

NORTHSIDE LIBRARY

The Northside Library is a branch of the Fort Worth Library located in a City of Fort Worth park in north Fort Worth. The building occupies a large site with an excellent view of downtown Fort Worth, just west of the historic Stockyards district and 3.05 miles from the Central Library.

Official Name: Northside Library

Building Address: 601 Park Street

Library Facility Code: NRS

Site Description

The building is situated on a landscaped lot of 3.73 acres, facing Park Street. The topography of the site slopes significantly downward, from the north-facing public entrance toward the south. 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 in the parking lot. Drawing NRS-1 illustrates the site of the Northside Library (11" x 17" overleaf).

Architectural Description

Construction of the original building was completed in 1967, and renovated in 2005. The facility appears to be well built and in good condition for its age. Drawing NRS-2 depicts the Lower Floor Plan of the Northside Branch and the square footage of each room on that level (11" x 17" overleaf). Drawing NRS-3 depicts the floor plan and square footage of the Upper Floor (also 11" x 17" overleaf) as tabulated below in Table A5.8.1.

Evaluations for both public & staff spaces of the facility

Square Footage: There are currently 7,072 building gross square feet (bgsf), and 5,542 net assignable square feet (nasf) within the facility. The library currently occupies the entire building. Table A5.8.1 contains a room-by-room square footage tabulation for the facility.

Table A5.8.1
Existing Square Footage Tabulation, Room-by-Room,
Northside Library

Upper Floor		<i>square footage</i>	
<i>room no.</i>	<i>room name</i>	<i>net assignable</i>	<i>building gross</i>
101	Lobby	108.91	
102	Reading & Stack Area	3,960.32	
103	Librarian	114.46	
104	Corridor		65.86
105	Toilet		21.74
106	Staff Break Room	211.34	
107	Staff Work Room	416.88	
108	Men's Toilet		71.91
109	Women's Toilet		92.89
110	Janitor		22.09
111	Book Drop	17.56	
112	Circulation Desk	253.03	
113	Closet	12.54	
114	Closet	10.33	
115	Closet	10.67	
116	Closet	10.67	
117	Children's Reading Area	0.00	
assigned rooms and spaces		5,126.37	
unassigned walls, pipe chases, etc.			985.01
TOTAL			6,111.38
EFFICIENCY			83.88%

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Table A5.8.1 (continued)

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

Lower Floor

room no.	room name	square footage net assignable	building gross
001	Mechanical Room		182.28
002	Boiler Room		214.96
003	Meeting Room	415.65	
assigned rooms and spaces		415.65	
unassigned walls, pipe chases, etc.			544.85
TOTAL			960.50
EFFICIENCY			43.27%

Summary

floor	net assignable square footage	building gross square footage	efficiency
000 Lower Floor	415.65	960.50	43.27%
100 Upper Floor	5,126.37	6,111.38	83.88%
TOTAL	5,542.02	7,071.88	78.37%

The T/PW facilities database attributes 7,575 bgsf to the Northside Library, which is actually the square footage under roof, including the roof overhangs at the entrance and south-facing colonnade, as well as all of the enclosed space.

Trade Area Population

The population within the 7-minute trade area of the Northside Library is 42,222, as determined by the Customer Analytics Consultants.

Driving Distance/Time to Other Libraries

Riverside	3.85 miles	10 minutes
Central Library	3.05 miles	10 minutes

Existing Facility Assessment

Demographics

Households with children	5,162
Persons age 17 and under	12,271
Persons age 18 to 64	26,332
Persons age 65+	3,618
Percent Hispanic	79.5%
Percent Black/African-American	9.7%

Output Measures

The Library Consultants calculated a number of measurements of operating efficiency and their respective rankings among the 15 current FWL libraries. Table A5.8.2 summarizes our findings for the Northside Library.

Table A5.8.2

Output Measures, Northside Library

output	measure	ranking
Contacts per capita	7.07	14 of 15
Cost efficiency per contact	\$1.53	7 of 15
Cost efficiency per SF to operate	\$63.87	6 of 15

Collections

The current total collection size is 38,954. At 0.92 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 29.1 percent of the total, and the combined Children's/Teen collections are 43.3 percent of total. The library materials and services more likely to be used at Northside are Spanish Materials, Reference, Juvenile DVDs, and DVDs.

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The space required to house the collections in an ADA/User-Friendly standard is 3,418 square feet, or 56.4% of the total building size. 4,283.

Computers & Seating

Based on the per capita number of computers provided for the public, the Northside Library, with 22, is slightly better than the Texas State Library “Basic” standard.

The current public seating ratio, including computers is one seat per 844 (1:844) 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 Northside Library currently provides 34 parking spaces on site. At just over 7,000 gross square feet, 35 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.

Table A5.8.3 compares the current capacity of the Northside Library to the needed capacity based on the minimum space standards presented in Appendix Three.

Table A5.8.3

Site & Building Capacity, Northside 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	5,542	8,399	66.0%
Building gross square feet	7,072	9,881	71.6%
Site area, in acres	3.73	0.91	409.9%
Parking spaces	34	49	68.8%

Existing Facility Assessment

Staff workspace is 10.38% of total net assignable square feet (nasf) of the building – a significant 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 256 nasf less than the minimum need of 831 nasf.

Growth Potential

Adaptability: The building is composed of open spaces, with clear structural spans across the entire width of the building in the east-to-west direction, and from 10 to 20 feet between the perimeter columns from north-to-south.

Expandability: An addition to the south appears most feasible for future horizontal expansion, using the park land. Additions to the west and east are also feasible, but would impact the existing parking lots. It is not conceivable that vertical expansion could be achieved, given a preliminary analysis of the roof structure. Expansion of the Lower Floor northward, into the crawl space, could require significant excavation be performed by hand – a costly endeavor – but possible. To expand under the entire Upper Floor would also require construction of additional foundation walls at the northern end of the building – another costly exercise.

Technology Assessment

Historic computer usage at the Northside Library is presented in Table A5.8.4 below for fiscal years 2007 through 2009, providing statistics for PC logins, PC logins to library visits, and wi-fi connections.

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Table A5.8.4

Historic Computer Usage, Northside Library

<i>service item</i>	<i>2007</i>	<i>2008</i>	<i>2009</i>
PC Logins	16,410	19,558	20,222
PC Logins to Visits Ratio	15.3%	17.3%	20.4%
Wi-Fi Connections	n/a	296	1,265

Computer Network: The building pre-dates technology. One available network jack was the previous location of the information desk. The network equipment is stored in a room which is only accessible from outside of the building. Accessible floor boxes contain power outlets. Power outlets in the public area are limited and are primarily located in the floor. This causes cables from Wi-Fi users to be strung across walkways. Public computers were recently relocated to minimize issues caused when customers accidentally kick power cords under the tables. Location of power outlets remains an issue especially in the public area. Wi-Fi has been available since May of 2008.

Public Computers: A summary of the distribution of public computers is provided in Table A5.8.5 below. Computer reservation stations and print release stations are not included in the Adult Services quantity.

Table A5.8.5

Public Computer Distribution, Northside Library

<i>computer location</i>	<i>quantity</i>
Public Access Catalog (PAC)	1
Adult Services	21
Teen Services	0
Children's Services	0
TOTAL	22

Existing Facility Assessment

Two public schools are located directly across the street. Staff reports that it is not unusual for sixty children to come to the library after school, which results in reservations for the computers that fill the rest of the time that the library is open. Waits are one to two hours, or more, with two hours typical during the summer. No separate computers are provided for children. Northside had an early literacy computer that was rotated to another branch.

Staff reports that adults have difficulty finding a computer to use during times when the library is filled with children, especially to work in quiet. Three to four children sometimes work together at one computer. One combination reservation and print release station is provided, which is sufficient. The library's public computers were used 34.6% more hours per computer than the system-wide average of public computer use.

Public Technology: No materials security system is installed.

Computer Training: No training is provided.

Self-Service: No self-check is provided.

Study Rooms & Meeting Spaces: No study rooms or meeting spaces exist.

Technology for Staff: A total of seven staff computers are provided. Three computers are provided at the circulation desk. One computer is provided at the information desk, but a second one is needed. Three staff computers are provided in the staff workroom, including one in the manager's office. Returned materials are checked in at the circulation desk.

Site Improvements

G2010 Roadways: A drop-off vehicular drive connecting the two parking lots provides access to the public entrance. Storm water drainage from paved parking areas is effective during moderate rains. *composite rating: 4.*

G2020 Parking Lots: Striped parking lots total 34 stalls, including two spaces reserved for the handicapped, flank the east and west sides of the building. *composite rating: 4.*

G2030 Pedestrian Paving: Handicapped access to the public entrance appears to be compliant, however, the other two egress points from the building do not provide an accessible route. *composite rating: 3.*

G2040 Site Development: Lighting on the site uses metal halide lamps and appears adequate. One flag pole and one bike rack is provided across a drop-off vehicular drive from the public entrance. *composite rating: 4.*

G2050 Landscaping: Large, mature trees are scattered across the park. Live oak trees are planted in an island that bisects the west parking lot. Shrubs are planted in the island across from the drop-off vehicular drive on the north side of the building. *composite rating: 4.*

G3000 Site Utilities: Underground utilities which appear to be available at the site include water, sanitary sewer, gas, power, cable television, and telephone. *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 the entire building, approximately 18 to 22 feet on center. No evidence of settlement was observed. *rating: 4.*

A1030 Slabs on Grade: Interior concrete floors are three-inch thick topping slab on precast concrete channels. Reinforcing is not indicated on the original construction drawings. No evidence of settlement was observed. *rating: 4.*

Building Shell/Exterior Envelope

B1020 Superstructure: The building's superstructure is comprised of load-bearing concrete perimeter columns, supporting steel trusses and open-web steel joists to support the roof deck. Moment connections between roof trusses and select columns, and five-inch thick precast concrete panel walls appear to provide lateral bracing around the perimeter. *rating: 4.*

B2010 Exterior Walls: The building primarily uses a painted pre-cast concrete panel veneer, with painted brick veneer backed by concrete masonry unit bearing walls on the Lower Floor. Four inches of batt insulation appears to have been provided within the exterior walls of the Upper Floor, as indicated on the original construction drawings, but is difficult to verify from visual inspection. *rating: 3.*

B2020 Exterior Windows: Window units are typically fixed glass, with single-pane glass in aluminum frames. An aluminum storefront spans the south façade of the building, also fixed single-pane glass in aluminum frames, with an aluminum guardrail. *rating: 1.*

B2030 Exterior Doors: All exterior doors appear to be original to the building. The entrance doors and two egress doors are aluminum with vision glass, which does not appear to be tempered. The two egress doors are only 24 inches wide. The only other exterior doors in the building are hollow metal in hollow metal frames. *rating: 2.*

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B3010 Roofing: The roof of the building is primarily flat, utilizing a two-ply modified bituminous/thermoplastic membrane roofing system, according to the T/PW database. The substrate material under the roofing membrane is metal decking under rigid insulation, as indicated on the original construction drawings. Roof leaks which have developed over the years appear to have been remedied with the replacement of the roof membrane in 1996. *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 on the Upper Floor are solid core wood in hollow metal frames. Door hardware consists of bronze doorknobs, which are not ADA compliant. No panic hardware is provided on the staff entrance/exit doors original to the building. The interior doors on the Lower Floor are solid core wood in hollow metal frames. *composite rating: 3.*

C3010 Wall Finishes: Predominate wall finishes throughout are light colored paint on plaster or drywall partitions. Toilet Rooms have ceramic wall tiles. The light colors offers good light reflectance and do not appear to be a cleaning or maintenance problem. *composite rating: 4.*

C3020 Floor Finishes: Floor covering throughout the building is predominantly carpet tile, with vinyl tile used in Toilet Rooms, and terrazzo in the high traffic areas of Lobby 101 and Circulation Desk 1XX. Generally, floor finishes are in very good condition. *composite rating: 3.*

C3030 Ceiling Finishes: The dominant ceiling finish throughout the building is two-foot by four-foot lay-in suspended acoustical ceiling tile, which show damage, water stains and rusted grid members in several locations. Paint on plaster or

Existing Facility Assessment

concrete is used at exterior soffits. All ceiling finishes appear to be in fair condition. *composite rating: 1.*

Vertical Movement & Egress

C2010 Stairs: No fire stairs are required for this two-floor building. Exterior concrete stairs ramp at the staff entrance appear to be adequate. *rating: 4.*

D1010 Elevators: No elevator is provided to the Lower Floor of the building. *rating: 0.*

Z1020 Handicapped Accessibility: The building provides three means of egress at grade level, of which only one is an accessible route. Toilet Rooms have been modified from their original configuration, but do not meet current TAS standards. *rating: 1.*

Equipment & Furnishings

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

E2020 Furnishings, Fixtures, & Equipment: In general, the furnishings in the public space were installed in 2005, but are well worn. *composite rating: 1.*

Mechanical System Description

There are two Mechanical Rooms in the lower level of this facility. One Mechanical room houses the gas-fired boiler, pump, and hydronic specialties. The other Mechanical Room houses two single zone air handling units (AHU's). One AHU serves the Circulation area. The other AHU serves the Work Room and associated offices. Each AHU is constant volume.

The refrigeration cooling system consists of a direct expansion (DX) coil in each air handling unit and a matched air cooled condensing unit located outside.

The heating system consists of a hydronic gas-fired boiler and an end-suction circulation pump. Each AHU has a hydronic heating coil with a 3-way valve. Associated with the hydronic system is an expansion tank with make-up water connection and chemical pot feeder.

Plumbing System

D2020 Domestic Water Distribution: Copper piping is utilized throughout the building. Water pressure appears adequate with a 2" service to the building. *rating: 4.*

D2020 Domestic Water Heater: A 40-gallon gas-fired hot water heater rated 35,500 Btu/hr input is located in the Janitor Room. The system is provided with an in-line circulation pump, installed in 2004. The water heater system does not include a thermostatic mixing valve to limit hot water temperatures to public lavatories. *rating: 3.*

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

D2040 Storm Water Collection: Four internal drains provide roof drainage, according to the original construction drawings. The three-inch size of the piping for roof drainage appears to be less than may be required. *rating: 3.*

D4010 Fire Protection Sprinklers: No fire protection system exists in the facility. *rating: 0.*

Air Conditioning System

D3030 Compressor/Condenser: There are two air-cooled condensers that utilize refrigerant R-22. One condenser is a Carrier nominal 25-ton unit with a single circuit semi-hermetic reciprocating compressor with two condenser fans and has an Energy Efficiency Ratio (EER) of 10.2. This unit was installed in 2005 and appears in good condition. The other condenser is a Payne nominal 5-ton single circuit unit with a single compressor and one condenser fan and has an EER of 9.55. This unit was installed in 2002 and appears in good condition.

The Staff indicated that the compressor has been replaced at least three times in the last two years. *rating: 4.*

D3040 Air Handling Equipment: The larger AHU is a single zone Carrier vertical unit installed in 2003. It has a DX coiling coil and a hydronic heating coil. It appears to be in good condition. The smaller AHU is a single zone Magicaire vertical unit installed in 2000. This unit has a DX cooling coil and a hydronic heating coil. The Mechanical Room is very congested and difficult to access equipment. Equipment does not have adequate access on any of the sides. *rating: 2.*

D3040 HVAC Distribution Systems: All heating, ventilating, and air conditioning (HVAC) systems are ducted supply and ducted return air and are original to the facility (1967). *rating: 4.*

D3040 Refrigerant Piping: Piping is copper tube with flexible elastomeric insulation. *rating: 4.*

Heating System

D3040 Boiler: The Laars hydronic heating boiler (1,010,000 Btu/hr input) is provided with a fan-assisted external blower motor in the boiler flue. It was installed in 2001 and appears to be in good condition. *rating: 4.*

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D3040 Pumps: The Paco end-suction heating circulation pump appears to be original to the facility and has reached its life expectancy. *rating: 0.*

D3040 Distribution Piping: Piping is primarily black steel and copper tube. *rating: 4.*

Automatic Temperature Controls

D3060 Automated HVAC Controls: No building automation system is provided, and building temperature controls are by local control only. *rating: 0.*

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: The public Men's Toilet 108 has one wall-mounted lavatory, one urinal, and one wall-mounted flush valve water closet. All fixtures are vitreous china. The public Women's Toilet 109 has one wall-mounted lavatory and two wall-mounted flush valve water closets. All fixtures are vitreous china. These fixtures are in good condition. The staff Toilet 105 has one wall-mounted lavatory and one tank-type floor-mounted water closet. Fixtures are vitreous china.

The Staff Break Room 106 has one small single compartment stainless steel sink, which is in good condition. There is one wall mounted slop sink in the Janitor room 110, which is not in good condition. One single-level electric water cooler is provided near the Circulation Desk 112 and is in good condition. *composite rating: 1.*

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

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D3040 Diffusers: Diffusers are predominantly ceiling-mounted, 24-inch square in most public spaces and are in good condition. There are also some floor mounted return air grilles. Exhaust air grilles in restrooms are rusted. *composite rating: 3.*

D3060 Local Automatic Temperature Control: Thermostat (non-programmable) control is provided for the building. There does not appear to be any humidity controls or capabilities to limit high humidity levels. *composite rating: 2.*

Fire Protection System

D4010 Fire Protection Sprinklers: No fire protection system exists in the facility. *rating: 0.*

Electrical System Description

The electrical distribution system consists of one 120/208V, 3-phase, 4-wire gutter with 5 service-rated disconnects. Three disconnects serve HVAC equipment and two serve branch circuit panels. The panels are full. Three circuit breaker boxes have been added to provide additional branch circuits. These boxes are being fed from one of the panel disconnects. The equipment seems to be original and its near its end of life. A new system needs to be installed that reflects current standard practices. Lighting is automatically controlled. The facility has no emergency power system.

D5010 Service Equipment: The service entrance is located in the Basement. A long 120/208V, 3-phase, 4-wire gutter runs along the North wall and feeds one 400A and two 60A disconnects for HVAC loads as well as two 200A disconnects for the branch panels. There is no evidence that feeders need to be replaced. The whole installation is near its end of life and needs to be replaced. *rating: 0.*

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D5010 Power Distribution Panels: All electrical distribution equipment is located in the Basement. The two original branch circuit panels are full and have no spare capacity. Three additional breaker boxes with 4 or 6 breakers are installed above and beside the panels. Two of these boxes are out of reach and violate current codes and standards. The whole installation is near its end of life and needs to be replaced. *rating: 0.*

D5020 Lighting & Branch Wiring: There is no evidence that branch circuits or other conductors need to be replaced. Any modifications to the system will require a new panel. *rating: 4.*

D5040 Emergency Power: The building does not have an 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.

D5020 Receptacles: Floor-mounted receptacles provide power on reading area for computers. Not all areas are covered. Some of the floor boxes need repair and additional receptacles are needed. *composite rating: 2.*

D5020 Lighting Fixtures: 2x4 fluorescent fixtures are the primary source of illumination. Lighting levels are approximately 50 FC at Reading Areas and 20 FC at book stacks. Switching in public areas is manual. Lighting needs automatic controls. *composite rating: 2.*

D5030 Data Infrastructure: Data infrastructure is managed from a wall-mounted cabinet in the office area. 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.*

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D5030 Public Address System: The facility does not have a public address system. *composite rating: 0.*

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

D5040 Fire Alarm: This building does not have a fire alarm system. *composite rating: 0.*

D5040 Emergency/Egress Lighting: This facility does not have an emergency/egress lighting system. *composite rating: 0.*

Additional Systems

The following are systems which 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.

Handicapped Accessibility: Provisions are adequate to access the building, and the essential facilities within, but some additional requirements are applicable. Door widths and hardware, egress ramp, toilet room configuration, and some furniture placement within the facility create limited accessibility to many areas.

Exiting: Provisions are not adequate, so additional requirements are applicable to this facility, as highlighted throughout this narrative.

Install Building Energy Management System: The consultants recommend installation of a building automation system for energy management.

Install Fire Protection: No fire protection system is provided, but should be installed throughout the building.

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Install Smoke Detection: This code requirement was not applicable to this facility when built, but current codes may require additional system components, depending on the extent of renovation.

Install Fire Alarm: No fire alarm system is provided, but alarms be installed per current code.

Install Public Address Systems: A sound system for public address should be installed throughout the building, including the Lower Level.

Construction Cost Impacts

The building-wide survey includes the identification of issues which 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: The site is not far from a main thoroughfare (North Main Street), and is in a reasonably good location for the delivery of construction materials and labor.

Site Limitations: Ample land is available for future horizontal expansion, or for staging of construction.

Construction Difficulty: No apparent limitations exist to additional construction at the site. Given no evidence of settlement, sub-surface conditions may be stable. However, a geotechnical analysis of the soil should be conducted prior to any expansion of the facility.

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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 not located within a historic district, however, if expansion or new construction is to occur, any new addition should be sensitive to the character of the original building and the neighborhood.

Asbestos: No asbestos is known to exist in the building or on the site at this time.

Costs to Upgrade Existing Building Systems

Table A5.8.6 provides the unit costs of the various infrastructure upgrade 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 \$416,353, or \$58.87 per square foot. When excluding the cost for replacement furniture of \$31,174, the total cost to retrofit the building systems is reduced to \$385,179. Most of the systems affected would be made more energy efficient. Some systems would be made fully code compliant – improving the life safety of the facility.

Table A5.8.6

Retrofit of Existing Building Systems, Northside Library

<i>uniformat code</i>	<i>construction element</i>	<i>rating</i>	<i>weight factor</i>	<i>square footage</i>	<i>unit</i>	<i>unit cost</i>	<i>total cost</i>	<i>comments</i>
A1010	Foundations	4	0%	7,072	bgsf	\$5.22	\$0	
A1030	Slabs on grade	4	0%	7,072	bgsf	2.65	0	
B1020	Superstructure	4	0%	7,072	bgsf	12.45	0	
B2010	Exterior walls	4	0%	7,072	bgsf	9.55	0	
B2020	Exterior windows	0	110%	7,072	bgsf	8.11	63,089	replace single-pane glass
B2030	Exterior doors	0	110%	7,072	bgsf	4.85	37,729	widen doorways for egress to code
B3010	Roofing	4	0%	7,072	bgsf	6.89	0	roof was replaced in 1996
C1020	Interior doors & hardware	3	25%	6,800	nasf	3.15	5,355	replace door knobs with levers
C2010	Stairs/ramps	2	50%	7,072	bgsf	7.55	26,697	ramp is too steep for TAS compliance
C3010	Wall finishes	4	0%	5,542	nasf	3.33	0	
C3020	Floor finishes	3	25%	5,542	nasf	3.15	4,364	rotate carpet tiles to even wear
C3030	Ceiling finishes	1	75%	5,542	nasf	3.28	\$13,633	replace stained/rusted tiles/grid
D1010	Elevators	0	110%	7,072	bgsf	4.77	37,107	install elevator to Lower Floor
D2010	Plumbing fixtures	2	50%	5,542	nasf	2.50	6,928	replace select fixtures
D2020	Domestic water distribution	4	0%	7,072	bgsf	1.72	0	
D2020	Domestic water heaters	3	25%	7,072	bgsf	0.25	442	add thermostatic mixing valve
D2030	Sanitary collection	4	0%	7,072	bgsf	1.15	0	
D2040	Storm water collection	3	25%	7,072	bgsf	1.77	3,129	increase overflow capability
D3020	Boilers	4	0%	7,072	bgsf	4.78	0	
D3030	Compressors/condensers	4	0%	7,072	bgsf	2.05	0	
D3040	Air handling equipment	3	25%	7,072	bgsf	7.10	12,553	enlarge Mech. Room for better access
D3040	Refrigerant piping	4	0%	7,072	bgsf	1.05	0	
D3040	Heating system pumps	0	110%	7,072	bgsf	0.87	6,768	replace existing equipment
D3040	Distribution piping	4	0%	7,072	bgsf	1.05	0	
D3040	HVAC ductwork	4	0%	5,542	nasf	4.25	0	
D3040	Ventilation	4	0%	5,542	nasf	2.03	0	
D3050	HVAC diffusers	3	25%	5,542	nasf	1.21	1,676	replace rusted exhaust air grilles
D3060	Building temperature controls	0	110%	5,542	nasf	3.15	19,203	Install new system
D3060	Local temperature controls	2	50%	5,542	nasf	0.48	1,330	add humidity controls to the system
D4010	Fire protection system	0	110%	7,072	bgsf	3.90	30,339	install dry-pipe sprinkler system

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D5010 Electrical service equipment 0 110% 7,072 bgsf 1.97 15,325 current system cannot add capacity

Table A5.8.6 (continued)

Retrofit of Existing Building Systems, Northside 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>
D5010	Distribution panels	0	110%	7,072 bgsf	\$3.43	\$26,683	correct all code violations
D5010	Branch power distribution	4	0%	7,072 bgsf	2.30	0	
D5020	Lighting fixtures	2	50%	5,542 nasf	3.50	9,699	add automatic control system
D5020	Emergency lighting	0	110%	5,542 nasf	0.90	5,487	install new system
D5020	Convenience receptacles	2	50%	5,542 nasf	2.90	8,036	add new outlets/repair existing
D5030	Data infrastructure	4	0%	7,072 bgsf	3.77	0	
D5030	Public address system	0	110%	5,542 nasf	1.55	9,449	install new system
D5030	Building security system	4	0%	7,072 bgsf	1.10	0	
D5040	Fire alarm system	0	110%	7,072 bgsf	1.75	13,614	install new system
D5040	Emergency power	0	110%	7,072 bgsf	1.66	12,913	install new system
E2010	Casework & millwork	4	0%	5,542 nasf	8.22	0	
E2020	Furniture & equipment	3	25%	5,542 nasf	22.50	31,174	replace worn/broken tables & chairs
G2010	Roadways	3	25%	7,072 bgsf	1.12	1,980	asphalt needs repair
G2020	Parking Lots	3	25%	7,072 bgsf	0.97	1,715	asphalt needs repair
G2030	Pedestrian Paving	3	25%	7,072 bgsf	0.76	1,344	repair cracked sidewalks
G2040	Site Development	4	0%	7,072 bgsf	0.42	0	
G2050	Landscaping	4	0%	7,072 bgsf	0.23	0	
G3000	Site Utilities	4	0%	7,072 bgsf	1.44	0	
Z1010	Handicapped access	2	50%	7,072 bgsf	2.43	8,592	address drinking fountain, doors, ramp
TOTAL RETROFIT COST						\$416,353	