# Woodridge Library

1801 Rhode Island Avenue. NE, Washington, DC



## **Facility Condition Assessment & Cost Benefit Analysis**

January 10, 2011

Prepared for The District of Columbia Public Libraries 901 G Street NW, Washington, D.C. 20001

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### **TABLE OF CONTENTS**

EXECUTIVE SUMMARY AND RECOMMENDATIONS	1
ARCHITECT AND ENGINEER STATEMENT	2

#### SECTION I – PROJECT SUMMARY

EXISTING CONDITIONS	3
EXISTING SPACE BREAKDOWN	4

SECTION II – METHODOLOGY......10

#### SECTION III - REPAIR AND REPLACEMENT NEEDS ASSESSMENT

1. SITE IMPROVEMENT.	
2. FACILITY STRUCTURE	
3. NON-STRUCTURAL COMPONENTS.	
4. SERVICE SYSTEMS	
5. FIRE AND EMERGENCY SYSTEMS	
6. ENVIRONMENTAL	
7. SUMMARY	

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#### EXHIBITS

EXHIBIT A: NEW CONSTRUCTION COST EVALUATION EXHIBIT B: ANACOSTIA LIBRARY AND TENLEY LIBRARY COST COMPARISON EXHIBIT C: PHASE I ENVIRONMENTAL SITE ASSESSMENT EXHIBIT D: GEOTECHNICAL REPORT EXHIBIT E: ALTA SURVEY EXHIBIT F: CD OF EXISTING DRAWINGS







### **EXECUTIVE SUMMARY AND RECOMMENDATIONS**

A detailed facility assessment performed on the existing Woodridge Library in October 2010 resulted in a score of 24.34 out of a maximum of 100 points. The results of the assessment show that the facility is in overall failing condition. Each building component was reviewed for repair/replacement and ongoing maintenance costs against new construction. Based on the high replacement cost and poor overall condition of the building, it is recommended that the District of Columbia Public Library demolish the existing structure and pursue the design and construction of a new public library that more fully supports the agency's business operations and community's needs.

#### **Major Areas of Concern**

Most major systems have exceeded their life expectancy and are in need of complete replacement, and the building does not comply with current ADA guidelines. Additionally, the facility does not meet the current energy code requirements, has an inefficient architectural layout, and will require substantial modifications to meet the District's LEED Silver rating initiative.

The reading and stack areas are updated periodically but the meeting rooms, administrative spaces and building service spaces are either original or extremely dated, and in need of complete overhaul. The current spatial configuration of the facility does not dedicate children's or young adults' program space and the lack of first floor restrooms is not conducive to children's programming needs. Access to second floor restrooms does not comply with ADA guidelines. The existing elevator, although updated recently, does not meet the current ADA access requirement due to the original elevator shaft size. The environmental investigation (Phase I – Exhibit C) identified several potential lead and asbestos-containing materials. The current architectural layout has an efficiency of 63% in comparison to new facilities where the efficiency is around 85%.

#### **Cost Comparison**

The new facility construction cost evaluation (Exhibit A) represents the cost for a new 23,500 S.F. facility based on the value derived from 2010 RS MEANS Building Construction Costs Book 68<sup>th</sup> Annual Edition and actual construction costs from the similar and recently completed Anacostia Library and Tenley Library (Exhibit B).

Under a task order assigned to Hill International, The Argos Group and Wiencek + Associates Architects + Planners, DC, LLP, a Facility Conditional Assessment of the Woodridge Library was performed in October 2010 to determine the best option for future use of the facility. The assessment was comprised of a four step process: 1) Baseline Data Collection, 2) Facility Inspection, 3) Analysis and reporting, and 4) Reports and Recommendations. Ultimately, the options under consideration were 1) renovation of the facility, in whole or in part, with additional space added or 2) demolition of the existing facility and construction of a new facility.





### **ARCHITECT AND ENGINEER STATEMENT**

The purpose of this report is to provide a written opinion regarding the condition of various physical, functional, and environmental components of the Woodridge Library. Specific attention was directed toward major work items that in our opinion represent existing or potential problems or defects in the site, design, structural, mechanical, and electrical systems, or the site layout and configuration.

This report was assembled following a visit to the site and visual observation of the grounds and various public spaces. Additional information was gathered through conversations with management and maintenance personnel.

This report intends to represent our professional opinion of the condition of the project and the component parts to which reference is made as seen on the dates of our visits. No physical demolition of the structure was conducted, and it was not possible or feasible to remove portions of the construction in order to expose concealed and, therefore, hidden conditions. Similarly, mechanical, electrical, and plumbing equipment and systems were not shut down or disassembled for detailed inspection or review

Therefore, this report does not constitute a representation or warranty of such conditions and should not be viewed or construed as such. It does reflect our professional opinion as stated in this report and as qualified above.



# **SECTION I**

## **PROJECT SUMMARY**



### **Existing Conditions**

Project Name:	Woodridge Public Library				
Location:	1801 Rhode Island Avenue. NE Washington, D.C.				
Year Constructed:	Circa 1958				
Number of Stories:	Two (2) stories and basement				
Utilities	Account number	Meter number			
Washington Gas	0180.009003	S32174			
WASA	140835	13517006			
PEPCO	0253374003	K20ALYA27T			

#### **Current Applicable Codes:**

Building:	IBC, 2006 DCMR Supplement DEMR-2006, Existing Building Code	Electrical:	NFPA NEC, 2005 DCMR Supplement
Mechanical:	IMC, 2006 DCMR Supplement	Energy:	IECC, 2000 DCMR Supplement
Plumbing:	IPC, 2006 DCMR Supplement	Fire:	IFC, 2000 DCMR Supplement
		Accessibility:	ANSI A117, 2003 DCMR Supplement





### **Existing Space Breakdown**

Note: all square footages are approximate

Basement (NSF)			NUMBER		UNIT	TOTAL	UNIT
a)	Meeting Room 1		1	950	SF	950	SF (approx.)
b)	Meeting Room 2	_	1	825	SF	825	SF (approx.)
c)	Men		1	75	SF	75	SF (approx.)
d)	Women		1	75	SF	75	SF (approx.)
e)	Boiler Room		1	822	SF	822	SF (approx.)
f)	Storage Room	-	1	663	SF	663	SF (approx.)
g)	Meter Room		1	195	SF	195	SF (approx.)
h)	Janitor's Office	-	1	90	SF	90	SF (approx.)
i)	Janitor's Restroom		1	45	SF	45	SF (approx.)
J)	Elevator Machine Room		1	45	SF	45	SF (approx.)
k)	Horizontal Circulation		1	570	SF	570	SF (approx.)
I)	Vertical Circulation (stair)		1	160	SF	160	SF (approx.)
m)	Vertical Circulation (elevator)		1	48	SF	48	SF (approx.)
·						4,563	Total NSF (approx.)





First Floor	(NSF)	NUMBER			UNIT		TOTAL	UNIT
a)	Vestibule	2		63	SF	-	126	SF (approx.)
b)	Workspace	1		190	SF		190	SF (approx.)
c)	Storage	2		81	SF		162	SF (approx.)
d)	Lobby	1	_	1350	SF	-	1350	SF (approx.)
e)	Reading Area 1	1		2337	SF		2337	SF (approx.)
f)	Reading Area 2	1		1008	SF		1008	SF (approx.)
g)	Stack Area 1	1		1540	SF	-	1540	SF (approx.)
h)	Stack Area 2	1		1134	SF		1134	SF (approx.)
i)	Office	1		135	SF		135	SF (approx.)
J)	Work Room	1		345	SF		345	SF (approx.)
k)	Horizontal Circulation	1		430	SF		430	SF (approx.)
1)	Vertical Circulation (stair)	1		160	SF		160	SF (approx.)
m)	Vertical Circulation (elevator)	1		48	SF		48	SF (approx.)
	· · · · · · · · · · · · · · · · · · ·						8,965	Total NSF (approx.)



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Sec	ond Floor (NSF)		NUMBER	·	UNIT		TOTAL	UNIT
a)	Meeting Room 3		1	1430	SF	Γ	1430	SF (approx.)
b)	Storage		1	720	SF		720	SF (approx.)
c)	Kitchen		1	144	SF		144	SF (approx.)
d)	Men		1	45	SF		45	SF (approx.)
e)	Women		1	45	SF	Γ	45	SF (approx.)
f)	Staff	-	1	81	SF	Γ	81	SF (approx.)
g)	Horizontal Circulation		1	384	SF	T	384	SF (approx.)
H)	Vertical Circulation (stair)		1	160	SF		160	SF (approx.)
1)	Vertical Circulation (elevator)		1	48	SF	Γ	48	SF (approx.)
							3,057	Total NSF (approx.)

Total Project Square Footage (NSF)	16,585	NSF (approx.)		
Building Area (GSF)	19,539	GSF (approx.)		
Roof Area	10,266	SF (approx.)		



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	COMPONENT	ТҮРЕ	AGE
a)	Parking lot	Asphalt	Original
b)	Driveway	Concrete	Original
c)	Sidewalk	Concrete	Original
d)	Retaining Wall	Concrete Areaway Walls	Original
e)	Stairs	Concrete Stair/Areaways	Original
f)	Guardrails	Painted Steel	Original
g)	Handrails	Either None or Non-compliant	N/A
h)	Storm Water Drainage	Underground with inlets	Original
i)	Landscaping	Grass areas, miscellaneous shrubs and small caliper trees	Original
j)	Dumpster Enclosure	None	

#### 2. Facility Structure:

	COMPONENT	ТҮРЕ	AGE
a)	Exterior Wall	Face brick over CMU	Original
b)	Floor Deck	Reinforced Concrete Slab	Original
C)	Floor Structure	Reinforced Concrete Joist, Beam and Column	Original
d)	Roof Deck	Reinforced Concrete Slab	Original
e)	Roof Framing	Reinforced Concrete Joist, Beam and Column	Original
f)	Roofing Material	Built up roofing with Aggregate Ballast	Original
g)	Roof Drainage	Internal Cast Iron	Original
h)	Stairs	Steel	Original
i)	Building Insulation	None	N/A
j)	Foundation	Reinforced Concrete Pile Footings	Original





Non-Structural Systems:

	COMPONENT	ТҮРЕ	AGE
a)	Windows	Single Pane Aluminum Awning	Original
b)	Storefront Entry	Glass/Single Pane Aluminum	Original
C)	Doors	Hollow Metal Steel	Original
d)	Interior Walls	Painted CMU	Original
e)	Ceiling	Suspended Acoustical Ceiling Tile and Painted Hardboard	15-20 Years
f)	Flooring – Circulation	Vinyl Composition Tile	15-20 years
	Flooring – Reading Rooms	Carpet	15-20 years
g)	Flooring - Restrooms	Ceramic Tile	10-15 Years
h)	Restroom	1 Public Men's Room and 1 Public Women's Room	10-15 years

#### Service Systems: 4.

	COMPONENT		ТҮРЕ		AGE
Conv	reying System				
a)	Elevator		Hydraulic	Ì	Renovated/3 Years
b)	Elevator Machine				3 Years
	Note: Elevator recently upgra Elevator is not ADA Compliar	ade nt	ed with new cab finish over existing cab and new equipment wit	h a	auto recall.
HVA	C				
a)	Boiler		Gas Fired Steam		Less than 5 years
b)	Chiller		Air Cooled Chilled Water		Less than 5 years
c)	Distribution Piping		Insulated Steel		Original
e)	Air-handling unit		Multi-zone (5 zones)		Original
Plum	bing				



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Plun	nbing		
a)	Domestic Water	Copper	Original
b)	Waste	Galvanized and Cast Iron	Original
C)	Domestic Water Heater	Gas Fired	7 years
d)	Gas Distribution	Black Steel	Original
	COMPONENT	ТҮРЕ	AGE
Elec	etric		
a)	Main Service	600 amps, 208/120 volts, 3 phase, 4 wire	Original
b)	Feeders and Branch Wirings	Copper in concealed Conduit	Original

#### 5. Fire and Emergency Systems:

	COMPONENT	/PE	AGE
a)	Fire Sprinkler	one	N/A
b)	Fire Alarm System	ard wired – Non addressable	N/A
c)	Emergency Power	one	N/A
d)	Emergency Lights	attery Backup	N/A

#### **Environmental:** 6.

	COMPONENT	ТҮРЕ	AGE
a)	Asbestos	Floor tile mastic, HVAC duct insulation and ceiling tiles	
b)	Lead Paint	Miscellaneous locations	
c)	UST	UST found in registry, assume entire site is impacted	



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# **SECTION II**

## METHODOLOGY



### METHODOLOGY

For analysis purposes, we have divided the facility into six (6) distinct categories. Each category has a maximum point value in the assessment of the facility as follows:

BUILDIN	G ASSESSMENT CATEGORIES	
CATEGORY	COMPONENT EXAMPLE	MAXIMUM POINTS
1. Site Improvements	Parking structures, sidewalks, curbs and gutters, utilities, exterior lighting, life safety (exterior), landscape.	5 Points
2. Facility Structure	Foundations, structural members, slab-on-grade, building envelope, masonry, curtain walls, building roof, canopies, terraces, balconies, stairs, floors (structural), walls (structural).	35 Points
3. Non-Structural Components	Windows, miscellaneous metals, floors, interior walls (non-structural), partition systems, ceilings.	10 Points
4. Service Systems	HVAC, plumbing, electrical, vertical/horizontal transportation.	35 Points
5. Fire Detection and Emergency Systems	Fire alarm system, sprinkler system.	10 Points
6. Environmental	Phase I and Phase II if required	5 Points
	Total Possible Points	100 Points







Each of the six categories was evaluated based on the relationship between estimated value and repair/replacement cost. The analysis technique is shown below:

REPA	<b>IR/REPLACEMENT COST ANALYSIS TABLE</b>	
Excellent-Satisfactory-Suitable	Continued normal use - no repairs required.	95-100 %
Good-Adequate	In need of alterations or repairs not greater than 25% of the Estimated Value.	75-94 %
Fair	Not adequate, in need of repairs not greater than 50% of the Estimated Value.	55-74 %
Poor-Deficient	In need of major repairs no greater than 75% of the Estimated Value.	35-54 %
Failing-Unsatisfactory	In need of complete replacement, if repairs are greater than 75% of Estimated Value.	0-34 %

The point value generated for each component within a Building Assessment Category is the basis for developing the Repair/Replacement Cost Analysis. The Repair/Replacement Cost Analysis shows the condition of the different categories of the facility with respect to estimated value. Once a particular piece of equipment or part of the building is evaluated using the Repair/Replacement Cost Analysis, the information is "weighted" by multiplying the Maximum Point value according to the Building Assessment Categories. As an example:

A boiler is inspected and assessed to be in "Good-Adequate" condition and is given a score of 75% according to the Repair/Replacement Cost Analysis table above. Because the boiler is part of the mechanical equipment, it is classified as a component in the "Service Systems" category and carries a weight of 35 points in the overall assessment of the facility. The assessment of the boiler is as follows:

Boiler = Good Adequate 75% X 35 Points = 26.25 points

When the components in each category are evaluated and weighted, the average of all components generates a total score for the category.

The final building score shown on the Summary Form in Section III is achieved by evaluating and combining the total score for each of the categories.



# **SECTION III**

## **REPAIR/REPLACEMENT NEEDS ASSESSMENT**



### 1. SITE IMPROVEMENT

The site is in fair to poor condition due to the deterioration of various elements and lack of updated amenities. Particular attention should be paid to the items listed below:

- Concrete parking area has deteriorated beyond repair. cracked and spalling concrete require immediate replacement.
- Parking is currently un-stripped, therefore the facility does not have designated handicap parking spaces nor does the facility have an accessible route from the rear parking to the front entrance.
- The rear shed requires immediate repair to prevent further deterioration. Install new roof to prevent water penetration.
- Handrails are missing at areaway stairs and site stairs. New handrails are required per the current building code.
- Current perimeter barbed wire fence is deteriorating and unwelcoming. Existing gates are pad locked which is a life safety hazard in the event of an evacuation. An ornamental steel fence with operable magnetic locking gates tied into the fire alarm system is suggested.

The result of this analysis yields a score of **1.52** out of a possible **5** and a Repair/Replacement cost of \$105,300.

Refer to the following pages for detailed Repair/Replacement Evaluation and existing condition photos.







1. SITE IMPROVEMENT	S									
COMPONENTS	с	оѕт	EVALU	ATION	F	REPAIR/R EVAL	EPLACEN .UATION			
	ОТ	Unit	Unit Cost	Estimated Value	Cost	Cost Comparison	Condition Evaluation	Score	Photo Number	Comments
A. SIDEWALKS, CURBS AND ENTRY PATIO										
1. Existing front entry sidewalk and concrete paving	2,000	sf	\$5	\$ 10,000	\$ 3,000	70%	Fair	3.50	1	Replace concrete parking. Replace trip hazards at front entry
2. Landscaping	1	ea	\$8,000	\$ 8,000	\$ 4,000	50%	Poor	2.50	2	Prune existing planting and provide additional planting to augment existing landscaping.
B. PARKING AREA	-		:				- C			
<ol> <li>Existing deteriorated concrete parking lot.</li> </ol>	3,000	sf	\$8	\$ 24,000	\$ 24,000	0%	Failed	0.00	3	Replace entire deteriorated conrete parking lot
2. Existing asphalt drive aisle.	1	ea	\$15,000	\$ 15,000	\$ 5,000	67%	Fair	3.33	3,4	Repair includes filling of cracks, cutting potholes and resealing
3. Vehicular stripping	1	ea	\$2,000	\$ 2,000	\$ 2,000	0%	Failed	0.00	3	Modification shall include revised drive aisle and new parking spaces meeting ADA requirements, along with full stripping
C. DUMPSTER PADS AND ENCLOSURES					 					
<ol> <li>New dumpster screen fencing, screen gates, concrete pads and bollards.</li> </ol>	1	ea	\$25,000	\$ 25,000	\$ 25,000	0%	Failed	0.00	4	The dumpster is not enclosed. Consider installing new dumpster enclosure with new pad and gates for better security and appearance.







COMPONENTS	с	оѕт	EVALU	ATION		F	REPAIR/RI EVAL				
	QT	QT Unit Unit Cost		Estimated Value		Cost	Cost Comparison	Condition Evaluation	Score	Photo Number	Comments
D. RETAINING WALL											
1. Concrete retaining walls at areaways.	100	lf	\$300	\$ 30,000		\$ 3,000	90%	Good	4.50	5	No signs of major damage. Remove areas of looseparging and provide new cementitious parging.
E. GUARDRAIL, HANDRAIL AND FENCE											
<ol> <li>Guardrails above existing retaining wall</li> </ol>	100	lf	\$70	\$ 7,000	1	\$ 3,000	57%	Fair	2.86	7	Guard rails are loose and broken at several locations.
<ol> <li>Handrails at existing areaways and site stairs.</li> </ol>	70	lf	\$35	\$ 2,450		\$ 2,450	0%	Failed	0.00	5,6	Handrails are either missing or deteriorated at existing areaway stair and site stair. According to IBC requirements, stairs with more than 3 steps requires handrails.
3. Perimeter fence	270	lf	\$105	\$ 28,350		\$ 28,350	0%	Failed	0.00	8,2	Existing barbed wire fence is in fair condition but it is uninviting, and existing pad locks on gates prevent emergency evacuation of property. Suggest adding user controled mag locks at two locations and ornamental 8' non- climb steel fence
	-	<u> </u>									
F. SITE SIGNAGE		<u> </u>			╢┝						
1. Provide improved/relocated building/facility sign.	1	ea	\$5,500	\$ 5,500		\$ 5,500	0%	Failed	0.00	12	Existing facility sign is outdated and hard to see. New sign should be installed for better identification.
Site Improvements						\$ 105,300			1.52		







### SITE IMPROVEMENT



Replace offset concrete at front entry to avoid trip hazards.



Landscaping is in fair condition, however overgrowth requires pruning. Additional planting will enhance overall appearance

Barbed wire fence may give unintended sense of non-inclusion.









Rear concrete parking slab and asphalt drive aisle are in poor condition and show signs of major spalling and cracking.

Vehicular striping will appropriately distinguish HC parking from typical parking spots

3



- Existing dumpster should be enclosed for security and site appearance.



4











Exterior egress routes are locked at all times. Emergency discharge from the basements is stopped short prior to exit from the property. Adding user controlled magnetic locks tied into fire alarm system would increase life safety.

ARGOS GROUP

Retaining wall guardrail base connection points have rusted away and structural integrity has been compromised.









Handicapped accessible route from parking exceeds maximum slope. In addition, there is no designated handicapped parking.

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### 2. FACILITY STRUCTURE

The facility's concrete superstructure is generally in good condition with no major repairs needed at this time.

As a result of differential settlement and lack of expansion joints, the masonry exterior walls have movement cracks as does the first floor slab at the transition area between the slab on grade and full height basement below.

The existing roof is in poor condition and has exceeded its life expectancy.

Other areas of concern are as follows:

- The guardrail at the top landing must be replaced to meet code requirements. The existing stair landing guardrail is only 34 inches above the finished landing, the current building code requires 42 inches.
- There are no wall rails in the existing stairwell and pickets spacing on center rails exceeds code maximum of 4" on center.
- An additional stairwell is needed to satisfy egress requirements as indicated by IBC section 1015.
- The existing facility does not meet current Energy Code requirements due to lack of insulation at building roof and exterior walls.

The result of this detailed analysis yields a score of 17.08 out of a possible 35 and a Repair/Replacement cost of \$289,888.

Refer to the following pages for detailed Repair/Replacement Evaluation and existing condition photos.





2. FACILITY STRUCTUR	RE											
COMPONENTS	с	оѕт	EVALU	A٦	ΓΙΟΝ		F	REPAIR/RI EVAL	EPLACEN .UATION			
	от	OT Unit Unit Cost		E	stimated		Cost	Cost	Condition Evaluation	Score	Photo	Commonto
A. BUILDING STRUCTURE			Unit Cost		value		CUSI	Companson	Lvaluation	30016	Humber	Comments
1. Concrete floor, column, and beams.	19,539	sf	\$14	\$	263,777	\$	5,000	98%	Excellent	34.34	1,2	Major repair expenditure is not anticipated. Floor settlement above unexcavated portion o library is noticable at first floor and poses potential trip hazard.
2. Concrete roof, column, and beams.	10,266	sf	\$11	\$	107,793	\$	8,000	93%	Good	32.40	N/A	Major repair expenditure is not anticipated
B. MASONRY												
1. Masonry exterior wall	8,500	sf	\$15	\$	123,250	\$	15,000	88%	Good	30.74	3	lack of masonry control joints and differential settlement have caused cracks in bricks which may lead to water infilltration. Replace damaged bricks and repoint at miscellaneous locations
C. STAIR SYSTEM				$\vdash$								
1. Existing steel stair system	4	flights	\$7,650	\$	30,600	\$	8,000	74%	Fair	25.85	4	Replace existing stair tread and landing finishes. Minor repairs needed to damaged nosing. Bring guardrails and handrails up to code.
2. Additional Stairwell	4	flights	\$7,650	\$	30,600	\$	30,600	0%	Failed	0.00	N/A	Per IBC section 1015, two means of egress are required from any space containing an occupant load of 50 or more, therefore an additonal stairwell is required in the building.
D. ROOFING												
1. Roofing and ballast.	10,266	sf	\$18	\$	184,788	\$1	84,788.00	0%	Failed	0.00	5	The existing roofing is in marginal to poor condition with minimal slope. Areas of ponding were noticied, many areas have beer patched and vegetation is growing. Cost
2. Miscellaneous roof accessories	1	ls	\$3,500	\$	3,500	\$	3,500	0%	Failed	0.00	6	Replace access door to roof, roof ladder and coping which is pulling away from parapet
E. BUILDING FACADE ELEMENTS				$\vdash$								
1. Metal coping and fascia	400	lf	\$19	\$	7,600	\$	1,000	87%	Good	30.39	NA	Panel will be replaced as part of the storefron system replacement
	-			⊢								
2. New R-15 wall insulation .	8,500	sf	\$4	\$	34,000	\$	34,000	0%	Failed	0.00	7	Site visit did not show building insulation of any kind. Install updated insulation package, including new wall insulation to meet the current energy code. This cost also includes new drywall, metal stud furring, and painting at all perimeter walls as part of the insulation system. Roof insulation cost built into roof renlacement ahove
Subtotal Facility Structure						\$	289,888			17.08		









### **2. FACILITY STRUCTURE**











Lack of masonry control joints and differential settlement have caused bricks to crack at various places on the façade however masonry is generally in good overall condition.



Current stairwell floor finish is in need of repairs or replacement. Lack of handrails on masonry walls and noncompliant guardrail height at landings must be brought up to code (guardrails must be 42" AFF).







Lack of proper roof slope have caused ponding to occur and growth of vegetation. Areas of roof leaks were indicated by maintenance staff.

Existing roof patches demonstrate that the roof has outlived its intended lifespan. Metal flashing appeared in fair condition, however some areas were deteriorating or pulling away from walls and parapet.







### 3. NON-STRUCTURAL SYSTEMS

The recently upgraded finishes in the general public areas (Circulation, Reading, and Book Stacking) are in good condition and major repairs are not required at this time.

With the exception of the elevator, all other finishes in circulation space, meeting rooms and offices are dated and in poor condition and in need of replacement.

The number of existing public restrooms (4) are sufficient to satisfy the occupant load of the building, however two bathrooms located on the second floor are not ADA compliant and currently there are no bathrooms on the first floor. Adding bathrooms to the first floor will increase the function of the program space and could be beneficial to younger members who currently have to travel to the basement to use the facilities.

The second floor kitchen is currently not ADA compliant.

Other areas of concern are as follows:

- All existing windows and storefront entrance systems are the original single-pane, non-insulated system. They have exceeded their anticipated life expectancy and should be replaced.
- The existing facility interior signs are non-ADA compliant and should be replaced.
- There is no designated children's program space or modern media room.

The result of this detailed analysis yields a score of **3.85** out of a possible **10** and a Repair/Replacement cost of \$262,620.

Refer to the following pages for detailed Repair/Replacement Evaluation and existing condition photos.





3. NON STRUCTURAL												
COMPONENTS	С	оѕт	EVALU	AT	ION		F	REPAIR/RI EVAL	EPLACE UATION			
	QT	Unit	Unit Cost	E	Estimated Value		Cost	Cost Comparison	Condition Evaluation	Score	Photo Number	Comments
A. READING AND BOOK STACK AREAS						Ľ						
1. Finishes a. Carpet/Vinyl Composite Floor Tile	7,400	sf	\$4	\$	29,600	\$	2,000	93%	Good	9.32	1,2	Flooring at reading, circulation, and book stack areas has been replaced within the last 5 years.
b. Suspended Acoustical Ceiling System	7,400	sf	\$5	\$	37,000	\$	2,000	95%	Good	9.46	1	Suspended ceiling system at reading, circulation, and book stack areas has been replaced within the last 10 years. Major repair expenditure at these areas is not anticipated.
c. Painting	4,500	sf	\$2	\$	9,000	\$	1,000	89%	Good	8.89	N/A	Existing reading, circulation, and book stack areas have been repainted within the last 3 years. Some minor touchup is required.
2. Interior Partitions						E						
a. Interior masonry wall	600	sf	\$8	\$	4,800	\$	1,000	79%	Good	7.92	N/A	Minor patching and repointing is required. Major repair expenditure not anticipated
B. OFFICES, MEETING ROOM, SUPPORT AREAS AND STAIRWELLS												
1. Finishes a. Carpet/Vinyl Composite Floor Tile	9,185	sf	\$2	\$	18,370	\$	18,370	0%	Failed	0.00	3	Flooring in the offices, corridors, and miscellaneous support areas are original or near original and in poor condition. Complete replacement is required.
b. Suspended Acoustical Ceiling System	8,500	sf	\$5	\$	42,500	\$	42,500	0%	Failed	0.00	3	Some of the ceiling tiles have been replaced at miscellaneous locations, but the suspension system is in poor condition. The entire suspended ceiling system will need to be replaced.
c. Plaster/hardboard ceiling and walls	300	sf	\$35	\$	10,500	\$	2,000	81%	Good	8.10	5	Plaster ceiling and wall finish are in overall good condition however some minor repair is needed in miscellaneous office/meeting room areas as a result of water damage.
d. Painting	12,000	sf	\$2	\$	24,000	\$	16,000	33%	Poor	3.33	N/A	A majority of walls in these areas are in poor condition and need to be repainted.



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COMPONENTS	с	оѕт	EVALU	АТ	ION		F	REPAIR/RI EVAL	EPLACEN UATION			
OT Unit Unit Cost Value								Cost	Condition	Score	Photo	Commente
2 Interior Partitions		Unit	Unit Cost		value		COSI	Comparison	Evaluation	Score	Number	Comments
a. Interior masony wall and drywall partitions	4,500	sf	\$8	\$	36,000	\$	5,000	86%	Good	8.61	12	Minor patching and repointing is required. Major repair expenditure not anticipated. Wall seperating second floor storage from meeting space does not meet 1 hr. rating requirement. Wall must be re-built.
2 Cohinetry		-						-				
a. Cabinetry a. Cabinetry at staff kitchen	1	ls	\$8,000	\$	8,000	\$	8,000	0%	Failed	0.00	6	Original cabinets in lounge need to be replaced. Not ADA compliant. Reconfiguration will be required.
4 Windowe												
a. Existing aluminum awning windows	69	ea	\$650	\$	44,850	\$	44,850	0%	Failed	0.00	7	All windows are original, single pane, non- insulated aluminum awning windows and need to be replaced completely.
b. Existing aluminum storefront entry system	1	ls	\$8,500	\$	8,500	\$	8,500	0%	Failed	0.00	8	All aluminum are original, single pane, non- insulated aluminum storefront system and need to be replaced completely.
	-										$\vdash$	
5 Deere	<u> </u>		<u>                                     </u>	-							<u> </u>	
<ol> <li>Doors         <ul> <li>Existing solid wood doors and frames and hardware</li> </ul> </li> </ol>	34	ea	\$850	\$	28,900	\$	28,900	0%	Failed	0.00	9	Existing solid wood doors and frames need to be replaced. Many of the fire doors do not latch properly due to sagging hinges and multiple layers of paint. Existing hardware is not ADA compliant.
	<u> </u>											
<ul> <li>a. Existing restrooms</li> </ul>	5	ea	\$20,000	\$	100,000	\$	40,000	60%	Fair	6.00	10	Two out of 4 public restrooms (5th bathroom is for janitor's use) do not meet ADA clearance requirements and need to be replaced completely. However, additonal restrooms would benefit the program needs of the space although they are not required by code. Staff has requested separate childrens bathrooms on the first floor.
b. New restrooms	2	ea	\$20,000	\$	40,000	\$	40,000	0%	Failed	0.00	N/A	2 additional restrooms on first floor per above comment
<ol> <li>Signs         <ul> <li>Miscellaneous public space signage.</li> </ul> </li> </ol>	1	ls	\$2,500	\$	2,500	\$	2,500	0%	Failed	0.00	11	Little or no permanent signage is provided. None is ADA compliant.
Subtotal Non Structural Systems						\$	262,620			3.85		





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### **3. NON-STRUCTURAL SYSTEM**









Floor and ceiling finishes, furniture and fixtures are dated and worn in meeting rooms and corridors in basement and second floor.



4







Hardboard ceilings appear to be in fair/good condition. Minor spot repair are needed in some basement areas.

5

Cabinets in second floor kitchen appear to be original and are not ADA accessible.





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Original non-insulated single pane aluminum awning windows do not meet current energy code requirements

7

Original non-insulated aluminum storefront system does not meet current energy code requirements





8

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Original solid wood door are worn as a result of years of use and many do not latch properly. The existing hardware is not ADA compliant

9

Existing second floor bathrooms are not ADA compliant. Currently there are not enough bathrooms in the building to satisfy code requirements or building programming requirements.







### 4. SERVICE SYSTEMS

#### Heating Ventilating and Air Conditioning System (HVAC)

The existing central heating and chilled water plant consist of chilled water system with air cooled water chiller; gas fired steam boiler, hot water converter, condensate pumping system, hot water heating pumps with hot water and steam piping distribution system. The central heating and chilled water plant components are less than 5 year old. Hot water and chilled water from central plant are supplied to central multi-zone air handling unit. Conditioned air from multi-zone air handling unit is supplied to entire library utilizing sheet metal insulated ductwork. The entire system is over 20 years old and has outlived its useful life. Automatic temperature control dampers are malfunctioning.

Design and configuration of the existing HVAC system is energy extensive and not capable of providing sustainable comfortable environment control for the functional reconfigured spaces and possible additional spaces to meet program requirements of the library. Repairs and in-kind replacement will not provide satisfactory environment control; therefore, complete demolition of the existing system is recommended. Furthermore, current DC government standards require all publically funded projects to meet a LEED Silver rating. Although some of the existing mechanical equipment has been replaced over the last decade, it is not sufficient to meet the LEED Silver requirements. New energy efficient and properly designed and zoned environmental control systems are required to comply with current standards and applicable codes. The new system will require installation of new ceilings and lights. New energy-efficient systems will save up to 30% in energy and operating costs.

#### **Plumbing Systems**

Existing plumbing fixtures and restrooms do not comply with ADA requirements. The existing plumbing systems with the exception of new domestic water heaters and sewage ejector pumps have outlived their useful life and require replacement.

#### **Electrical Systems**

Existing electrical systems are over 30 years old and has outlived their useful life. Existing electrical major components are not easily available for replacement. Existing devices, receptacles, and switches do not comply with ADA requirements. The building does not have an emergency power system to provide minimum functions during power outages due to weather or utility company maintenance.







#### **Interior Lighting**

Lighting fixtures in the public areas is in generally good condition. However, lighting is very inefficient, and does not provide adequate lighting level thru out the library. All existing lighting and ceiling systems should be replaced when the HVAC system is replaced. A new energy efficient lighting system will reduce HVAC equipment size and will have a payback period of less than five years. New lighting will provide a comfortable, elegant lighting environment in the building.

#### Site Lighting

Current site lighting includes minimal wall-mounted fixtures. New site lighting is required for proper illumination of the entire parking lot during dusk hours.

#### **Security Systems**

The existing security system is minimal. An integrated security system is essential for safety of library staff, visitors, security of Library contents and artifacts.

#### Data / Communication Systems

Existing data system provides minimal internet service and access. A new, integrated data/communication system is recommended for accessing and sharing state of the art current and future technology.

The result of this detailed analysis yields a score of **1.89** out of a possible **35** and a Repair/Replacement cost of \$943,200.

Refer to the following pages for detailed Repair/Replacement Evaluation and existing condition photos.





COMPONENTS	с	оѕт	EVALU	ΑΤΙΟ	N		F	EPAIR/RI EVAL	EPLACE			
				Estim	Estimated			Cost	Condition		Photo	
A. ELEVATOR REPAIRS / UPGRADES	QT	Unit	Unit Cost	Val	lue	F	Cost	Comparison	Evaluation	Score	Number	Comments
1. 3-stop Hydraulic Elevator	1	ea	\$65,000	\$6	5,000	\$	65,000	0%	Failed	0.00		Although the elevator and control system was renovated and upgraded 3 year ago, the existing cab size does not meet the current accessibility requirement per ICC/ANSI A177.1.
B. MECHANICAL SYSTEM												
<ol> <li>Chilled water plant including chiller, distribution piping and pumps.</li> </ol>	1	ea	\$100,000	\$ 10	0,000,00	\$	90,000	10%	Poor	3.50		Chiller is in good condition. Remaining system components have outlived their useful life. Chiller size is not adequate for new addition.
<ol> <li>Heating hot water plant including boilers, distribution piping and pumps.</li> </ol>	1	ea	\$80,000	\$8	30,000	\$	70,000	13%	Poor	4.38		Boiler is in good condition, remaining system components have outlived their useful life. If an addition to the existing facility is considered, the chiller size is not adequate for the new addition.
<ol> <li>Air Distribution System, including air handling units, distribution insulated ductwork, air distribution devices grilles and registers.</li> </ol>	1	ea	\$200,000	\$ 20	0,000	\$	200,000	0%	Failed	0.00		Meeting room split system is in good condition. Remaining system components have outlived their useful life. If an addition to the existing facility is considered, the air handling unit size is not adequate for new addition. Existing HVAC system cannot maintain proper environment in the library.
4. Automatic Temperature Controls	1	ea	\$60,000	\$ 6	50,000	E	\$60,000	0%	Failed	0.00		Existing electro-pneumatic system is not used with new digital technology.
5. Testing and Balancing	1	ea	\$30,000	\$ 3	30,000	E	\$30,000	0%	Failed	0.00		Testing and balancing is required to ensure proper functioning and operation of systems.
6. Commissioning	1	ea	\$30,000	\$ 3	30,000		\$30,000	0%	Failed	0.00		Commissioning is required for proper installation and monitoring during and post construction.







COMPONENTS	С	оѕт	EVALU	АТ	ION	R	EPAIR/R EVAI	EPLACE LUATION			
C. PLUMBING SYSTEMS											
1. Cold water incoming service	1	ea	\$35,000	\$	35,000	\$35,000	0%	Failed	0.00		Cold water service from public main to building has outlived its useful life.
2. Domestic cold water piping	1	ea	\$10,000	\$	10,000	\$10,000	0%	Failed	0.00		Domestic cold water piping has outlived its useful life.
3. Domestic hot water piping	1	ea	\$8,000	\$	8,000	\$8,000	0%	Failed	0.00		Domestic hot water piping has outlived its useful life.
4. Domestic hot water heater	1	ea	\$2,000	\$	2,000	\$200	90%	Good	31.50		Domestic hot water heater is in good condition and appears to be sized to accommodate new addition (if constructed).
5. Above grade waste and vent piping	1	ea	\$9,000	\$	9,000	\$9,000	0%	Failed	0.00		Existing piping has outlived its useful life. Additionally, a new ADA-compliant restroom will require significant reconfiguration of the existing bathroom and may need to be relocated to another location.
6. Below grade waste piping modifications	1	ea	\$10,000	\$	10,000	\$10,000	0%	Failed	0.00		Existing piping has outlived its useful life. A new ADA-compliant restroom will require significant reconfiguration of the existing bathroom and may need to be relocated to another location.
7. Storm water above grade piping modifications	1	ea	\$8,000	\$	8,000	\$8,000	0%	Failed	0.00		Existing piping will require some modifications for installation of new HVAC system Additonal boiler Rm. floor drain required
8. Plumbing fixtures	1	ea	\$20,000	\$	20,000	\$20,000	0%	Failed	0.00		Existing plumbing fixtures have outlived their useful life and are not compliant with ADA requirements



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COMPONENTS	с	оѕт	EVALU	АТ			F	REPAIR/RI EVAL	EPLACEN UATION			
	QT	Unit	Unit Cost	Es	stimated Value		Cost	Cost Comparison	Condition Evaluation	Score	Photo Number	Comments
D. ELECTRICAL SYSTEM		1-	£40.000		40,000	-	42,000					Fristian destrict service services and services
<ol> <li>Upgrade incoming electric service and coordinate with PEPCO</li> </ol>		IS	\$12,000	\$	12,000	5	12,000	0%	Failed	0.00		Existing electric service equipment and conductors have outlived their useful life. Also, existing service is not adequate for existing building or a new addition (if constructed)
<ol> <li>Replacement existing power distribution system including all panels main electrical service panels.</li> </ol>	1	Is	\$64,000	\$	64,000	\$	64,000	0%	Failed	0.00		Existing power distribution system has outlived its useful life. Existing distribution system has rusted and does not have proper clearances for servicing and maintenance.
<ol> <li>Replace, add and wire existing receptacles and switches.</li> </ol>	1	Is	\$66,000	\$	66,000	\$	66,000	0%	Failed	0.00		Existing power distribution system has outlived its useful life. Existing distribution system has rusted and does not have proper clearances for servicing and maintenance.
4. New emergency power generation system including generator, automatic transfer switch, panels and wiring	1	Is	\$40,000	\$	40,000	\$	40,000	0%	Failed	0.00		Emergency power is required to maintain life safety system and essential functions of the library during utility company power outages.
				-		H						
<ol> <li>Replacement existing lighting with energy efficient and energy star lighting</li> </ol>	1	Is	\$36,000	\$	36,000	\$	36,000	0%	Failed	0.00		Existing lighting is in good condition but is not in compliance with current standards and codes. Existing lighting will require significant modifications for installation of new HVAC systems. New energy efficient lighting system generally has payback period of less than 5 years.
F. SITE LIGHTING												
1. Upgrade new site and provide new parking lot lighting		ea	\$25,000	\$	25,000		\$22,000	12%	Poor	4.20		New parking requirements and site configuration will require new energy efficient lighting.
G. SECURITY				-		E-						
1. Provide new integrated security system	1	ls	\$40,000	\$	40,000		\$40,000	0%	Failed	0.00		Integrated security system is essential for security of library contents and artifacts.
H COMMUNICATIONS				<u> </u>		E-						
1. Provide new digital telephone system	1	ea	\$18,000	\$	18,000		\$18,000	0%	Failed	0.00		Although existing data/communication system was upgraded to provide internet access, a new integrated digital data and communication system is recommended for better integration with current and future technology.
Subtatal Camilaa Custana						6	0.42.000			4.00		
Subtotal Service System				1		5	943.200			1.89		





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### 4. SERVICE SYSTEMS



Air cooled water chiller less than 5 years old in fair/good condition, not in compliance with LEED

Elevator equipment had been upgraded in the past 3 years, however elevator cab size does not meet ADA requirements









Five zone air handling unit in poor condition. Most dampers have failed and parts are not easily available. When unit operates, fan noise can be heard throughout reading and stack areas. Gas fired steam boiler less than 5 years old and in fair/good condition, not in compliance with LEED. Steam heating systems are obsolete and should be replaced with state of the art gas fired 90+ energy efficient hot water boiler system.









Gas fired domestic hot water heater is in fair/good condition however it is suggested that a more efficient 90+ tank-less water heater.

Steam condensate pump is leaking water adding to a higher makeup water cost. Additional floor drains in boiler room are required to drain water.









Heating and chilled water piping insulation in good condition.







Electrical distribution equipment has outlived its useful life. Replacement parts are not readily accessible.



A majority of existing light fixtures are inefficient and not energy star compliant. Lighting levels in most areas are inadequate.





### 5. FIRE AND EMERGENCY SYSTEMS

The existing fire alarm system is partial and does not satisfy life safety requirements as mandated by the DC Fire Marshal's office. A new, integrated, addressable, voice-activated fire alarm system is required for the safety of Library patrons and staff. The existing building does not have a fire suppression system; therefore, a new fire suppression system should be considered to bring the building to current standard.

The result of this detailed analysis yields a score of **0** out of a possible **10** and a Repair/Replacement cost of \$95,000

Refer below for the detailed Repair/Replacement Evaluation and existing condition photos.

5. FIRE AND EMERGENCY SYSTEM												
	COST EVALUATION						R	EPAIR/RE EVAL	EPLACEN UATION			
	QT	Unit	Unit Cost	E	stimated Value		Cost	Cost Comparison	Condition Evaluation	Score	Photo Number	Comments
A. FIRE ALARM SYSTEM												
<ol> <li>Provide new integrated addressable voice activated fire alarm system</li> </ol>	1	ls	\$36,000	\$	36,000		\$36,000	0%	Failed	0.00	1	Existing fire alarm system is partial and does not include life safety requirements required by the DC Fire Marshall's office.
B. FIRE PROTECTION SYSTEM												
<ol> <li>Existing library does not have fire protection system</li> </ol>	20,000	SF	\$3	\$	59,000		\$59,000	0%	Failed	0.00		Fire protection system is required for protection of library contents, staff, and patrons.
Subtotal Fire and							\$ 95,000			0.00		
Emergency System												





### **5. FIRE AND EMERGENCY SYSTEM**



Original fire alarm system needs to be updated to an addressable system

Original emergency lighting system must be replaced to meet current codes system.





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### 6. ENVIRONMENTAL

The Phase 1 Environmental Site Assessment was completed in conformance with the scope and limitations of the 40 CFR Part 312 and ASTM Standard Practice E-1527-05. The assessment included public environmental agency and historical record reviews, interviews site observations, limited sampling and analysis and report preparation. The report identified hazardous materials in the original floor tile mastic and lead paint on miscellaneous surfaces.

The site was identified on the District of Columbia Underground Storage Tank database with regards to an 8,000-gallon heating oil tank (UST) listed permanently out of use. Additionally, a petroleum odor was noted in the basement of the structure. Fluorescent lights were observed throughout the building. Since the site building was constructed prior to 1970, it is likely that some of the on-site lights contain PCBs. Light fixtures were observed and appeared to be in fair to good condition, and no staining or evidence of leaking ballasts .

It is recommended that the District of Columbia Public Library complete a Phase II Environmental Subsurface Investigation at the site to characterize subsurface conditions with respect to the use of the UST. It is recommended that both exterior and interior subsurface testing be conducted as part of the Phase II. It is also recommended that a geophysical survey of the site take place in order to ascertain the presence and/or location of the UST

The result of this detailed analysis yields a score of **0** out of a possible **5** and a Repair/Replacement cost of \$127,800.

Refer to the following pages for detailed Repair/Replacement Evaluation and existing condition photos.





6. ENVIRONMENTAL										
COMPONENTS	с	оѕт	EVALU	ATION	F	EPAIR/RE EVAL	EPLACEN UATION			
	от	Unit	Unit Cost	Estimated	Cost	Cost	Condition	Score	Photo	Commonto
A GENERAL ABATEMENT	Q I		Unit Cost	s -	CUSI	Companson	Lvaluation	30016	Number	comments
1. Existing floor tile with mastic	10,400	sf	\$4	\$ 41,600	\$41,600	0%	Failed	0.00		
				\$-						
2. Ceiling Tiles	20,000	sf	\$3	\$ 60,000	\$60,000	0%	Failed	0.00		
3. HVAC Duct Insulation	1,000	lf	\$10	\$ 10,000	\$10,000	0%	Failed	0.00		
4. Fire Doors	6	ea	\$200	\$ 1,200	\$1,200	0%	Failed	0.00	N/A	
5. Lead Paint Stabilization	1	ls	\$15,000	\$ 15,000	\$15,000	0%	Failed	0.00	N/A	
									N/A	
Subtotal Environmental				\$ 127,800	\$ 127,800	0%	Failed	0.00		



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### SUMMARY

As indicated in the Summary of Facility Assessment Categories chart below, the existing facility scored **24.34** out of a possible 100. Based on the methodology described in Section II, if the property scores less than 35 points, the existing facility is in **FAILING – UNSATISFACTORY** condition and requires extensive renovation or complete demolition and reconstruction.

Summary of Facility Assessment Categories								
	Repair or Replacement Costs	Repair and Replacement Score						
1 - Site Improvement	\$105,300	1.52						
2 - Facility Structure	\$289,888	17.08						
3 - Non Structural Components	\$262,620	3.85						
4 - Service Systems	\$943,200	1.89						
5 - Fire and Emergency Systems	\$95,000	0.00						
6 – Environmental	\$127,800	0.00						
Total	\$ 1,823,808	24.34						





# **SECTION IV**

## MAJOR SYSTEMS MAINTENANCE COST EVALUATION







The Maintenance Cost Analysis for the Major System assesses the different major components of the facility based on the ratio between maintenance cost and initial cost. This assessment will identify excessive maintenance costs and compare it to component replacement. It will also compare multiple component replacement to system replacement. This will allow the assessment team to make a decision on whether major systems in the facility need to undergo renovation or instead be demolished and replaced.

For example, a boiler assessed at 55% would place it in "Fair" condition according to the Maintenance Cost Analysis Table category and is estimated as follows:

Boiler = 55 % = FAIR

Maintenance Cost Analysis Table	
<i>Excellent Satisfactory</i> - Suitable for continued normal use for the next 5 years with annual maintenance cost is less than 2% of the cost.	95-100 %
<i>Good</i> - Adequate In good condition for continued use for the next 4 years with an annual maintenance cost less than 5% of the replacement.	75-94 %
<i>Fair</i> - Not adequate for continued use for the next 3 years with annual maintenance cost less than 7% of the replacement cost.	55-74 %
<b>Poor</b> - Deficient for continued use in the next 2 years with annual maintenance cost in excess of 7% of the replacement cost.	35-54 %
<i>Failing</i> - Unsatisfactory, in need of complete replacement.	0-34 %







The major systems for maintenance cost evaluation were also divided into the previously established six categories: Site Improvement, Structural Systems, Non-Structural System, Service Systems, Fire Detection and Emergency Systems, and Environmental. Due to existing facility conditions, most of the major systems that typically would be included in the evaluation have exceed their life expectancy and are in need of complete replacement; therefore, these systems were not included in the evaluation.

Major Systems evaluated in the Maintenance Cost Evaluation include:

1.Site Improvement:

- Front Entry Sidewalk: existing concrete sidewalks appear to be over 15 years old. Continued maintenance and upkeep is anticipated to alleviate current trip hazards resulting from freeze/thaw cycles and future winter weather abuse. The sidewalk condition scored at 59% out of 100%, which places it in "Fair" condition.
- 2. Structural System:
  - N/A. The building structure is in excellent to good condition and does not appear to be in need of major expenditures. The existing roof has exceeded its life expectancy and should be replaced, therefore roof maintenance cost was not included in the evaluation.

3. Non-Structural Systems:

• The evaluation of non-structural systems took into account the repair and maintenance of miscellaneous finishes other than those indicated to be replaced in Section 3 "Replacement Needs Assessment". The miscellaneous finishes scored at 85% out of 100%, which places it in "Good" condition.

4. Service Systems:

- Elevator: Elevator was upgraded 3 year ago. Continued maintenance and upkeep is anticipated. The elevator scored 96% out of 100%, which places it in "Excellent" condition.
- Mechanical, Plumbing and Electrical Systems: various components within the systems have been replaced recently, however much of these systems are either nearing the end of their life expectancy or have far exceeded it. Therefore, maintenance cost evaluation for these system is necessary to identify the need for replacement.
- The overall score for Service Systems is 67% out of 100%, which places it in "Fair" condition.

5. Fire Detection and Emergency Systems:

• Fire Alarm System: Existing fire alarm system is nearing the end of life expectancy; therefore, maintenance cost evaluation for the system is necessary to identify the need for replacement. The fire alarm system scored 55% out of 100%, which places it in "Fair" condition, however it should be upgraded to meet current life safety requirements.

6. Environmental:

• Evaluation not performed in this category as all hazardous material is to be removed. Continued upkeep is not anticipated.





1. SITE																					
			NITIAL CO	DST								MA	NTEN/	ANCE EVA	LUATI	ON					
	от	Unit	Unit Cost	Estimated Initial Cost	Age	Replacement Life, Years	Mair	itenance 1	Cost Year	Maintenance C	ost Year 2	Maintenance 3	Cost Year	Maintenance 4	Cost Year	Maintenance C 5	ost Year	Average	Existing Condition Evaluation	Component Condition %	Comments
A. Sidewalks 1. Existing front entry sidewalk	1	LS	\$10,000.00	\$ 10,000	15	25	\$	500	5.0%	\$ 523	5.2%	\$ 549	5.5%	\$ 579	5.8%	\$ 614	6.1%	5.53%	Fair	59%	Some transition problems noticed, but in overall fair condition
					_																
2. FACILITY STRUCTU	RE			DOT.					and the second				NITEN								
	E-				L		-					MA			LUAT	ON			Existing		
N/A	от	Unit	Unit Cost	Estimated Initial Cost	Age	Replacement Life, Years	Main Cost	tenance Year 1		Maintenance Cost Year 2		Maintenance Cost Year 3		Maintenance Cost Year 4		Maintenance Cost Year 5		Average	Condition Evaluation	Component Condition % N/A	Comments
S. NON STRUCTURE FACILITY INITIAL COST MAINTENANCE EVALUATION																					
		<u>"</u>																	Existing		
	от	Unit	Unit Cost	Estimated Initial Cost	Age	Replacement Life, Years	Main Cost	tenance Year 1		Maintenance Cost Year 2		Maintenance Cost Year 3		Maintenance Cost Year 4		Maintenance Cost Year 5		Average	Condition Evaluation	Component Condition %	Comments
A. Finishes 1 Miscellaneous Finishes	1	15	\$150.900.00	\$ 150.900	5	15	5	3 200	2 12%	\$ 3344	2 22%	\$ 3.511	2 33%	\$ 3.704	2.45%	\$ 3,927	2.60%	2 34%	Good	95%	Finishes designated
1. Histenaneous Fimanes			\$135,000.00	• 130,000		2	ľ	3,200		• 5,54	E.EE /*	* 0,011	2.55 %	¥ 3,704	2.45 %	اعمر و	2.00 /	2.04.0	6000	69%	"failed" from Section 3 - Replacement Needs Assement - not included
	_	-			-																
4. SERVICE SYSTEMS				DOT																	
	E-				-				1			MA			LUATI	ON		1	Existing		
A. Conveying System	от	Unit	Unit Cost	Estimated Initial Cost	Age	Replacement Life, Years	Main Cost	tenance Year 1		Maintenance Cost Year 2		Maintenance Cost Year 3		Maintenance Cost Year 4		Maintenance Cost Year 5		Average	Condition Evaluation	Component Condition %	Comments
1. Elevator - 3 stop hydraulic elevator	1	ea	\$65,000.00	\$ 65,000	3	30	\$	800	1.2%	\$ 836	1.3%	\$ 878	1.4%	\$ 926	1.4%	\$ 982	1.5%	1.36%	Excellent	96%	
B. MECHANICAL SYSTEM	E-	+			L																
1. Air Cooled Water Chiller	1	ea	\$45,000.00	\$ 45,000	5	20	\$	1,200	2.7%	\$ 1,254	2.8%	\$ 1,317	2.9%	\$ 1,389	3.1%	\$ 1,472	3.3%	2.95%	Good	83%	
2. Gas Fired Steam Boiler	1	ea	\$25,000.00	\$ 25,000	5	20	\$	900	3.6%	\$ 941	3.8%	\$ 988	4.0%	\$ 1,042	4.2%	\$ 1,104	4.4%	3.98%	Good	79%	
5. Miscellaneous Systems Repairs	Ŀ÷.	ea	\$30,000.00	• 30,000	- °	20	Ľ	1,600	5.3%	\$ 1,072	5.6%	\$ 1,750	5.9%	a 1,052	6.2%	a 1,903	6.5%	5.90%	Fair	58%	
4. Automatic Temperature Controls	Ŀ÷.	ea	\$00,000.00	* 00,000	20	20	Ļ	3,000	5.0%	a 3,135	5.2%	\$ 3,292	5.5%	a 3,473	5.8%	a 3,001	6.1%	5.53%	Fair	59%	
5. Air Distribution System	H÷.	ea	\$200,000.00	\$ 200,000	50	20	ŀ	15,000	7.5%	\$ 15,6/5	7.8%	\$ 16,459	8.2%	\$ 17,364	8.7%	\$ 18,406	9.2%	8.29%	Failed	51%	
C. PLUMBING																					
1. Domestic Water Heater	1	ea	\$2,000.00	\$ 2,000	7	20	\$	90	4.5%	\$ 94	4.7%	\$ 99	4.9%	\$ 104	5.2%	\$ 110	5.5%	4.97%	Good	75%	
2. Miscellaneous Systems Repairs	Ľ.	ea	441,000.00	* 41,000	L	20	Ľ	5,000	1.5%	\$ 5,155	1.0%	* 5,252	8.0%	9 J,473	8.5%	4 3,001	9.0%	8.09%	Falled	51%	
D.ELECTRICAL	-	-		-	L		-														
1. Miscellaneous Systems Repairs	1	ea	\$200,000.00	\$ 200,000	50	20	\$	13,500	6.8%	\$ 14,108	7.1%	\$ 14,813	7.4%	\$ 15,628	7.8%	\$ 16,565	8.3%	7.46%	Failed	53%	
													10000000								
																				67%	
		E MIR	BOENOV	OVETEM	6		-														
3. FIRE PROTECTION /		-		DST	S							MA	NTEN			ON					
		<b>"</b>																	Existing		
A. Fire Alarm System	от	Unit	Unit Cost	Estimated Initial Cost	Age	Replacement Life, Years	Main Cost	tenance Year 1		Maintenance Cost Year 2		Maintenance Cost Year 3		Maintenance Cost Year 4		Maintenance Cost Year 5		Average	Condition Evaluation	Component Condition %	Comments
1 Miscellaneous Systems Repairs	1	ea	\$10,000.00	\$ 10,000			\$	650	6.5%	\$ 679	6.8%	\$ 713	7.1%	\$ 752	7.5%	\$ 798	8.0%	7.18%	Fair	55%	
		-																			
6. ENVIRONMENTAL																					
		1	NITIAL CO	DST								MA	NTEN	ANCE EVA	LUATI	ON					
	от	Unit	Unit Cost	Estimated Initial Cost	Age	Replacement Life, Years	Main	tenance Year 1		Maintenance Cost Year 2		Maintenance Cost Year 3		Maintenance Cost Year 4		Maintenance Cost Year 5		Average	Existing Condition Evaluation	Component Condition %	Comments
N/A																				N/A	







# **EXHIBIT** A

## NEW CONSTRUCTION COST EVALUATION







### **ESTIMATED VALUE**

The facility construction cost evaluation is based on the cost comparison between the assumed new, 23,500 SF facility and the existing facility with a 4,000 SF addition.

### 1. NEW FACILITY

The existing site is identified on the DC Zoning Map as C-2-A. Prior to proceeding with any designs for a new building, the zoning should be confirmed by obtaining a zoning certification.

C-2-A districts are matter-of-right low density developments, including office employment centers, shopping centers, mediumbulk mixed use centers, and housing to a maximum occupancy of 60% for residential use and 100% for all other uses, a maximum FAR of 2.5 for residential use and 1.5 FAR for other permitted uses, and a maximum height of 50 feet. FAR can be increased to 3 with PUD approval. Rear yard setback requirements are 15 feet.

The site area is approximately 20,812 sf. A 1.5 FAR can yield a new building of approximately 31,218 GSF. In considering the potential for a new facility, the desired square footage is 23,586 GSF, similar to the DCPL's program for the Watha T. Daniel/Shaw library. The existing building footprint could remain very similar to its current shape and size and still yield a 2 story +  $\frac{1}{2}$  basement design of 23,586 GSF while maintaining the required 15' rear setback and space for approximately 20 parking spaces.

The New Facility Construction Cost in the "Estimated Cost Comparison" chart represents the rough Square Foot Cost for a new 23,500 S.F. facility based on the value derived from 2010 RS MEANS Building Construction Costs Book 68<sup>th</sup> Annual Edition and actual construction costs from recently built District of Columbia Public Libraries.





#### 2. EXISTING FACILITY

The Total Building value for the existing facility included in the Estimated Cost Comparison Chart was derived from several factors, including:

- The Total Estimated Cost is the Repair or Replacement Cost from the Summary of Facility Assessment Categories in Section III of this report.
- For comparison purposes, a 4,000 SF addition to the existing facility will bring the existing facility size in line with a new facility (the existing facility is approximately 19,500 SF). The estimated cost is generated from the data in the RSMEANS Square Foot Costs Book.

In finalizing the construction cost, estimated contractor's general condition, profit and overhead, along with the architect/engineer's fee, were included in the Building Total Cost to provide better comparison value. The estimate is the raw building cost and does not include contingencies, furnishings, equipment (FF&E), and development "Soft Costs" other than the Architectural and Engineering fee.

Estimated Cost Comparison										
Categories	Existing Facility Repair/Replacement Cost	New 23,500 GSF Facility Construction Cost	Comment							
			New facility cost includes demolition of							
1 - Site Improvement	\$ 105,300	\$ 1,651,408	existing facility							
2 - Facility Structure	\$ 289,888	\$ 2,010,096								
3 - Non Structural Components	\$ 262,620	\$ 754,903								
4 - Service Systems	\$ 943,200	\$ 1,603,610								
5 - Fire and Emergency Systems	\$ 95,000	\$ 98,271								
6 - Environmental	\$ 127 800	\$ 797 832	New facility cost includes costs associated with LEED for New Building Construction and abatement of HA7MAT							
Total Estimated Cost	\$ 1,823,808	\$ 6,916,120								
Premium for additional 4000 SF	\$ 872,000	\$								
Sub-Total	\$ 2,695,808	\$ 6,916,120								
General Condition 10%	\$ 269,581	\$ 691,612								
Uverhead 5%	3 134,790	\$ 345,806								
Profit 10%	3 269,581 245,005	<b>b</b> 691,612								
Design and Documents 8%	▶ 215,665	\$ 553,290								
Building Total	\$ 3,585,425	\$ 9,198,440								







As the comparison chart above indicates, the Building Total cost for the repair/replacement of the existing facility in addition to adding 4000 GSF is nearly 40% of the raw building cost for a new facility. This figure suggests that it is more cost effective to construct a new updated facility meeting the needs of today's library patrons rather than extensively renovating an outdated existing facility.

Estin	nated 16 Division Cost Bro	akout	of New 23,50	0 GSF Library
Division	Description		Total	Comment
1000	General Requirements	\$	-	Included in General Conditions
				Includes demolition of existing facility
2000	Site Construction	\$	1,779,208	and abatement of HAZMAT
3000	Concrete	\$	402,019	
4000	Masonry	\$	301,514	
5000	Metals	\$	703,534	
6000	Wood & Plastics	\$	201,010	
7000	Thermal & Moisture Protection	\$	469,022	
8000	Doors & Windows	\$	473,713	
9000	Finishes	\$	544,959	
10000	Specialties	\$	37,745	
11000	Equipment	\$	-	Not included in this raw cost analysis
12000	Furnishings	\$	-	Not included in this raw cost analysis
13000	Special Construction	\$	-	Not included in this raw cost analysis
14000	Conveying Systems	\$	72,162	
15300	Fire Protection	\$	98,271	
15400	Plumbing	\$	274,043	
15500	HVAC	\$	922,634	
16000	Electrical	\$	636,285	
Subtatal		-   e	6 016 120	
Subtotal			0,510,120	
General Conditions 10%		\$	691,612	
Overhead 5%		\$	345,806	
Profit 10%		\$	691,612	
Design and Documents 8%		\$	553,290	
Building Total		\$	9,198,440	

DISCLAIMER: The cost estimates provided in this report are conceptual only. Actual costs will depend on a variety of factors, such as final design selection of materials and methods, inflation, scale and the scope of individual construction contracts and coordination with infrastructure improvements. The Argos Group and Wiencek + Associates Architects + Planners make no implications or express any warranty or guarantee with the estimates provided in this report.

