were surveyed and rated on a room-by-room basis, and include composite ratings for all rooms in the entire building.



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**D5020 Receptacles:** Computers and other loads in the Reading Area and Computer Areas are fed through a combination of floor- and wall-mounted receptacles. *composite rating: 4.*

**D5020 Lighting:** Direct/indirect fluorescent fixtures are the primary source of illumination in the reading areas. 2x4 fluorescent fixtures are the primary source of illumination in the office areas. Lighting levels are approximately 60 foot-candles (FC) at the office areas. Switching in public areas is automatic through lighting control panels. Interior lighting is in good condition. *composite rating: 4.*

**D5030 Data Infrastructure:** Data infrastructure is managed from a wall-mounted cabinet in Staff Work Room 107. This cabinet, typical for most branches, provides adequate data infrastructure in a limited space. Although adequate for the facility, it is recommended that any future renovations include at least one dedicated space for IT infrastructure. *composite rating: 4.*

**D5030 Public Address System:** The facility does not have a public address system. Library personnel use the intercom system for mass communications, which does not reach the Computer, Adult, and Teen areas. A public address system is needed. *composite rating 0.*

**D5030 Security System:** This building has a security system. *composite rating: 4.*

**D5040 Fire Alarm:** This building has a fire alarm system. There is no evidence of deficiencies. *composite rating: 4.*

**D5040 Emergency/Egress Lighting:** This facility has emergency lighting at exits only. Additional emergency lighting is recommended along each entire path of egress. *composite rating: 2.*

## Existing Facility Assessment

### Additional Systems

The following are systems that are either good practice in library facility design or would be required by current building codes if a renovation or expansion were to be undertaken. They do not presently exist in the building, so it is suggested they be added.

**Exiting:** Provisions are adequate, so no additional requirements are applicable to this facility. However, furniture items were being stored in exit Corridor 123 on the day of the physical assessment, in violation of the building code.

**Install Public Address Systems:** A sound system for public address should be installed throughout the entire building.

### Construction Cost Impacts

The building-wide survey includes the identification of issues that may impact the cost of expansion. Examples of these issues include the degree of difficulty of construction on the site, the current state of the local economy, how renovation will impact the operations of a facility, etcetera.

**Location:** Two blocks from Interstate 35W, the site is in an excellent location for the delivery of construction materials and labor.

**Site Limitations:** Ample adjacent land is available for future horizontal expansion, or for staging of construction, though it may not be controlled by the City of Fort Worth.

**Construction Difficulty:** No other apparent limitations exist to additional construction at the site. Evidence of settlement suggests that sub-surface conditions may not be totally stable, so, a geotechnical analysis of the soil should be conducted prior to any expansion of the facility.

**Phasing:** Future horizontal additions can be constructed, but not without impact to the existing operations. It is conceivable that an on-site addition could be completed without requiring the Library to relocate to another building, but such a phasing plan would not be advisable.

**Historic Issues:** The building is located within a historic district, and the Our Mother of Mercy School, which houses Performance Hall 203, is listed in the National Register of Historic Places.

**Costs to Retrofit Existing Building Systems**

Table A5.12.6 provides the unit costs of the various retrofit projects. The unit prices apply to either the overall gross area of the building (bgsf), or net assignable square footage (nasf), as appropriate, to develop the cost for system retrofits.

**Analysis.** The total cost to retrofit the building systems is \$71,676, or \$5.33 per square foot. While this total is comparatively low, there is an urgent issue to be addressed concerning the electrical panels.

**Table A5.12.6**  
Retrofit of Existing Building Systems, Shamblee Library

<i>uniformat code</i>	<i>construction element</i>	<i>rating</i>	<i>weight factor</i>	<i>square footage</i>	<i>unit cost</i>	<i>total cost</i>	<i>comments</i>
A1010	Foundations	4	0%	13,445	bgsf \$5.22	\$0	
A1030	Slabs on grade	3	25%	13,445	bgsf 2.65	8,907	investigate crack in Lobby floor
B1020	Superstructure	4	0%	13,445	bgsf 12.45	0	
B2010	Exterior walls	4	0%	13,445	bgsf 9.55	0	
B2020	Exterior windows	4	0%	13,445	bgsf 8.11	0	
B2030	Exterior doors	4	0%	13,445	bgsf 4.85	0	
B3010	Roofing 2008	4	0%	13,445	bgsf 6.89	0	
C1020	Interior doors & hardware	4	0%	9,624	nasf 3.15	0	
C2010	Stairs/ramps	4	0%	13,445	bgsf 7.55	0	
C3010	Wall finishes	4	0%	9,624	nasf 3.33	0	
C3020	Floor finishes	4	0%	9,624	nasf 3.15	0	
C3030	Ceiling finishes	4	0%	9,624	nasf 3.28	0	
D1010	Elevators	4	0%	13,445	bgsf 4.77	0	
D2010	Plumbing fixtures	4	0%	9,624	nasf 2.50	0	
D2020	Domestic water distribution	4	0%	13,445	bgsf 1.72	0	
D2020	Domestic water heaters	4	0%	13,445	bgsf 0.25	0	
D2030	Sanitary collection	4	0%	13,445	bgsf 1.15	0	
D2040	Storm water collection	3	25%	13,445	bgsf 1.77	5,949	verify adequacy of internal drain leaders
D3040	Distribution piping	4	0%	13,445	bgsf 1.05	0	

**Table A5.12.6 (continued)**  
Retrofit of Existing Building Systems, Shamblee Library

<i>uniformat code</i>	<i>construction element</i>	<i>rating</i>	<i>weight factor</i>	<i>square footage</i>	<i>unit cost</i>	<i>total cost</i>	<i>comments</i>
D3040	HVAC ductwork	4	0%	9,624	nasf	\$4.25	\$0
D3040	Ventilation	4	0%	9,624	nasf	2.03	0
D3050	Air conditioning units	4	0%	9,624	nasf	6.55	0 includes 9 RTU's & 2 splits
D3050	HVAC diffusers	4	0%	9,624	nasf	1.21	0
D3060	Building temperature controls	4	0%	9,624	nasf	3.15	0
D3060	Local temperature controls	4	0%	9,624	nasf	0.48	0
D4010	Fire protection system	4	0%	13,445	bgsf	3.90	0
D5010	Electrical service equipment	4	0%	13,445	bgsf	1.97	0
D5010	Distribution panels	3	25%	13,445	bgsf	3.43	11,529 need overcurrent protection for 3 panels
D5010	Branch power distribution	4	0%	13,445	bgsf	2.30	0
D5020	Lighting fixtures	4	0%	9,624	nasf	3.50	0
D5020	Emergency lighting	2	50%	9,624	nasf	0.90	4,331 add fixtures to cover all egress paths
D5020	Convenience receptacles	4	0%	9,624	nasf	2.90	0
D5030	Data infrastructure	4	0%	13,445	bgsf	3.77	0
D5030	Public address system	0	110%	9,624	nasf	1.55	16,409 install new system
D5030	Building security system	4	0%	13,445	bgsf	1.10	0
D5040	Fire alarm system	4	0%	13,445	bgsf	1.75	0
D5040	Emergency power	0	110%	13,445	bgsf	1.66	24,551 install new system
E2010	Casework & millwork	4	0%	9,624	nasf	8.22	0
E2020	Furniture & equipment	4	0%	9,624	nasf	22.50	0
G2010	Roadways	4	0%	13,445	bgsf	1.12	0
G2020	Parking Lots	4	0%	13,445	bgsf	0.97	0
G2030	Pedestrian Paving	4	0%	13,445	bgsf	0.76	0
G2040	Site Development	4	0%	13,445	bgsf	0.42	0
G2050	Landscaping	4	0%	13,445	bgsf	0.23	0
G3000	Site Utilities	4	0%	13,445	bgsf	1.44	0
Z1010	Handicapped access	4	0%	13,445	bgsf	2.43	0
TOTAL RETROFIT COST						<b>\$71,676</b>	