DISTRICT OF COLUMBIA HOUSING AUTHORITY

CREATIVE LIVING SOLUTIONS REPORT

FY 2006

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Creative Living Solutions Annual Report
FY 2006

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PART I: OVERVIEW OF ACTIVITIES AND ISSUES

INTRODUCTION

This report describes both the ongoing activities of the District of Columbia Housing Authority (DCHA) over the past year from October 1, 2005 thru September 30, 2006 (Fiscal Year 2006) and the innovative initiatives that DCHA has undertaken using MTW flexibility. The initiatives reported on in this report were described in DCHA's Moving to Work/Creative Living Solutions (MTW/CLS) Plan for Fiscal Year 2006, presented to HUD in July 2005.

During FY 2006, DCHA sustained its mission of managing public housing units, administering vouchers, expanding affordable housing opportunities and supporting resident empowerment efforts. While the year was filled with multiple challenges, it also contained a variety of opportunities that allowed DCHA to face increasing affordable housing needs within a city with an aggressive housing market. Much like its peers across the nation, DCHA sought creative responses to the changing affordable housing environment and the reality of shrinking resources. The DCHA staff has demonstrated remarkable resiliency as both programmatic and administrative changes were implemented to reduce costs. With solid leadership and the commitment and sacrifices of a talented staff, DCHA stabilized the level of its housing assistance programs without undue harm to its existing clients.

During FY 2006, DCHA realized a number of achievements in each of its program areas. Highlights of these achievements include:

a. Maintenance of quality property management at public housing developments;
b. Continued implementation of the expedited modernization program where $80 in bond proceeds are bringing properties to a 20-year viability; to date, $53 million has been obligated for this 4-year project;
c. Completion of 381 (cumulative)ADA/504 units,
d. Closing on numerous homeownership units at various sites, including 90 units at Henson Ridge and the initial occupancy of family units at Capital Gateway which includes the sale of six homes to low and moderate income families;
e. Completion of two elderly building at the Capper/Carrollsburg and Eastgate HOPE VI sites;
f. Implementation of a new Linguistically Isolated Voucher initiative;
g. Sponsorship of DCHA's second Annual Resident Summit,
h. Facilitation of Resident Commissioner election for the three seats reserved on DCHA's Board for residents;
i. Continued effective community policing efforts of DCHA's Public Safety force;
j. Received, for the fifth year in a row, an Unqualified Opinion in FY 2005 independent audit;

k. Implemented Customer Service training for all employees;
l. Acquired new software system to enhance information management.

DCHA is the largest landlord in the District of Columbia. This fact, coupled with the housing authority's location in the nation's capitol, places a unique value on our efforts. Continuously in the spotlight, DCHA has assumed a leadership role, both locally and federally, by carrying out its mission with a quiet confidence and commitment to excellence.

Moving to Work as a Valuable Tool

Each of the objectives reported as completed in this report advance at least one of the four objectives of DCHA's MTW Plan found in DCHA' MTW Agreement. The four objectives are as follows:

- Develop enhanced housing opportunities;
- Sustain quality property management;
- Achieve effective customer support services; and
- Organize efficient businesslike operating systems.

These four objectives are a summary of the ten objectives of DCHA's two year strategic plan. The initiatives proposed in the CLS Plan and reported on in the CLS Report are just some of the many avenues and tools that DCHA is employing to achieve the goals and objectives as outlined in the DCHA Strategic Plan. This report covers the policies and accomplishments directly related to MTW/CLS activities. Other planning tools that DCHA uses alongside with the CLS Plan to guide the implementation of its strategic plan include a comprehensive Business Plan and a Communications Plan. The objectives and the tasks of the strategic plan are updated every two years, the Business Plan, the Communications Plan and the CLS Plan are updated annually.

Content of this Report

The report is presented in three parts. The first part presents much of the data and information required by Attachment B of DCHA's MTW Agreement with HUD, including the number and demographics of the households served. The second section reports on the Initiatives proposed in the FY 2006 Creative Living Solutions Plan that was completed during FY 2006. The second section is organized according to DCHA's MTW/CLS objectives. The third section is the Appendices that complete the requirements of the MTW Agreement, including data required by Attachment B of the Agreement. Appendix B of the third section is a table presenting DCHA's progress on the Benchmarks incorporated in DCHA's MTW Agreement.

The Initiatives presented in this report were accomplished in consultation with the residents of DCHA's communities, the local organizations committed to helping improve the lives of low income families, local elected and appointed officials, DCHA staff and concerned members of the general public. After the exploration and consultation process, the proposed changes that were carried through to implementation were adopted through

the District of Columbia rulemaking process, with final adoption by the DCHA Board of Commissioners.

DCHA appreciates the advice, hard work and commitment of all the participants in the process of examining our mission and services and devising policies and processes that can help us do it better. The completed Initiatives that result from these efforts would not have been possible without the contributions from our clients, advocacy groups and all other stakeholders, not the least of which are DCHA employees responsible for the day-to-day success of the agency in achieving its mission.

PART I: OVERVIEW OF ACTIVITIES AND ISSUES

This section of the plan is organized according to the reporting requirements of Attachment B of DCHA's MTW Agreement with HUD. It provides the data, narrative and discussion as required by the Agreement.

I. Households Served

Overall, DCHA has achieved a net increase in total families served, exceeding our combined MTW benchmark of 16,564 by serving a total of 16,937, representing a growth rate of one percent. This growth was primarily in the voucher program as DCHA began to remove a modest amount of households from the waiting list and also issue vouchers to tenants impacted by local opt outs. The program is closer to its 2004 participant level. The public housing program did not reach the anticipated lease-up level due to unforeseen delays in the delivery of newly constructed public housing units at HOPE VI sites and changes in a financing structure at the Henson Ridge site where units originally planned as ACC units are now project-based Section 8 units. Additionally, bond-supported modernization efforts have also temporarily taken some units offline

Public Housing Families								
	End of FY '03	End of FY '04	End of FY '05	End of FY '06	End of FY '07	End of FY '08	End of FY '09	End of FY '10
Planned	7,203	7,508	7,000	7,200				
Actual	7,203	7,258	7,120	7,032				

HCVP Recipients								
	End of FY '03	End of FY '04	End of FY '05	End of FY '06	End of FY '07	End of FY '08	End of FY '09	End of FY '10
Planned	8,680	9,300	9,643	10,000				
Actual	9,249	9,908	9,575	9,905				

Total Households Served								
	End of FY '03	End of FY '04	End of FY '05	End of FY '06	End of FY '07	End of FY '08	End of FY '09	End of FY '10
Planned	15,883	16,808	16,643	17,200				
Actual	16,452	17,166	16,695	16,937				

One key fact that is not readily captured in the data above is the extent to which DCHA has been able to expand opportunities for low and moderate income families through other affordable housing methods. This includes units built in partnership with private developers. During FY 2006, DCHA and its partners constructed a total of 64 LIHTC (tax credit) units and 10 HCVP projected based Section 8 units. DCHA also entered into agreements with various other affordable housing providers for the collective creation of more project based Section 8 and ACC units. The housing authority has also been a partner in the construction of affordable homeownership sites. In addition, during FY 2006, DCHA delivered a total of 107 homeownership units and one Lease to Purchase unit targeted to mixed-income populations. These units include 96 units at the Henson Ridge development, five (5) at the East Capitol site, six (6) scattered sites, and 1 lease-to-purchase unit at the Wheeler Creek development.

Total Households Served: By Bedroom Size								
	End of FY '03	End of FY '04	End of FY '05	End of FY '06	End of FY '07	End of FY '08	End of FY '09	End of FY '10
0 BR	2,255	2,956	2,563	1,021*				
1 BR	3,592	3,626	3,531	4,274				
2 BR	5,193	5,196	4,992	5,522				
3 BR	3,857	3,767	3,796	4,115				
4 BR	1,177	1,204	1,327	1,462				
5 BR	343	370	417	465				
6 BR	35	57	70	78				
TOTAL	16,452	17,166	16,696	16,937				

*This number represents a corrected account of households served by bedroom distribution. Previous figures inadvertently counted privately managed units all as one bedroom units. The 2006 number represents the adjusted distribution.

Total Households Served: by Household Type

	End of FY '03	End of FY '04	End of FY '05	End of FY '06	End of FY '07	End of FY '08	End of FY '09	End of FY '10
Non-elderly/non-disabled	9,683	9,732	10,158	10,158				
Elderly/non-disabled	2,140	2,249	2,476	2,399				
Disabled	4,629	5,185	5,743	6,126				
Other	-	-						
TOTAL	16,452	17,166	18,377	18,683				

Total Households Served: By Income Group

	End of FY '03	End of FY '04	End of FY '05	End of FY '06	End of FY '07	End of FY '08	End of FY '09	End of FY '10
<30% AMI	15,465	15,869	15,432	15,428				
30%-50% AMI	926	1,187	1,153	1,322				
50%-80% AMI	60	105	104	176				
>80% AMI	1	5	6	11				
TOTAL	16,452	17,166	16,695	16,937				

Total Households Served: By Race

	End of FY '03	End of FY '04	End of FY '05	End of FY '06	End of FY '07	End of FY '08	End of FY '09	End of FY '10
Asian/Pacific Islander	48	53	51	59				
African American	15,829	16,643	16,185	16,458				
Native American /Hawaiian	7	27	28	28				
Caucasian	326	369	362	364				
Other	242	74	69	28				
TOTAL	16,452	17,166	16,695	16,937				

Total Households Served: By Ethnicity								
	End of FY '03	End of FY '04	End of FY '05	End of FY '06	End of FY '07	End of FY '08	End of FY '09	End of FY '10
Hispanic	339	350	340	344				
Non-Hispanic	16,113	16,816	16,282	16,593				
TOTAL	16,452	17,166	16,695	16,937				

Changes in Tenant Characteristics

As shown in the tables above, DCHA's tenant characteristics have remained fairly constant over the past year. The percentage of African Americans has remained at approximately 97% of the households served while the families of other races served by DCHA have increased slightly in real terms. The percentage of families with incomes less than thirty percent of the Area Median Income (AMI) decreased slightly from 92% in FY 2005 to 91% during FY 2006. At the same time, the number of households who fell in the income ranges of 50% to 80% of AMI rose slightly from less than one-percent at .06% to 1%, representing an increase of 67 households. The number of households whose incomes fell above eighty percent of AMI doubled from six households in FY 2005 to 12 in FY 2006.

A closer review of the data reveals that the slight increase in higher income families is a result of both ACC lease ups in the HOPE VI program where returning families who have taken advantage of the CSSP (supportive services) program are returning to the sites, and a stringent third party review during recertification at the conventional public housing developments where previously unaccounted income is being accurately reported.

Number and characteristics of households on Waiting Lists

The DCHA waiting list continued to grow in FY 2006. The number of applicants on the waiting list for public housing increased by 6%, while the number of households waiting for Section 8 assistance increased by 8% from the previous year. It should be noted that some households are on the waiting list for both public housing and Section 8 assistance. The tables below are summaries of the waiting list by different data elements.

Households on Waiting List by Housing Type								
	End of FY '03	End of FY '04	End of FY '05	End of FY '06	End of FY '07	End of FY '08	End of FY '09	End of FY '10
Public Housing	20,492	26,458	27,622	29,797				
HCVP	30,876	40,884	44,500	47,229				

Households on Waiting List by Bedroom Size: Public Housing								
	End of FY '03	End of FY '04	End of FY '05	End of FY '06	End of FY '07	End of FY '08	End of FY '09	End of FY '10
0 BR	7,011	6,367	6,450	6,995				
1 BR	3,363	6,636	7,535	8,690				
2 BR	5,502	7,453	7,730	7,848				
3 BR	3,485	4,667	4,580	4,906				
4 BR	846	1,088	1,118	1,186				
5 BR	141	119	95	71				
6 BR	30	25	19	6				
6+ BR	114	103	95	95				
TOTAL	20,492	26,458	27,622	29,797				

Households on Waiting List by Income Group: Public Housing								
	End of FY '03	End of FY '04	End of FY '05	End of FY '06	End of FY '07	End of FY '08	End of FY '09	End of FY '10
<30% AMI	20,077	25,971	27,244	29,385				
30%-50% AMI	357	421	318	353				
50%-80% AMI	13	23	20	19				
>80% AMI	45	43	40	40				
TOTAL	20,492	26,458	27,622	29,797				

Households on Waiting List by Income Group: HCVP								
	End of FY '03	End of FY '04	End of FY '05	End of FY '06	End of FY '07	End of FY '08	End of FY '09	End of FY '10
<30% AMI	30,164	39,951	43,659	46,349				
30%-50% AMI	622	821	739	776				
50%-80% AMI	29	48	39	41				
>80% AMI	61	64	63	63				
TOTAL	30,876	40,884	44,500	47,229				

Households on Waiting List by Household Type: Public Housing

	End of FY '03	End of FY '04	End of FY '05	End of FY '06	End of FY '07	End of FY '08	End of FY '09	End of FY '10
Non-elderly/non-disabled	18,340	23,320	24,269	25,962				
Elderly/non-disabled	1,133	1,343	1,051	1,343				
Disabled	969	1,751	2,251	2,445				
Other	50	64	51	47				
TOTAL	20,492	26,458	27,622	29,797				

Households on Waiting List by Household Type: HCVP

	End of FY '03	End of FY '04	End of FY '05	End of FY '06	End of FY '07	End of FY '08	End of FY '09	End of FY '10
Non-elderly/non-disabled	26,304	34,103	37,142	38,924				
Elderly/non-disabled	2,080	2,881	2,690	3,237				
Disabled	2,422	3,825	4,668	4,989				
Other	70	75	-	79				
TOTAL	30,876	40,884	44,500	47,229				

Households on Waiting List by Race: Public Housing

	End of FY '03	End of FY '04	End of FY '05	End of FY '06	End of FY '07	End of FY '08	End of FY '09	End of FY '10
Asian/Pacific Islander	111	185	140	150				
African American	19,780	25,505	26,653	28,733				
Native American /Hawaiian	59	69	65	74				
Caucasian	465	640	672	765				
Other	77	59	92	75				
TOTAL	20,492	6,458	27,622	29,797				

Households on Waiting List by Ethnicity: Public Housing								
	End of FY '03	End of FY '04	End of FY '05	End of FY '06	End of FY '07	End of FY '08	End of FY '09	End of FY '10
Hispanic	700	412	542	548				
Non-Hispanic	19,792	24,609	27,080	29,249				
TOTAL	20,492	26,458	27,622	29,797				

Households on Waiting List by Race: HCVP								
	End of FY '03	End of FY '04	End of FY '05	End of FY '06	End of FY '07	End of FY '08	End of FY '09	End of FY '10
Asian/Pacific Islander	154	263	231	263				
African American	29,722	39,335	42,803	45,383				
Native American /Hawaiian	90	100	164	113				
Caucasian	769	1,070	1,187	1,308				
Other	141	116	115	162				
TOTAL	30,876	40,884	44,500	47,229				

Households on Waiting List by Ethnicity: HCVP								
	End of FY '03	End of FY '04	End of FY '05	End of FY '06	End of FY '07	End of FY '08	End of FY '09	End of FY '10
Hispanic	992	664	895	1,005				
Non-Hispanic	29,884	40,220	43,605	46,224				
TOTAL	30,876	40,884	44,500	47,229				

Discussion

While the characteristics of families on the waiting list have remained substantially the same, not only has the number of families on both the HVCP and the public housing waiting lists increased in the past year, the rate at which the numbers have grown has also been consistently increasing over the past fours years. The waiting list has increased by 6% percent between FY 2005 and FY 2006.

DCHA attributes the increasing rate of growth in the waiting lists for both public housing and HCVP to the increasing need for affordable housing in a city identified by the 2006 Fannie Mae Foundation/ Urban Institute Report titled *"Housing in the Nation's Capitol"*. According to this report, the District's rental market declined over the past year, as multifamily properties continued to get converted into condominiums, resulting in a net loss 4,800 during 2005. As of January 2006, almost 5,500 rental units were under development in the region, with 580 of those in the District. With such high conversion rates of rental properties into condominiums and little supply to replace the conversion, the vacancy rates has decreased dramatically, thereby creating a tight rental market.

In addition to the loss of rental units to conversions, the rent market is further tightened with the high rental rates. The average rent in the DC metro was at $1,179 at the end of 2005, representing an increase of 1.4% after inflation from 2004. During the same period, the District's average rent climbed even faster by 3% to $1,321, creating serious financial burden and affordability challenges for many working families.

The growth rate of DCHA's waiting list is reflective of the market pressures of the last five years, creating a huge demand and limited housing resources available to address the needs of the families on the lists. The modest slow down in the housing market in 2006 has yet to impact the populations targeted and served by DCHA as is reflected in the size and growth of the waiting list.

During FY 2006, DCHA also concluded its review of the current procedural operations of its Client Placement Division, which manages DCHA's housing application process and continued to explore options into 2006. DCHA's application process is carefully examined and movement on the list is determined by preferences and the date/time of incoming applications. While DCHA has an open waiting list, only a small percentage of families on the public housing and voucher lists have been assisted during the past year.

II. Occupancy Policies

Changes in concentration of lower income families

It is well documented that the District of Columbia has one of the hottest housing markets in the country. This fact, coupled with revised federal HCVP funding methodologies, and the low turnover rate and low incomes of our family public housing units create a challenge when implementing de-concentration policies. But for the past several years, DCHA has used a variety of tools to encourage de-concentrated neighborhoods.

In the public housing program, DCHA does not have any properties with a large number of families with relatively higher incomes, except in HOPE VI properties where explicit policies have been established to market to and recruit families with a wide-range of incomes. The majority of families in each DCHA property have incomes substantially below 30% of the Area Median Income (AMI). Many DCHA properties have historically been located in low income neighborhoods. However, because of the rapidly increasing demand for homes in the District of Columbia, many of the neighborhoods surrounding DCHA properties have rising income levels. This is leading to a greater mix of incomes in neighborhoods that include public housing properties. Additionally, DCHA encourages its residents to participate in educational and job training programs that will assist those who are unemployed or underemployed. Here the goal is to increase the incomes of existing public housing households.

In the HCVP program, DCHA encourages its voucher participants in their efforts to choose homes in neighborhoods with lower concentrations of poverty. During initial briefing sessions, DCHA staff informs participants about the benefits and the means to get assistance to look for housing in those areas. Information on specific units in low poverty areas is also available. DCHA has also counseling staff who are dedicated to helping participants maintain a successful tenancy. DCHA also has an active Landlord Advisory Committee that assist with the recruitment of landlords in low poverty areas within the city. Additionally, the Board of Commissioners have supported a payment standard set at 110% of FMR which provides participants with the option of accessing units with higher rents.

III. Changes in the Housing Stock

Number of Public Housing units in inventory								
	End of FY '03	End of FY '04	End of FY '05	End of FY '06	End of FY '07	End of FY '08	End of FY '09	End of FY '10
Projected	9,219	8,807	7,000	7,876				
Actual	9,219	8,607	7,772	7,784				

Number of Vouchers in inventory								
	End of FY '03	End of FY '04	End of FY '05	End of FY '06	End of FY '07	End of FY '08	End of FY '09	End of FY '10
Projected	9,355	10,800	10,800	11,261				
Actual	9,355	10,877	10,978	10,031				

Discussion

DCHA's projected number of units in inventory for FY 2006 included the anticipated completion of 92 ACC units at the Henson Ridge site and 12 ACC units at the newly redeveloped Kentucky Courts site. The actual number is lower because the Henson Ridge units originally planned to be ACC are now project-based Section 8. And although these units are serving the same returning residents, they are not included in the public housing inventory count.

Homeownership

DCHA has a very active and successful homeownership program that utilities a medley of federal and local tools to assist low and moderate families achieve the American Dream. Between FY 2003 and FY 2006, DCHA assisted 315 households in achieving homeownership through the 5(h) and HOPE VI programs, with local homeownership assistance programs, and with the voucher program. Given local market pressures, there is a strong demand for DCHA's homeownership efforts. Overall, DCHA has provided 727 homeownership opportunities to low and moderate income households and plans to increase that number of over a 1,000.

IV. Sources and Amounts of Funding

The tables in this section, Sources and Uses of Funding, present estimates of the total funds received and expended in FY 2006 at the time the plan was prepared and compared to the actual as of the end of FY '06. The projected sources were based on DCHA's current knowledge of grants approved and/or requested, adjusted by any new information received at the time the plan was being drafted in July 2005. DCHA anticipated a decline in both the Low Rent and HCV program thus the projected uses presented in the FY 2006 plan reflected DCHA's response to the anticipated funding realities.

The tables presented below are estimates only. HUD will be provided with the final audited FY 2006 numbers upon completion of DCHA's independent audit. Attached to this report is the FY 2005 independent audit.

Planned versus actual funding amounts, FY 2006 un-audited

Classification	Projected Amount	Actual Amount
Low Rent Program	$61,500,000	$58,834,139
HCVP	$151,257,964	$122,743,880
Capital Fund	$23,300,000	$20,501,852
HOPE VI Program & other Dev. Grants	$25,000,000	$36,506,757
Misc. Grants	$11,000,000	$11,502,503
Proceeds from Grant Anticipation Loans/Bond	$14,400,000	$19,660,549
Subsidiary Corporations	$1,600,000	$1,300,000
TOTAL	**$288,057,964**	**$271,049,680**

Discussion

The planned versus the actual funding is based on the amount DCHA anticipated in receiving versus the actual amount it received. The actual amount represents the dollar amount the agency received through reimbursement, which is counted as revenue in the agencies accounting. As shown above, DCHA projected $288,057,964 in revenue, however the actual revenue was 6% less than projected. As anticipated, the primary shortfall was in the Low rent program and HCV program. DCHA anticipated $61,500,000 in the Low Rent program and $151,257,964 in the Voucher program, representing a short fall of 5% and 23%, respectively.

V. Uses of Funds

Budgeted vs actual expenditures by line item, FY 2005 unaudited*

Line Item	Classification	Planned Amount	Actual Amount
4110,4130,4140,4150,4171,4190,4195	Administration	$29,200,000	$34,061,340
4210 4220,1430	Tenant Services	$1,300,000	$1,063,329
4310,4320,4330,4340,4350,4390	Utilities	$23,500,000	$24,070,147
4410,4420,4430	Maintenance	$15,750,000	$16,811,501
4460,4470,4480	Security	$8,000,000	$6,230,618
4715	Housing Assistance Pmts	$143,857,964	$122,743,880
4510,4530,4540,4590	General	$18,328,593	$11,887,746
1400,1430,1440,1450, 1460,1470,4610	Dev./Capital/No Routine	$47,921,407	$57,381,925
	TOTAL	**$287,857,964**	**$274,250,486**

*DCHA will provide HUD with final audited numbers at the conclusion of the FY 2006 independent audit review.

Discussion

As a result of the decrease in projected sources, DCHA found it necessary to reduce Voucher payments. As can be gleaned from the table above, the resulting actual expenses reflect success in reaching the revised budget targets. In FY 2006, DCHA continued to work towards planning a management restructuring changes that will continue into 2007.

Reserve Balance at End of FY '06 and Adequacy of Reserves

DCHA had an estimated $34,775,000 in retained earnings in its reserves at the end of FY '06. DCHA's reserves are more than twice its monthly expenses.

VI. Capital Planning

Planned vs Actual Expenditures

The table in Appendix B reflects planned and actual capital expenditures at each existing property during FY 2006, using all capital funding sources.

Discussion

DCHA has established a grand goal for its capital programs. After a comprehensive assessment of the physical needs of its portfolio and a realistic review of available resources, DCHA has placed each of its developments into one of three capital categories. The first category is for those sites that have already been targeted and funded for major revitalization. This includes the HOPE VI sites and other mixed finance sites throughout the city. The second category is for those sites that will be treated and brought to a 20 year viability during the bond funded, four year accelerated modernization program. The third category was established for those sites that due to their size, physical needs, and harsh social dynamics require substantial investment and potential redevelopment.

Accelerated Modernization Program

By borrowing funds to accelerate the modernization of DCHA properties, DCHA hopes to stop further deterioration of targeted properties and resulting increases in routine maintenance costs. Through bond proceeds received in FY 2005, DCHA has began an aggressive program at 39 properties to update/replace major systems in most of its developments and make other physical investments important to our clients.

As of the end of FY 2006, DCHA initiated or completed many renovation activities at 28 properties resulting in contracting approximately $52.4 million for various modernization projects as DCHA properties. The activities range retrofitting units for UFAS, replacement of boiler systems and removal and replacement of condensing roof tops. A list of activities and the payments made to date can be found in Appendix C.

For improved management of ongoing maintenance for the properties, DCHA has implemented a maintenance system, which includes (i) the incorporation of cameras, facilities devices, and fire alarm systems within one monitoring system that will allow a centralized monitoring of multiple senior buildings at once; (ii) the implementation and utilization of handhelds to conduct preventative maintenance on property boilers and chillers, and (iii) the implementation of 15 laptop computers to operate wirelessly throughout the city to allow project managers to manage and maintain current status of multiple projects simultaneously.

Revitalization Sites

Henson Ridge: As of September 2006, the first phase of the project, the construction of 124 rental units is complete and fully occupied. To date, 90 homeownership units have been constructed and sold. All homeownership units in Phase 1 are under contract and awaiting completion of construction and closing. Phase II has commenced with the construction of 42 rental units. All rental units will be completed by July 2007.

Capitol Gateway: Construction was completed on the 152 unit Capitol Gateway senior building in 2004. Transit Oriented development, or building higher density in proximity to a metro station, has made this a much more significant undertaking than originally envisioned. Over the past two years, a great deal of energy has gone into making the best use of this land given its location. Construction of the family units on the southeast portion of the site was substantially completed during 2006, with former residents beginning there return to the site.

Capper/Carrollsburg: As of September 2006, construction on the first of two senior buildings was near completion and being readied for occupancy. The first phase (Capper Senior I) is scheduled for delivery at the end of calendar year 2006. Construction of the second phase is underway with a scheduled delivery of late spring 2007. Demolition activity on the remainder of the site also continued.

Eastgate: Construction of the senior facility, Triangle View, was substantially completed during 2006.

UFAS Activity

DCHA is working ardently on the creation of UFAS units to meet the requirements of a voluntary compliance agreement with HUD and a court ordered mandate. In addition to the units already converted in DCHA conventional public housing sites, DCHA is aggressively constructing UFAS units at its various HOPE VI sites and other redevelopment sites where such conversions are possible. Additionally, DCHA issued a RFP offering project based Section 8 subsidy to owners in the private market willing to convert their units. The housing authority is also making significant progress in converting the common areas of various developments to a UFAS standard. The developments targeted are those that house the converted 326 units.

DCHA has also hired a new Housing Counselor within its ADA/504 Program who is responsible for specialized outreach to applicants needing the features of a UFAS unit.

VII. Management Information for Owned/Managed Units

A. Vacancy Rates by Property at end of FY '06

Property	# of Available Units FY '06	# of Occupied Units FY '06	Actual Adjusted Vacancy Rate FY '06	Target Adjusted Vacancy Rate FY '06
DCHA – Rock Creek				
Colorado	21	21	0%	2%
Columbia Road	23	23	0.00%	2%
Fort Lincoln	118	118	0.00%	2%
Garfield Terrace	268	264	1.49%	2%
Greenleaf Gardens	274	267	2.55%	2%
Greenleaf Senior	212	207	2.36%	2%
Harvard Towers	175	175	0.00%	2%
James Apartments	140	138	1.43%	2%
James Creek Apartments	235	231	1.70%	2%
Judiciary House	174	173	0.57%	2%
Kelly Miller Apartments	167	163	2.40%	2%
LeDroit Apartments	121	117	3.31%	2%
Montana Terrace	63	62	1.59%	2%
Park Morton Apartments	168	162	3.57%	2%
Scattered Sites	34	34	0.00%	2%
Syphax Gardens	167	164	1.80%	2%
Langston Addition	34	34	0.00%	2%
Langston Terrace	271	264	2.58%	2%
TOTAL	**2,665**	**2,617**	**0.08%**	**2%**

Property	# of Available Units FY '06	# of Occupied Units FY '06	Actual Adjusted Vacancy Rate FY '06	Target Adjusted Vacancy Rate FY '06
DCHA – Potomac				
Benning Terrace	267	263	1.50%	2%
Fort DuPont Addition	16	16	0.00%	2%
Fort DuPont Dwellings	102	101	0.98%	2%
Kenilworth Courts	288	283	1.74%	2%
Lincoln Heights	424	414	2.36%	2%
Parkside Addition	42	41	2.38%	2%
Richardson	187	186	0.53%	2%
Stoddert Terrace	152	152	0.00%	2%
Arthur Capper Senior	65	65	0.00%	2%
Barry Farm	425	417	1.88%	2%
Carroll Apartments	60	58	3.33%	2%
Elvans Road	19	19	0.00%	2%
Highland Addition/Highland Dwellings	319	313	1.88%	2%
Kentucky Courts	115	113	1.74%	2%
Knox Hill Senior	122	117	4.10%	2%
The Villager	20	20	0.00%	2%
Wade Apartments	11	11	0.00%	2%
Woodland	227	218	3.96%	2%
Scattered Sites	12	12	0.00%	2%
TOTAL	**2,873**	**2,819**	**0.08%**	**2%**

Privately Managed Properties				
Property	**# of Available Units FY '06**	**# of Occupied Units FY '06**	**Actual Adjusted Vacancy Rate FY '06**	**Target Adjusted Vacancy Rate FY '06**
Clairidge	281	281	0.00%	2%
Edgewood	89	85	4.49%	2%
Horizon House	92	92	0.00%	2%
Regency House	151	151	0.00%	2%
Lincoln Road/Ontario	19	19	0.00%	2%
Sibley Plaza	182	182	0.00%	2%
Sursum Corda	28	28	0.00%	2%
Potomac Gardens	332	332	0.00%	2%
Henson Ridge	68	67	1.47%	2%
Hopkins Apts.	153	139	9.15%	2%
Wheeler Creek	148	146	1.35%	2%
TOTAL	**1,173**	**1,522**	**0.14%**	**2%**

Discussion

DCHA has a low adjusted vacancy rate at all of it properties. None of the regions had an overall adjusted vacancy rate of even 1%. All three regions more than met their target vacancy rate of less than 2% as of September 30, 2006.

B. Rent Collections

Rent Collections: Cash Collected compared to Rent Billed

		End of FY '03	End of FY '04	End of FY '05	End of FY '06	End of FY '07	End of FY '08	End of FY '09	End of FY '10
Projected		98%	98%	98%	98%				
Actual		99%	99%	97%	98%				

DCHA maintains a high percentage of cash collected compared to rent billed, with 98% collection rate.

C. Work Orders

Work Orders: Days to Complete Routine Work Orders

		End of FY '03	End of FY '04	End of FY '05	End of FY '06	End of FY '07	End of FY '08	End of FY '09	End of FY '10
Projected		23	23	23	23				
Actual		20	23	23	23				

DCHA has tracked this measure according to the requirements of its MTW Agreement benchmark.

Work Orders: %-age Emergency Work Orders completed within 24 hours

		End of FY '03	End of FY '04	End of FY '05	End of FY '06	End of FY '07	End of FY '08	End of FY '09	End of FY '10
Projected		100%	100%	100%	100%				
Actual		100%	100%	100%	100%				

D. Inspections

Units and Systems Inspected Annually

		End of FY '03	End of FY '04	End of FY '05	End of FY '06	End of FY '07	End of FY '08	End of FY '09	End of FY '10
Projected		100%	100%	100%	100%				
Actual		100%	100%	100%	100%				

VIII. Management Information for Leased Housing

A. Leasing Information

Target vs Actual lease-ups at end of period

		End of FY '03	End of FY '04	End of FY '05	End of FY '06	End of FY '07	End of FY '08	End of FY '09	End of FY '10
Projected		8680	9,300	9,643					
Actual		9249	9,908	9,905					

Rent Reasonableness

DCHA performs rent reasonableness reviews for each new lease and request for rent increase using a comprehensive automated system and on-staff real estate analysts who maintain the district-wide database of comparable properties. DCHA HQS inspectors have been trained and tasked with gathering data, on site, during the initial, pre-lease-up inspections for the use of the real estate analysts in completing an accurate rent reasonableness determination for units newly entering the program. DCHA's inspection unit now schedules and conducts its HQS inspections electronically, which has improved the timing and scheduling of our inspections.

Expanding Housing Opportunities

DCHA has implemented Fair Market Rents based on the 50th percentile and established a high payment standard in order to expand housing opportunities for its voucher recipients. Each of theses past actions has served to expand housing opportunities for DCHA's low income families. New federal voucher allocation methodologies has not kept pace with actual costs; a departure from HUD's traditional method of funding the voucher program. As such, during FY 2006, DCHA continued to explore cost containment initiatives allowed by DCHA's MTW Agreement to sustain families currently in the program, and to allow for modest growth in the program.

Discussion

In the past five years DCHA's lease rate has increased consistently. The authority has modified and improved its rent reasonableness practices to be more efficient and has worked hard to increase the opportunities for voucher participants to live in non-poverty impacted areas. Given the success of an active and effective rent reasonableness effort, the success of efforts to increase lease-up and reduce poverty impaction has resulted in increased per voucher costs. .

B. Inspection Strategy

Planned versus actual inspections

DCHA schedules 100% of annual HQS inspections of occupied households. DCHA has met its goals of completing 100% of planned HQS Inspections for occupied units, 100%

of planned pre-contract inspections and 100% of the planned sample of HQS quality control inspections.

HQS Enforcement
DCHA requires that 100% of all HQS violations are repaired or the HAP contract is terminated.

IX. Resident Programs

In FY 2006, DCHA continued to work and provide services in the four priority areas, including:

- Workforce Preparation;
- Family Enhancement;
- Children and Youth;
- Elderly and Disabled;

Workforce Preparation/Self-Help

During FY 2006, DCHA's Office of Resident Services implemented its Transitional Employment Program (TEP). In 2006, there were 117 TEP participants assigned to DCHA worksites. DCHA also entered into an agreement with DOES (D.C. Office of Employment Services) to offer current TEP participants in their search for permanent gainful employment.

DCHA also worked with the DC Fire and Emergency Medical Services Cadet Program in efforts to refer eligible DCHA public housing and HCV program participants opportunities to participant in the training.

Family Enhancement

In 2006, DCHA's ORS successfully submitted grant applications for Neighborhood Network and ROSS grants and was awarded $1.1million. DCHA implemented the ROSS grant and opened a Family Enhancement Center at its Lincoln Heights development. The Center is staffed by a Program Coordinator and its partner agencies, Marshall Heights and DayBreak Ministries. The staff and partners hosted a Parent Supporting Students day in an effort to promote the Center and to encourage families to participate in the programs offered at the Center. The programs include job training in the areas of emergency medical technicians and HVAC classes.

DCHA continued to work towards implementing the Neighborhood Networks Grant. In 2006, plans were underway for renovation and furnishing of the two selected sites where the Neighborhood Networks Centers will be housed, Garfield Terrace and Park Morton. Plans were also underway to establish advisory committees for both centers and hire two resident technicians to assist with the program's full implementation.

Children and Youth

ORS continued to provide youth focus services in 2006. For example, DCHA partnered with the District of Columbia Department of Youth Rehabilitation Services to assist youth associated with the juvenile justice system to develop and build life skills through work experience. DCHA also hosted its annual Do Your BEST Summer Youth Employment Program and hosted 100 youth. The youth were required to participate in Workforce Development Workshop where they were provided with job search and marketing skills and communications classes.

IX. Other Information Required by HUD

Form 038-0046	Disclosure of Lobbying Activities
Form HUD 50071	Certification of Payments to Influence Federal Transactions

PART II: CREATIVE LIVING SOLUTIONS INITIATIVES

Overview

Under the terms of DCHA's Moving to Work (MTW) agreement, DCHA has the authority to develop local regulations that better meet the needs of the 50,000 District of Columbia residents that the housing authority serves. During the past fiscal year, DCHA has worked with the residents of its properties, the participants in its HCVP voucher program, the landlords who house voucher recipients, the advocate community and other stakeholders to begin work on the initiatives listed in the FY 2006 Creative Living Solutions Plan (CLS). DCHA values this participatory approach in its policymaking, and takes very seriously the input of all of its stakeholders. As a result of this extensive exploratory process, some initiatives proposed last year have been implemented, some have been closed without implementation, and others will be continued in FY 2007. Of the thirteen initiatives proposed in the FY 2006 Creative Living Solutions Plan, implementation began or continued on five. DCHA's FY 2007 plan submitted to HUD earlier this year speaks to the continued implementation and exploration of eleven initiatives previously included in the FY 2006 plan. One FY 2006 initiative has been closed without implementation.

Initiatives Implemented:

Initiative 1.7.05	Security Deposit Guarantee Program
Initiative 3.5.05:	Streamlining Resident Community Service
Initiative 3.3.05	Streamlined Subsidy-Only Protocol
Initiative 4.1.04	DCHA Subsidiary to Act as Energy Services Company
Initiative 4.3.05	Flexible Funding

Initiative closed without implementation:

Initiative 1.8.05	Modifications to HCVP Inspections Scheduling

Initiatives still that will be further implemented or explored that are included in the FY 2007 Plan are:

Initiative 1.7.04	Security Deposit Guarantee Program
Initiative 1.5.05	Modifications to DCHA's Project-Based Voucher Program
Initiative:1.10.06	Applicant Intake Site Designation
Initiative 2.1.04	Simplified Certification and Multi-year Income Recertification
Initiative 3.3.05	Streamlined Subsidy-Only Protocol
Initiative 3.4.05	Supporting Grand families
Initiative 3.5.06	Rent Simplification and Collections
Initiative 4.1.04	DCHA Subsidiary to Act as Energy Services Company
Initiative 4.2.05	Revolving Loan Fund for HCVP Landlords
Initiative 4.3.05	Flexible Funding
Initiative 4.4.06	Reformulation of HUD Forms

This section of the report presents DCHA activities on the five initiatives where substantial implementation occurred during FY 2006. During the past reporting years, DCHA has advised HUD on those federal rules that have been modified and codified through the local District of Columbia rulemaking process described below. During the FY 2006 implementation year, no federal rules were modified.

During this program year, DCHA also decided to close without implementation initiative 1.8.05 "Modifications to HCVP Inspections Scheduling". The objective of the proposed initiative was to reduce the time and resources dedicated to annual inspections of the over 11,000 units in DCHA's tenant-based and project-based voucher programs. DCHA considered categorizing properties with HAP contracts according to risk, quality, and upkeep level, and then determine the frequency of inspections based on these categorizations. In 2006, DCHA invested into a more robust and efficient data collecting and information processing system for its public housing and voucher programs. It has been determined that use of this system will substantially streamline staff efforts dedicated to the inspection of units in the voucher program. Therefore, DCHA will not pursue this initiative as the intended goal will be achieved through different means.

Overview of Local Regulatory Process and Implementation of Initiatives

Prior to starting the public rulemaking process DCHA consults with and obtains comments and input on any proposed rule changes or new rules from key stakeholders such as the DCHA Citywide Resident Advisory Board, and the HCVP Landlord Advisory Committee and Participant Advisory Committee, and the local housing advocate community. Once a draft rule has been prepared taking all views into account, it is presented to the appropriate committee(s) of the Board of Commissioners. The Board of Commissioners has four committees with defined responsibilities. These committees are:

- Development and Modernization;
- Operations;
- Finance; and
- Education

Once the appropriate Board committee has provided authorization to publish the proposed rule, it is published for 14 to 30 days in the DC Register by the government of the District of Columbia. Written comments are received and reviewed. Based on the comments and further discussion with stakeholders the proposed rule may or may not be amended. If it is significantly amended it is taken back before the appropriate Board committee(s) and with the committee(s) authorization republished for an additional notice and comment period. If there are no significant changes, the proposed rule is brought back to the committee(s) with the written comments. If the committee(s) approves the proposed rule it is placed on the Board of Commissioners public agenda for action after public testimony. The agenda is distributed to all of the Resident Council Presidents and reviewed with the Citywide Resident Advisory Board, and the HCVP Landlord Advisory

Committee and the Participant Advisory Committee. Prior to taking action at the Board meeting, the Board of Commissioners calls on staff for a public presentation of an analysis of the proposed rule and its potential impacts. The new rule or rule change is not in effect until the Board of Commissioners has adopted a resolution in a public meeting approving it, and final notice is published in the DC Municipal Register.

Objective 1: Developing Enhanced Housing Opportunities

Introduction

This chapter describes the CLS activities that the District of Columbia Housing Authority (DCHA) will be undertaking to develop enhanced housing opportunities for the low-income citizens of the District. DCHA has proposed initiatives that will both facilitate the production or preservation of affordable units and improve the quality of life at the affordable units on which it has some influence.

CLS Initiatives

Initiative 1.7.05 Security Deposit Guarantee Program

DCHA has a large, successful Housing Choice Voucher program that has endured dramatic growth over the past several years, the impact of reduced federal assistance, and an extremely hot housing market. As the basic program was strengthened, DCHA sought to enhance aspects of the program to streamline administrative functions, reduce costs, and assist clients in achieving a successful tenancy.

The goal of this MTW initiative is to assist voucher participants who have difficulty securing a security deposit for an apartment. DCHA has explored the implementation of a security deposit guarantee program through which voucher recipients may subscribe for a monthly fee in lieu of a lump sum deposit to landlords. The initiative will require flexible use of funds to allow for potential payment on any guarantee where the recipient caused damage.

DCHA has been discussing this initiative with its Landlord Advisory Committee and during FY 2006 has negotiated a partnership with the city's Department of Human Services for a one-time financial contribution to this initiative. This financial contribution will assist DCHA with the startup costs associated with the implementation of this initiative. DHS's funds are from their FY 2007 budget and a memorandum of understanding between the two agencies will be finalized. DCHA intends to complete the design details of this initiative during FY 2007, but the identification and eminent receipt of these implementation funds was a substantial accomplishment.

Objective 3: Achieve Effective Customer Support Services

In addition to achieving excellence in its property management and expanding housing opportunities for District of Columbia families, DCHA values effective resident services and resident empowerment.

Over the past year, DCHA has sponsored or facilitated a variety of empowerment activities, as outlined earlier in this report. DCHA continuously seeks to partner with other organizations and government agencies for the provision of services that meet the needs of our public housing residents and voucher participants.

Under this Objective, DCHA identifies and explores innovative approaches to resident services and resident empowerment. To the extent that DCHA needs regulatory relief to achieve either of these , it has created alternative local rules. During FY 2006, DCHA continued implementation of one very important initiative that was initiated during FY 2005 and made substantial progress with HUD in the negotiation of a second.

Initiative 3.5.05: Streamlining Resident Community Service

In August of 2004, DCHA established its Neighbor-to-Neighbor program, which encouraged voluntary community services among its residents and provided a framework for DCHA to document these contributions. DCHA recognizes the value and magnitude of the truly voluntary service contributed by its residents for the welfare of their neighbors and the larger community.

During FY 2005, DCHA reported the creation of an innovative approach to the enactment of the required federal community service requirement. This local approach is designed to meet the statutory community service requirements while providing regulatory simplifications and administrative streamlining. It allows the focus to remain on providing support and assistance to residents looking for avenues to self-sufficiency. The regulations provide for all the exemptions from participation for residents allowed by statute and define an exemption from the community service requirement for participation in "work activities" that was referenced in the statute.

The goal of these regulations is to assist public housing residents in improving their economic and social well-being and to give residents a greater stake in their communities. The Neighbor to Neighbor Program allows residents who are not exempt from the community service requirement to use their required 8 hours of service in a self-sufficiency activity. This policy offers positive incentives to increase self-responsibility. Using data residents already report regarding income amount and sources, DCHA has automatically determined those individuals who are not exempt. During recertification, non-exempt individuals will be responsible for demonstrating their participation in a work activity.

During FY 2006, DCHA put into place the mechanisms necessary to implement this approach to community service. Through partnerships with public and private job training/placement entities, DCHA has secured slots for "non-exempt" residents. Through this approach, residents who choose to participate are receiving on the job training and life skill benefits while meeting the community service requirement. One example of this is a very successful partnership with the local Department of Employment Services on a Transitional Employment Program where interested residents are placed into paid temporary jobs, sometimes within DCHA, and are afforded the opportunity to make these jobs permanent. DOES provides funding to pay the residents. At the end of FY 2006, there were 28 residents participating in this expanding program.

Initiative 3.3.05 Streamlined Subsidy-Only Protocol

Over the past two fiscal years, DCHA has been working closely with HUD in the development of a new creative tool to expand affordable housing in the District of Columbia. Referred to as the OPERAting assistance for rental housing ("OPERA"), DCHA seeks to partner with private or public entities that intend on serving very low-income families in a portion of their existing or planned units within a rental property. Through the partnership, DCHA will provide public housing (ACC) subsidy on designated units to support the costs of operating a very low-income unit. DCHA seeks to develop with HUD a streamlined subsidy-only protocol that will reduce transaction time and costs in order to negotiate and finalize these partnerships quickly. A copy of the RFP can be found in Appendix A.

During FY 2006, DCHA held several discussions with HUD on the development of this protocol, and issued an RFP to solicit potential housing partners. Discussions with HUD have progressed favorably, and DCHA is in the process of structuring a deal for review and approval. DCHA is hopeful that the approval of this deal in FY 2007 will open the door to several other partnerships that will yield additional affordable housing for very needy District families.

Objective 4: Organize Efficient Businesslike Operating Systems

This chapter outlines the initiatives that DCHA undertook in FY 2006 to target its resources where they are most needed and develop revenue sources to augment those provided by HUD and tenant rent.

Initiative 4.1.04: DCHA Subsidiary to Act as Energy Services Company

Over the past two years, DCHA has proposed the implementation of an initiative where its wholly owned subsidiary, Construction Services Administration, LLC (CSA) will serve as an Energy Services Company (ESCo) and execute a comprehensive energy management strategy. The strategy will combine MTW flexibility and freedom from regulatory restraint with HUD's Operating Subsidy incentives at 24 CFR 990.107(c)(4) and (f)(1). DCHA expects to use HUD provisions allowing -- for the purposes of energy subsidy calculation -- a frozen base of consumption costs plus actual consumption costs savings to amortize private financing of a comprehensive DCHA energy management program. This initiative is coupled with DCHA's accelerated modernization program where $80 million in bond proceeds is being used to substantially modernize several of its developments to make them sustainable for the next 20 years. Work completed via this bond sponsored rehab effort will generate energy consumption savings; these savings, in turn, will be invested into additional modernization activities.

DCHA submitted its ESCo proposal to HUD at the start of FY 2006, and is awaiting HUD's response and approval. A copy of the proposal can be found in Appendix D

Initiative 4.3.05: Flexible Funding

As proposed in the FY 2006 plan, and with the funding fungibility authority granted in DCHA's MTW Agreement, the housing authority used HCVP funding authority totaling $1,690,000 for operating costs associated with the program. Use of these funds for this purpose was particularly necessary during FY 2006 in order to cover a portion of the unanticipated national reduction in operating subsidy funds made by HUD during the middle of the fiscal year.

CONCLUSION

In this third Moving to Work Annual Report, DCHA has presented the data and other information required under Attachment B of its MTW Agreement with HUD along with a report on the Initiatives proposed in the FY 2006 CLS Plan that were implemented.

During 2006, DCHA experienced some changes in key leadership positions. A new Board Chairman, Mr. Frank Smith, replaced Mr. Russell Simmons who led DCHA through five successful years. Another new commissioner, Mr. Gordon Cavanaugh, joined the Board, along with two new Resident Commissioners, Ms. Aquarius Vann-Ghasri and Mr. David Watson. The infusion of this new leadership, along with the election of a new Mayor in the District of Columbia, will stimulate new ideas and different approaches to achieving DCHA's mission. Furthermore, the changing dynamics in federal housing policy mandates that DCHA remain nimble in the implementation of its local housing program. Through MTW, DCHA has been able to respond ably to unforeseen circumstances and unanticipated opportunities. This flexibility is invaluable and is an important tool in DCHA's ability to sustain and expand affordable housing in one of the hottest housing markets in the country. During FY 2007, DCHA will continue to use this tool strategically to support the goals of its Strategic Plan and the needs of its clients.

Part III: APPENDICES

Appendix A: OPERAting Assistance Program—RFQ

REQUEST FOR QUALIFICATIONS
OPERATING ASSISTANCE for RENTAL HOUSING PROGRAM

SECTION A – INTRODUCTION

A.1 BACKGROUND

The District of Columbia Housing Authority ("DCHA") is dedicated to enhancing the quality of life in the District of Columbia (the "District") by providing and effectively managing affordable housing which is diverse, well maintained, and aesthetically pleasing for those whose circumstances prevent them from competing in the general marketplace. DCHA currently operates over 8,000 publicly owned rental units, and it also contracts for over 10,000 private units through its Housing Choice Voucher Program. Yet there is still a need for affordable housing in the District, which requires the DCHA to create and explore new strategies to more effectively and fully address the affordable housing needs in the District including the OPERAting assistance for rental housing ("OPERA") Program.

This program will provide an operating assistance subsidy for owners of residential rental units in the District that rent to households of low-income. The subsidy may also be used for housing for disabled and elderly persons, as well persons making a transition from homelessness, victims of domestic violence, or other needs for supportive living.

A.2 SCOPE

DCHA is soliciting responses from owners or developers of rental property in the District The property may be in the predevelopment or infrastructure phase, or the units may be in service. Additionally, a portion of the units (no more than 30% in most cases) must be appropriate for rental to low income families who pay rent no greater than 30% of their annual income. Units identified for assistance ("Assisted Units") will be eligible for an annual operating subsidy equal to ninety-five (95%) percent of the maximum per unit subsidy (currently known as AEL) that DCHA receives from HUD, presently about $350,

less rents collected. This number may be also adjusted to reimburse the Owner for (1) a pro rata percentage of the common area utilities and (2) utilities paid on behalf of residents.

Respondents must meet the ranking criteria and make certain that their admission and operating procedures are or can be adapted to compliance with DCHA and HUD. The properties will also have the following requirements:

1. The property will be subject to a recorded regulatory agreement;

2. The subsidy will be paid monthly;

3. The contract term is 30 years, but Owner can end its participation in the program at any time by providing one year's notice to DCHA;

4. For the Assisted Units, some of the anticipated obligations will be for the Owner to:
   a. Accept income-eligible tenants in accordance with its own rental screening criteria and DCHA and HUD regulations;
   b. Maintain separate waiting list for Assisted Units and coordinate admissions to accessible units with DCHA;
   c. Deny admission to applicants with household members that have been evicted for drug-related criminal activity, convicted of drug-related criminal activity for manufacture or production of methamphetamine; and are sex offenders subject to lifetime registration requirements;
   d. Follow DCHA's standards regarding the maximum and minimum numbers of people who may occupy Assisted Units;
   e. Conduct regular reexamination of residents' income;
   f. Charge 30% of residents' income as rent; and
   g. Participate in DCHA's Neighbor-to-Neighbor Community Service Agreement;
   h. Comply with HUD environmental requirements;

5. On a property level, Owner is also expected to:
   a. Maintain the Property at acceptable maintenance standards for the term of the contract and undergo periodic inspections by DCHA;
   b. Comply with federal laws related to fair housing, Title VI, Age Discrimination, and Section 504 of the Rehabilitation Act;
   c. Provide, economic opportunities to Section 3 residents and businesses (per Section 3 of the Housing and Urban Development Act of 1968),
   d. Pay prevailing wages to all maintenance laborers and mechanics employed in the operation of the Assisted Units;
   e. Keep liability insurance in amounts required by DCHA;
   f. Pay Davis-Bacon wage rates during construction of properties that are constructed or developed in anticipation of the DCHA subsidy;

6. Respondents are strongly encouraged to attend a pre-submission conference or talk to the DCHA contracting officer. The first pre-proposal conference will be held at DCHA on Monday, September 26, 2005 at 10:00 am. Additional conferences will be scheduled as needed throughout the period that this RFQ is open.

A.3 PROGRAM GOALS

DCHA has developed the OPERA Program to partner with private owners, including governmental and for- and non- profit entities, to increase the supply of affordable housing in the District of Columbia, particularly:

- in neighborhoods where affordable housing is not readily available;
- where subsidies are needed to reduce displacement as a result of gentrification;
- for low-income, disabled and/or elderly families requiring supported living environments and particularly meeting mobility accessibility (UFAS) standards;
- for special needs populations, such as persons with mental health needs or making a transition from homelessness, victims of domestic violence, or other needs for supportive living; and
- apartments serving families with three (3) to five (5) bedrooms.

A.4 METHOD OF SOLICITATION

DCHA is requesting Responses from interested property owners. Each respondent's qualifications will be evaluated and scored separately by DCHA in accordance with the *Evaluation/Selection Process and Selection Criteria* described in Section E. DCHA will calculate the total score for each Statement of Qualification in accordance with the procedures described in Section E.4. DCHA reserves the right to negotiate with respondents who provide the best value and meet the minimum scoring criteria, as determined in the discretion of DCHA. DCHA may select respondents that are most advantageous and most qualified based on the evaluation criteria stated herein. DCHA reserves the right to negotiate with any and all parties that submit acceptable Responses. DCHA reserves the right to award without discussion and may make award to multiple respondents, either prior to or subsequent to the submission deadline. DCHA reserves the right to reject Responses for any reason, including geographic locations and building type, or to withdraw this solicitation for any reason prior to the selection of any Responses.

Responses will be accepted by DCHA during the period as outlined in Section D.2.2. Responses will be reviewed and evaluated according to the following timeline: (1) all Responses accepted by October 19, 2005, shall be evaluated and the respondent will be contacted by December 16, 2005; (2) Responses accepted between November 18, 2005 through February 17, 2006, shall be evaluated and the respondent will be contacted by March 17, 2006; (3) Responses accepted between March 17, 2006 through May 19, 2006, shall be evaluated and the respondent will be contacted by June 19, 2006; (4) Responses accepted between June 19, 2006 through August 18, 2006, shall be evaluated and the

respondent will be contacted by September 19, 2006; (5) all Responses accepted after August 18, until closing date of September 19, 2006, shall be evaluated and the respondent will be contacted by October 20, 2006. DCHA reserves the right to change this schedule at any time during the application and submission period.

SECTION B – QUALIFICATIONS

B.1 ELIGIBLE PROPERTIES

In order for a property to be eligible, it must be a residential rental property located in the District of Columbia and identify a number, by bedroom size, of units to be occupied by income eligible families with incomes no greater than eighty percent (80%) of AMI.

B.2 AWARD AND USE OF SUBSIDY

DCHA will enter into an agreement with awardees to provide the operating subsidy through the OPERA Program for up to 30 years for the initial agreement, subject to annual congressional appropriation. Income eligible families will be required to pay thirty (30%) percent of their adjusted income, as defined by DCHA, to the owner directly for rent. The operating subsidy is reduced by the amount of rents charged to residents on a per unit basis. DCHA will reimburse a portion of the utilities paid by the Owner.

SECTION C – POST SELECTION

C.1 OPERATING ASSISTANCE REGULATORY AGREEMENT

After an award under this solicitation, DCHA will enter into a regulatory agreement ("RA") with the Owner governing the general repair, maintenance, and payment of subsidies. DCHA will make monthly operating assistance payments in accordance with the RA for each unit occupied by an eligible family.

SECTION D - INSTRUCTIONS, CONDITIONS AND NOTICE TO RESPONDENTS

D.1 GENERAL

The instructions below provide guidance for the preparation and submission of a response. They establish the requirements, format and content of responses so they are complete, contain all essential information and can easily be evaluated.

D.2 SUBMISSION AND CONTENT OF RESPONSES

D.2.1 REQUESTS/INQUIRIES

The Request for Qualifications ("RFQ") Package will be available, at no cost, beginning on September 19, 2005. The RFQ Package may also be secured by regular mail by

submitting a written request to DCHA at the address below. DCHA reserves the right to review responses and make awards at any time until the closing date.

District of Columbia Housing Authority
Contracts Administration
1133 North Capitol Street, NE., Suite 300
Washington, DC 20002-7599
Attn: Lisa Blacknall, Contracting Officer

Inquiries concerning the solicitation and corrections, modifications and request for withdrawal of Responses shall be submitted in writing to the issuing office.

Answers to questions will be provided to all Respondents receiving a solicitation package, giving due regard to the proper protection of proprietary information.

RESPONDENTS ARE INSTRUCTED SPECIFICALLY TO CONTACT ONLY THE CONTRACTS AND PROCUREMENT OFFICE IN CONNECTION WITH ANY ASPECT OF THIS RFQ PRIOR TO CONTRACT AWARD. RESPONSES AND ALL CORRESPONDENCE RELATING TO THIS RFQ MUST BE SUBMITTED TO THE ISSUING OFFICE.

D.2.2 APPLICATION SUBMISSION DEADLINE

Responses shall be submitted in original and five (5) copies, prepared in the format and detail as outlined in Section D.2.3, below. Each Response shall be submitted in sealed envelopes marked "RFQ No.0033-2006, OPERA Program."

Responses will be accepted after September 19, 2005 and until September 19, 2006. Submit all Responses to the address identified above.

A pre-proposal conference will be held at DCHA on September 26, 2005. Those wishing to submit a response to this RFQ are encouraged to attend.

D.2.3 Responses shall be organized as follows:

Cover Page
EXHIBIT I – Table of Contents
EXHIBIT II - Statement of Qualification
  A. Owner's Qualifications
  B. Property's Qualifications
EXHIBIT III – Small, Minority-Owned and Women-Owned Business Participation
EXHIBIT IV – References
EXHIBIT V – Certifications

D.3 TECHNICAL RESPONSE

The Response must include all of the items listed below and should be organized by the topics and submitted in the same order.

1. **Cover Page**

   The cover page should identify the solicitation by its name, number and submission deadline date. It should also bear the Respondent's name, address, e-mail address, and telephone and fax numbers.

2. **Table of Contents**

   The table of contents should clearly identify the location of each section of the package submittal by section number or letter and page number. The sections should be identified by consecutive letters or numbers and the contents of each section shall be number separately with the section letter or number as a prefix to the page number (e.g. A-1, A-2, A-3).

3. **Contents**

   A. Owner's Qualifications

   Provide general information on the respondent's business entity including the following:

   - Contact person, title, telephone number, fax number and email address;
   - Résumés of key Team Members;
   - Overview of the Management Firm's experience in the overall management of rental properties including a descriptive property portfolio;
   - Statement of experience with managing, developing low income and/or supportive or subsidized housing and regulatory covenants;
   - Provide information in Schedule 1, as attached hereto.

   B. Property's Qualifications as evidenced by the following items:

   - Site control or ownership;
   - Site and unit floor plans that <u>must include</u> size and number of units, square footage of the units, the number of bedrooms, and the bedroom configuration;
   - The number, size, configuration, and square footage of any UFAS units;
   - Environmental Reports conducted;
   - Copy of Management Contract if any;
   - Copy of lease and leasing requirements;
   - Operating pro-forma (that should include rents, expenses, debt

payments, etc.);

- Requested subsidy commencement date;
- Information required in Schedule 1.

C. Small, Minority-Owned and Women-Owned Business Participation

Briefly describe the proposed participation of any small, minority-owned or women owned businesses in this engagement, if any. The description should indicate whether the firm(s) is small, minority-owned or women owned and whether it is the prime partner, a joint venture partner, an associated firm or a consultant. It should include an estimation of the percentage of the contract that may be attributable to that firm.

D. References

Please provide two business references by company contact name, address, and telephone number.

E. Certifications

All certifications, as outlined in Attachments A-F of this solicitation, shall be completed and submitted with the response to this RFQ.

SECTION E – EVALUATION FACTORS FOR AWARD

E.1 EVALUATION AND SELECTION PROCESS

DCHA will commence review of Responses at its discretion upon receipt of the same. Submissions will not be opened publicly. Submissions will be initially screened for completeness and responsiveness as they are received. To be determined responsive, the submission must include the following:

1. A Response packaged prepared and identified in accordance with the instruction in Section D.
2. A Debarment/Suspension Certification indicating that neither the owner nor management agent nor any individual, officer or employee of the owner or management agent is debarred, suspended, or otherwise prohibited from participation in government programs by any federal, state or local agency.

Submissions lacking these items will be deemed non-responsive and will not be considered further. DCHA reserves the right to award without discussion or to make multiple awards. DCHA reserves the right to review Responses and make awards at any time until a closing date.

E.2 THRESHOLD SELECTION CRITERIA

The District of Columbia Housing Authority has determined that any unit determined to be eligible for a contract must meet the criteria listed below. Any property that does not meet these criteria will be rejected without further consideration in the competitive ranking process.

1. The property must be in a District of Columbia neighborhood.

2. The units must be already occupied or reasonably expected to be occupied by income eligible families or persons within thirty-six (36) months from the date of award under this solicitation.

E.3 COMPLIANCE WITH RFQ REQUIREMENTS

All responses will be scored based on the evaluation criteria outlined below. The Procurement Officer will determine a competitive range based on the established criteria and point system. The Review Panel may consider unacceptable any response for which critical information is lacking or the submission represents a major deviation from the requirements of this RFQ. Minor omissions, such as incomplete references, may, at the sole option and discretion of the Review Panel, be corrected subsequent to the submission due date.

E.4 EVALUATION FACTORS

In addition to satisfactorily fulfilling the threshold criteria outlined in Section E.1 above, all responses must score a minimum of 70 points in order to be considered for award under this RFQ. Submissions which receive fewer points will be rejected and may be modified for resubmission under this or a future RFQ. Submissions that satisfactorily comply with the criteria herein will be reviewed and award will be based on submissions deemed most responsive in meeting DCHA's stated goals.

1. Owner's Statement of Qualifications (Maximum Rating: 30 Points)

Evidence of the firm's ability to perform the services, as indicated by:

* The respondent's overall demonstration of qualifications based on previous experience in the overall management of rental low-income housing;

* The respondent's capacity and/or experience of providing effective management of subsidized or other low income or supportive housing;

* The respondent's ability to manage the ongoing operation of the property through DCHA's review of the operating pro-forma; and/or

* The respondent's knowledge and experience with subsidized rental housing and the operating covenants required while receiving such subsidies.

2. Property's Qualifications (Maximum Rating: 30 Points)

Evidence of the property's overall ability to comply the terms and conditions outlined in the public housing building standards identified in 24 CFR part 40 and 24 CFR part 8, subpart C; as indicated by:

* The number of units and bedroom size;

* Whether there are any UFAS units and the number of these units;

* The type of building and the number of wheelchair accessible paths if any;

* The environmental reports for the property, if any; and

* Pro-forma and/or current operating information such as rents, expense reports, and debt payments.

3. Contribution to the goals of the OPERA Program (Maximum 40 Points)
The Review Panel will consider the extent to which the proposed property will address the goals as set forth in Section A.3 of this RFQ. Properties that address more than one of the goals will be given greater consideration.

4. Small, Minority-Owned and Women-Owned Business Participation (Maximum Rating: 15 Points)
Evidence that the firm is a minority-owned business and/or that the firm has included or plans to include small businesses, minority enterprises and/or women-owned enterprises in development or operation of the project.

F.1 Protest Procedures

PROTEST

Any party involved in a dispute with the District of Columbia Housing Authority (the Authority) related to a procurement decision that has unfavorably affected the aggrieved party is entitled to a resolution of the dispute in a timely manner and in accordance with applicable local or Federal law. The protestor, in all instances, must pursue a remedy through the

established administrative procedures of the Authority prior to pursuing protest with the Federal agency. Guidelines and procedures that must be followed are presented herein.

DEFINITIONS

Contracting Officer. The person within the Authority duly authorized by the governing body thereof to administer contracts for, and in the name of, the Authority.

Executive Director. The Executive Director of the District of Columbia Housing Authority.

Federal Agency. Unless otherwise defined, the United States Department of Housing and Urban Development (HUD).

General Counsel. The General Counsel of the District of Columbia Housing Authority.

Protestor. Any respondent to a solicitation made by the Authority who has submitted a bid, quotation, or proposal meeting all the material requirements of the solicitation, who has received an unfavorable decision concerning the results thereof, and who feels that said decision was reached in an unfair or biased manner.

PROCEDURES

1. Any protest against a solicitation must be received before the due date for receipt of bids or proposals, and any protest against the award of a contract must be received within ten calendar days of contract award by the Contracting Officer of the Authority, or the protest will not be considered, unless a different time period has been established in the contract, if applicable. In such cases the time period set forth in the contract prevails. The complaint must be in writing, and must identify the aggrieved party by name and address, state the nature and scope of the complaint, include costs, if any, being sought by the Protestor, and be specific as to the solicitation, bid, proposal or contract that gave rise to the protest or complaint.

2. The Contracting Officer, upon receipt of the formal protest or complaint, shall review the merits of the protest and render a decision, in writing, to the Protestor. The response shall state if the protest or complaint is eligible for consideration based in its timely submission, or state a finding of fact based on information provided by the Protestor and the Authority's knowledge of the circumstances, and include instructions for further action the Protestor may take if said decision is not satisfactory. The Contracting Officer must respond to the protest within fifteen (15)

days of its receipt, except where the response time is otherwise stipulated in a contract with the Protestor directly related to the disputed issues.

3. If the Contracting Officer does not respond to the formal protest within the allotted time, or the Protestor does not agree with the decision rendered, then the Protestor may submit a formal request to have the dispute resolved by the Executive Director. Such request must be in writing and made within ten (10) days of receipt of the decision rendered by the by the Contracting Officer, or within ten (10) days after the expiration of the response time allotted. The Executive Director, or designee, shall respond to protests submitted in a timely manner within ten (10) days of receipt of said protests, except where the response time is otherwise stipulated in a contract with the Protestor directly related to the disputed issues.

4. If the Executive Director, or designee, does not respond to a properly submitted protest within the allotted time, or the Protestor continues to disagree with the decision rendered, then the Protestor may submit a formal request to have the dispute settled by the appropriate field office of the Federal Agency. Such request must be in writing and made within ten (10) days of receipt of the decision rendered by the Executive Director. The field office of the Federal Agency will only review protest that meet one of the following criteria:

   (i)Violation of Federal law or regulations and the standards of section 85.36, Code of Federal Regulations, title 24 (24 CFR, Part 85.36). Violations of or local law will be under the jurisdiction of local authorities.

   (ii)Violation of the Authority's protest procedures delineated herein based on the failure of the Authority to review a complaint or protest.

5. All protests, except those directed to the Federal Agency, or local authorities, shall be addressed to the Contracts and Procurement Administration of the Authority. The address is as follows:

   District of Columbia Housing
   Authority Contracts and
   Procurement Administration 1133
   North Capitol Street, N.E. Room
   300 Washington, D.C. 20002-7599
   Attn: Contracting Officer

6. All protest directed to the field office of the Federal Agency shall be addressed to the following location:

   Public Housing Division

U.S. Department of Housing and Urban Development
Washington, D.C. Field Office, Region III
Union Center Plaza
820 First Street, N.E.
Washington, D.C.
20002-4205

7. The Authority shall, in all instances, promptly disclose information to the Federal agency related to protest or complaints. However, failure to promptly notify the Federal agency of such matters does not relieve the Protestor of the responsibility of complying with the administrative procedures presented herein.

Appendix B: Benchmark Status Report

DCHA MTW Benchmarks FY 2006		Year 3 (FY 2006) Accomplishments
Objective: **DEVELOP ENHANCED HOUSING OPPORTUNITIES**		
Benchmark: Housing Choice Voucher	Number of vouchers in use on 9/30/06	9,905 vouchers in use
Benchmark: Public Housing Units	Public housing units leased on 9/30/06	7,032 occupied units
Benchmark: Homeownership Units	Cumulative number of public housing or HCVP homeownership units that have gone to closing	315 homeownership closings
Benchmark: UFAS units	Cumulative number of UFAS units	381 UFAS units created or converted
Objective: **SUSTAIN QAULITY PROPERTY MANAGEMENT**		
Benchmark: Cash Collected/Rent Billed	For the Fiscal Year, tentant payments as the percentage of rent billed	98%
Benchmark: Units & Systems Inspected	The percentage of major systesm and occupied units inspected by 9/30/06	100%
Benchmark: Routine Work Order Completion Time	For the Fiscal Year, the average number of days to complete rountine work orders	23
Benchmark: Emergency Work Order Completion Rate	For the Fiscal Year, the average number of hours required to close Emergency Work Orders	<24
Benchmark: Adjusted Occupancy Rate	The ratio of Occupied public housing units to available units as of 9/30/06	99%
Objective: **ASSURE EFFECTIVE SUPPORT SERVICES**		
Benchmark: Families Assisted in Self-Sufficiency Efforts	The cumulative number of families enrolled in or graduated from a DCHA sponsored self-sufficiency program, including HCVP and CSSP	2,015
Objective: **MAINTAIN BUSINESS-LIKE OPERATIING SYSTEMS**		
Benchmark: Expandable Fund Balance in Operating Reserve	Funds from all sources available to be expended for unanticipated needs expressed in the number of months of average operating expense that could be covered by the reserves	>2 Months
Benchmark: File Accuracy	Percentage of an audited sample of public housing and HCVP lease-up and recertification files for fiscal year reviewed for caclculation of adjusted income and tenant payment/rent	81%
Benchmark: Additional Non-PHA Funds Raised		3,336,113

Appendix C: Capital Expenditures at Existing Properties

DISTRICT OF COLUMBIA HOUSING AUTHORITY
DEVELOPMENT and MODERNIZATION ADMINISTRATION
CURRENT GRANTS: CAPITAL FUND PROGRAMS REPORT

(as of 09/30/06)

DEVLPMT NAME NUMBER	BUDGET	DESCRIPTION OF PROPOSED WORK ITEMS	OBLIGATED FUNDS (D)09/30/06	EXPENDED FUNDS (E)09/30/06
Fort Dupont Dwellings*		**Built 1940, Renovation is Underway, Modernized N.A. (200 Units Demolished in 1995)**		
DC1-01	BONDS	UFAS common space design	18,300.00	18,300.00
DC1-01	**Fort Dupont Dwellings Subtotal**		**18,300.00**	**18,300.00**

DEVLPMT NAME NUMBER	BUDGET	DESCRIPTION OF PROPOSED WORK ITEMS	OBLIGATED FUNDS (D)09/30/06	EXPENDED FUNDS (E)09/30/06
Ellen Wilson Dwellings		**(134 Units Demolished in 1996), Coop.**		
DC1-02	CFP			
DC1-02	**Ellen Wilson Dwellings Subtotal**		-	-

DEVLPMT NAME NUMBER	BUDGET	DESCRIPTION OF PROPOSED WORK ITEMS	OBLIGATED FUNDS (D)09/30/06	EXPENDED FUNDS (E)09/30/06
James Creek		**Modernized 1982**		
DC1-03	CFP501-02	UFAS modification of a unit	36,888.00	36,888.00
DC1-03	CFP501-03	Order a/c parts for emergency a/c repair. Roof replacement/repair over 6 units. Emergency installation of 5 furnaces, gas leak & heating system cleaning/repair	60,624.00	60,624.00
DC1-03	CFP501-04	Roof replacement, Phase III	-	-
DC1-03	ADA-38FUND	New concrete ramp to Resident Council Office, remove existing ramp & provide concrete stairs to alley. Modify existing trash shed & install handrails to existing ramp	11,841.00	11,841.00
DC1-03	ADA-38FUND	Additional UFAS modifications at common areas	3,355.00	3,355.00
DC1-03	BONDS	Renovation of a fire damaged unit	22,983.00	22,983.00
DC1-03	BONDS	UFAS common space, Mgt & RCouncil Office modifications	142,879.00	-
DC1-03	BONDS	Renovation of Vacant units & other mod. Replace shingle roof, Phase II & III	583,245.00	583,245.00
DC1-03	CFP501-05	Emergency furnace & 2 boilers repair	1,767.00	1,767.00
DC1-03	CFP501-05	Roof replacement, Phase III. Satellite dishes installation	11,520.00	11,520.00
DC1-03	**James Creek Subtotal**		**875,102.00**	**732,223.00**

DEVLPMT NAME NUMBER	BUDGET	DESCRIPTION OF PROPOSED WORK ITEMS	OBLIGATED FUNDS (D)09/30/06	EXPENDED FUNDS (E)09/30/06
Frederick Douglass Dwellings		0 Units, Family, Townhouse, 2001 Stanton Tr, SE, Ward 8, Anacostia Region, Built		
DC1-04	**Frederick Douglass Dwellings Subtotal**			

DEVLPMT NAME NUMBER	BUDGET	DESCRIPTION OF PROPOSED WORK ITEMS	OBLIGATED FUNDS (D)09/30/06	EXPENDED FUNDS (E)09/30/06
Carrollsburg Dwellings		1941, Modernized 1991		
DC1-07	CFP			
DC1-07	**Carrollsburg Dwellings Subtotal**		-	-

DEVLPMT NAME NUMBER	BUDGET	DESCRIPTION OF PROPOSED WORK ITEMS	OBLIGATED FUNDS (D)09/30/06	EXPENDED FUNDS (E)09/30/06
Kelly Miller		Built 1941, Modernized N.A.		
DC1-08	CFP501-03	Emergency repair/clean tank enclosure @10,000 gal. undeground storage tank & order of parts for heating repairs. Primary underground elec svce incl. meters bank new power transformer.	150,182.00	52,320.00
DC1-08	BONDS	A&E for Main elec svce. Design for boiler rooms. Design drawings for Community Room. Comp renovation design & plan	139,034.00	132,336.00
DC1-08	BONDS	Renovation of a fire damaged unit	38,720.00	38,720.00
DC1-08	BONDS	Hazmat abatement in boiler rooms & basement	57,882.00	57,882.00
DC1-08	BONDS	3 boiler rooms upgrade. Renovation of ADA units, critical & other mod	304,067.00	37,800.00
DC1-08	**Kelly Miller Subtotal**		**689,885.00**	**319,058.00**

DEVLPMT NAME NUMBER	BUDGET	DESCRIPTION OF PROPOSED WORK ITEMS	OBLIGATED FUNDS (D)09/30/06	EXPENDED FUNDS (E)09/30/06
Barry Farms Dwellings		1943, Modernized 1990		
DC1-09	CFP501-04	Air combustion, Phase IV. Emergency a/c repair	2,487.00	2,487.00
DC1-09	ADA-38FUND	Install concrete sidewalks & ADA ramp. UFAS bathrooms renovations @Mgt Office & Community Bldg	112,098.00	52,247.00
DC1-09	BONDS	UFAS design of common space	42,311.00	42,311.00
DC1-09	CFP501-05	Emergency 2 furnaces repair	1,220.00	1,220.00
DC1-09	**Barry Farms Dwellings Subtotal**		**158,116.00**	**98,265.00**

DEVLPMT NAME NUMBER	BUDGET	DESCRIPTION OF PROPOSED WORK ITEMS	OBLIGATED FUNDS (D)09/30/06	EXPENDED FUNDS (E)09/30/06
Lincoln Heights		**Built 1945, Modernized 1987**		
DC1-13	CFP501-03	Roof, fascia & soffit replacement, Phase II. Expansion of scope to renovate main office & lavatory room incl. ADA compliance. Exterior upgrade, Phase I	68,765.00	68,765.00
DC1-13	CFP501-04	Roof replacement, Phase II, air combustion. 4 Emergency BTU furnaces installations	8,165.00	8,165.00
DC1-13	CFP501-04	CCTV system installation	7,235.00	7,235.00
DC1-13	CFP501-04	4 Vacant units renovations	197,617.00	138,555.00
DC1-13	ADA-38FUND	Community Center UFAS upgrade	29,036.00	11,700.00
DC1-13	BONDS	UFAS design to repair fire damaged units	47,260.00	47,260.00
DC1-13	BONDS	Renovation of 6 fire damaged units. Contract reduction	211,649.00	211,649.00
DC1-13	BONDS	Fire alarm upgrade	32,604.00	32,604.00
DC1-13	BONDS	Community Center renovations	95,066.00	69,930.00
DC1-13	CFP501-05	Emergency install 5Ton a/h unit & boiler repair	4,569.00	4,569.00
DC1-13	**Lincoln Heights Subtotal**		**701,966.00**	**600,432.00**

DEVLPMT NAME NUMBER	BUDGET	DESCRIPTION OF PROPOSED WORK ITEMS	OBLIGATED FUNDS (D)09/30/06	EXPENDED FUNDS (E)09/30/06
Stanton Dwellings		**1952, Modernized 1992, Sewer only (348 Units Demolished in 2003)**		
DC1-14	CFP			
DC1-14	**Stanton Dwelling Subtotal**		**-**	**-**

DEVLPMT NAME NUMBER	BUDGET	DESCRIPTION OF PROPOSED WORK ITEMS	OBLIGATED FUNDS (D)09/30/06	EXPENDED FUNDS (E)09/30/06
Parkside Addition		**Modernized 1992 & 1999 (Phases 1, 3 & 4; Phase 2 in 1999), Resident Mgt.**		
DC1-15	BONDS	Renovation of ADA, fire damaged units, critical & other mod	-	-
DC1-15	**Parkside Addition Subtotal**		**-**	**-**

DEVLPMT NAME NUMBER	BUDGET	DESCRIPTION OF PROPOSED WORK ITEMS	OBLIGATED FUNDS (D)09/30/06	EXPENDED FUNDS (E)09/30/06
Highland Addition		**Built 1954, Modernized N.A. (128 units Demolished in 2000)**		
DC1-16	RHF501-03	Construciton & Revitalization of approx. 10 PH units	1,770,409.00	2,630.00

DC1-16	CFP501-04	Emergency removal of existing meters & installation of new meters. Roof replacement	2,095.00	2,095.00
DC1-16	BONDS	UFAS design to repair fire damaged units. Tech assistance for Green Bldg Project. UFAS design for common space	54,352.00	8,077.00
DC1-16	BONDS	Renovation of a fire damaged unit. Contract reduction	82,619.00	82,619.00
DC1-16	BONDS	Roof replacement. Condon Terrace roof replacement. Canopy replacements, entire property. Electrical upgrade. Critical & other mod	1,349,922.00	674,530.00
DC1-16	CFP501-05	Emergency boiler repair	6,956.00	6,956.00
DC1-16	**Highland Addition Subtotal**		**3,266,353.00**	**776,907.00**

DEVLPMT NAME NUMBER	BUDGET	DESCRIPTION OF PROPOSED WORK ITEMS	OBLIGATED FUNDS (D)09/30/06	EXPENDED FUNDS (E)09/30/06
Richardson Dwelling		**Built 1953 & 1964, Modernized 1988**		
DC1-17	CFP501-04	Emergency hw heater replacement. Roof replacement	7,226.00	7,226.00
DC1-17	BONDS	UFAS design for common space	61,036.00	-
DC1-17	BONDS	UFAS upgrades for common space	109,537.00	11,447.00
DC1-17	**Richardson Dwelling Subtotal**		**177,799.00**	**18,673.00**

DEVLPMT NAME NUMBER	BUDGET	DESCRIPTION OF PROPOSED WORK ITEMS	OBLIGATED FUNDS (D)09/30/06	EXPENDED FUNDS (E)09/30/06
East Capitol Dwellings		**Modernized N.A. (180 Units Demolished in 2000 & 397 Units Demolished in 2003)**		
DC1-18	CFP501-04	Revitalization & construction of Capitol Gateway Estates, HOPE VI, Rental Family	1,000,000.00	596,197.00
DC1-18	**East Capitol Dwellings Subtotal**		**1,000,000.00**	**596,197.00**

DEVLPMT NAME NUMBER	BUDGET	DESCRIPTION OF PROPOSED WORK ITEMS	OBLIGATED FUNDS (D)09/30/06	EXPENDED FUNDS (E)09/30/06
Kenilworth Courts		**Built 1959, Modernized 1992 & 1999 (Phases 1, 2 & 4; Phase 2 in 1999), Resident Mgt.**		
DC1-19	CFP501-04	Mechanical & electrical systems upgrade. Emergency 2 hot water heaters installation & a/c repair. Emergency 2 boilers replacement	25,053.00	25,053.00
DC1-19	BONDS	Roof replacement - contract reduction. Roof replacement at 20 bldgs	609,061.00	543,552.00

DC1-19	BONDS	Boilers & water heater replacements, 10 boiler rooms. Emergency replacement of pulse boilers & water makers in 16 mech rooms	1,129,726.00	823,967.00
DC1-19	BONDS	Common area UFAS upgrade	626,110.00	-
DC1-19	CFP501-05	Emergency install 2 HW heaters & boiler repair	8,320.00	8,320.00
DC1-19	**Kenilworth Courts Subtotal**		**2,398,270.00**	**1,400,892.00**

DEVLPMT NAME NUMBER	BUDGET	DESCRIPTION OF PROPOSED WORK ITEMS	OBLIGATED FUNDS (D)09/30/06	EXPENDED FUNDS (E)09/30/06
Arthur Capper		**SE, Ward 6, Anacostia Region, Built 1958, Modernized 1989 (1011 7th St, Senior Bldg), (206**		
DC1-20s	CFP501-04	Emergency a fiberglass cell in cooling tower replacement	11,254.00	11,254.00
DC1-20	**Arthur Capper Subtotal**		**11,254.00**	**11,254.00**

DEVLPMT NAME NUMBER	BUDGET	DESCRIPTION OF PROPOSED WORK ITEMS	OBLIGATED FUNDS (D)09/30/06	EXPENDED FUNDS (E)09/30/06
Greenleaf Gardens		**201 N St, SW, Ward 2, Rock Creek Region, Built 1959, Modernized 1989 (Senior Bldg),**		
DC1-21	ADA-38FUND	Additional modification at UFAS unit. Selective modifications at 8 UFAS & 2 occupied units. UFAS renovations of 12 units. Renovation of 5 UFAS units. Install UFAS stair chair lift at family townhouse, 231 L St	604,558.00	604,558.00
DC1-21s	ADA-38FUND	ADA common areas renovations	-	-
DC1-21	BONDS	Design & software installation for CADGRAPHICS remote monitoring system. Add work for Bldg Log/Prevent Maint Project	123,939.00	112,839.00
DC1-21	BONDS	Roof replacement at Sr Bldg. 51 storm doors replacement. Balcony renovations. Remote monitoring equipment installation. Renovation of ADA, vacant units, critical & other mod	2,010,104.00	492,009.00
DC1-21	CFP501-05	Emergency H&A/C unit & furnace repair	4,272.00	4,272.00
DC1-21	**Greenleaf Gardens Subtotal**		**2,742,873.00**	**1,213,678.00**

DEVLPMT NAME NUMBER	BUDGET	DESCRIPTION OF PROPOSED WORK ITEMS	OBLIGATED FUNDS (D)09/30/06	EXPENDED FUNDS (E)09/30/06
Benning Terrace		**Modernized 1988**		

DC1-22	CFP501-03	Repair a/c unit. Roof repair/replacement over a burnt unit. Roof replacement. Emergency replacement of 4 hot water heaters & 5 furnaces	68,361.00	68,361.00
DC1-22	CFP501-04	Renovation of 6 Vacant units	270,934.00	262,606.00
DC1-22	BONDS	ADA ramp construction. UFAS ramps construction	79,211.00	9,529.00
DC1-22	BONDS	Renovation of 9 Vacant Units. Renovation of 4 UFAS & 3 Standard Units. Asbestos abatement in 2 UFAS Units. Renovation of 7 fire damaged units	1,180,604.00	1,177,503.00
DC1-22	BONDS	Roof replacement, critical & other mod. Roof replacement	172,630.00	171,130.00
DC1-22	CFP501-05	Emergency 2 furnaces repair	1,665.00	1,665.00
DC1-22	**Benning Terrace Subtotal**		**1,773,405.00**	**1,690,794.00**

DEVLPMT NAME NUMBER	BUDGET	DESCRIPTION OF PROPOSED WORK ITEMS	OBLIGATED FUNDS (D)09/30/06	EXPENDED FUNDS (E)09/30/06
Stoddert Terrace		**Built 1960, 1999 Renovation & 2002 Site Upgrade, (2 Units Demolished in 1997 & 40 Units**		
DC1-23-	**Stoddert Terrace Subtotal**		-	-

DEVLPMT NAME NUMBER	BUDGET	DESCRIPTION OF PROPOSED WORK ITEMS	OBLIGATED FUNDS (D)09/30/06	EXPENDED FUNDS (E)09/30/06
Syphax Gardens		**Modernized N.A.**		
DC1-24	BONDS	Misc UFAS renovations of common space. Maint Office renovations. Critical & other mod	379,467.00	192,026.00
DC1-24	CFP501-05	Emergency replacement of bearing assembly & impeller of boiler	2,096.00	2,096.00
DC1-24	**Syphax Gardens Subtotal**		**381,563.00**	**194,122.00**

DEVLPMT NAME NUMBER	BUDGET	DESCRIPTION OF PROPOSED WORK ITEMS	OBLIGATED FUNDS (D)09/30/06	EXPENDED FUNDS (E)09/30/06
Langston Terrace		**Modernized N.A.**		
DC1-25	CFP501-04	Emergency heat boiler & 4 DCHA provided boilers replacement. Roof replacement, Phase II	26,924.00	26,924.00
DC1-25	ADA-38FUND	ADA common areas renovations	38,964.00	33,268.00
DC1-25	BONDS	Renovation of 4 fire damaged units	136,708.00	136,708.00
DC1-25	BONDS	Boiler rooms equipment replacement. 5 boiler rooms equipment replacement	1,439,618.00	493,741.00
DC1-25	CFP501-05	Emergency 2 boilers repairs	6,372.00	6,372.00

DC1-25	**Langston Terrace Subtotal**		**1,648,586.00**	**697,013.00**

DEVLPMT NAME NUMBER	BUDGET	DESCRIPTION OF PROPOSED WORK ITEMS	OBLIGATED FUNDS (D)09/30/06	EXPENDED FUNDS (E)09/30/06
Sibley Plaza		**Ward 2, Rock Creek Region, Built 1968, 1999 Renovation, Modernized N.A., Pvt Mgt.**		
DC1-29	CFP501-04	Roof replacement, North side/Penthouse. Common area renovations & UFAS upgrade	312,128.00	249,250.00
DC1-29	CFP501-04	Emergency boiler repair	74,436.00	74,436.00
DC1-29	BONDS	Roof replacement, South side	293,069.00	261,711.00
DC1-29	BONDS	Emergency 150 ton chiller replacement. Fan coil & risers replacement. Boiler replacement. Oil tank removal	1,976,797.00	292,368.00
DC1-29	BONDS	Balconies, trash room doors & windows treatment. Common area renovations & UFAS upgrade. Laundry room renovations	1,580,134.00	331,228.00
DC1-29	CFP501-05	Emergency chiller repair	2,219.00	2,219.00
DC1-29	**Sibley Plaza Subtotal**		**4,238,783.00**	**1,211,212.00**

DEVLPMT NAME NUMBER	BUDGET	DESCRIPTION OF PROPOSED WORK ITEMS	OBLIGATED FUNDS (D)09/30/06	EXPENDED FUNDS (E)09/30/06
Hopkins Apartments		**1960, 1999 Renovation, Modernized N.A., Pvt Mgt.**		
DC1-30	ADA-38FUND	Additional work at 5 UFAS units	35,938.00	35,938.00
DC1-30	**Hopkins Apartments Subtotal**		**35,938.00**	**35,938.00**

DEVLPMT NAME NUMBER	BUDGET	DESCRIPTION OF PROPOSED WORK ITEMS	OBLIGATED FUNDS (D)09/30/06	EXPENDED FUNDS (E)09/30/06
Sheridan Terrace		**Built 1960 (183 Units Demolished in 1997)**		
DC1-31	CFP			
DC1-31	**Sheridan Terrace Subtotal**		-	-

DEVLPMT NAME NUMBER	BUDGET	DESCRIPTION OF PROPOSED WORK ITEMS	OBLIGATED FUNDS (D)09/30/06	EXPENDED FUNDS (E)09/30/06
Park Morton		**Modernized N.A.**		
DC1-34	BONDS	Computer lab renovations. UFAS common space renovations. Renovation of ADA, vacant units, critical & other mod	109,748.00	38,242.00
DC1-34	CFP501-05	Emergency installation of sheet metal & insulation of boiler jackets	680.00	680.00
DC1-34	CFP501-06	Security site lighting	-	-
DC1-34	**Park Morton Subtotal**		**110,428.00**	**38,922.00**

DEVLPMT NAME NUMBER	BUDGET	DESCRIPTION OF PROPOSED WORK ITEMS	OBLIGATED FUNDS (D)09/30/06	EXPENDED FUNDS (E)09/30/06
Greenleaf Addition		**Modernized N.A.**		
DC1-35	CFP501-04	Emergency dhw svce & recirculating line in the crawl space	22,888.00	22,888.00
DC1-35	**Greenleaf Addition Subtotal**		**22,888.00**	**22,888.00**

DEVLPMT NAME NUMBER	BUDGET	DESCRIPTION OF PROPOSED WORK ITEMS	OBLIGATED FUNDS (D)09/30/06	EXPENDED FUNDS (E)09/30/06
Woodland Terrace		**Built 1964, Renovation is Underway, Modernized N.A.**		
DC1-36a	CFP501-04	Emergency hw heater replacement. Boiler room upgrade	9,997.00	9,997.00
DC1-36a	BONDS	A&E electrical design for CAD	39,114.00	35,203.00
DC1-36a	CFP501-05	Emergency installation of OS&Y valves. Boiler room upgrade	2,465.00	2,465.00
DC1-36a	CFP501-06	Boiler room upgrade	-	-
DC1-36a	**Woodland Terrace Subtotal**		**51,576.00**	**47,665.00**

DEVLPMT NAME NUMBER	BUDGET	DESCRIPTION OF PROPOSED WORK ITEMS	OBLIGATED FUNDS (D)09/30/06	EXPENDED FUNDS (E)09/30/06
Kentucky Courts		**Modernized N.A. (45 Units Demolished in 2002)**		
DC1-36b	BONDS	Roof replacement. Critical & other mod	573,545.00	513,000.00
DC1-36b	BONDS	Fan coil units & risers replacement	951,032.00	90,000.00
DC1-36b	BONDS	UFAS common space renovations	180,627.00	78,279.00
DC1-36b	**Kentucky Courts Subtotal**		**1,705,204.00**	**681,279.00**

DEVLPMT NAME NUMBER	BUDGET	DESCRIPTION OF PROPOSED WORK ITEMS	OBLIGATED FUNDS (D)09/30/06	EXPENDED FUNDS (E)09/30/06
Carroll Apartments		**(Phase 1 Completed in 1999)**		
DC1-36c	BONDS	Emergency 45 ton chiller replacement. Fan coil units replacement. Critical & other mod	418,375.00	117,930.00
DC1-36c	**Carroll Apartments Subtotal**		**418,375.00**	**117,930.00**

DEVLPMT NAME NUMBER	BUDGET	DESCRIPTION OF PROPOSED WORK ITEMS	OBLIGATED FUNDS (D)09/30/06	EXPENDED FUNDS (E)09/30/06
Garfield Terrace		**Rock Creek Region, Built 1965, Renovation is Underway, Modernized N.A.**		
DC1-37	BONDS	Investigation of retaining wall failure & test borings	23,400.00	3,400.00

DC1-37	BONDS	Mech room upgrade: replace Wheaters, boilers & piping. Fan coils & risers replacement. Renovation of ADA units, critical & other mod	1,509,954.00	86,840.00
DC1-37	**Garfield Terrace Subtotal**		**1,533,354.00**	**90,240.00**

DEVLPMT NAME NUMBER	BUDGET	DESCRIPTION OF PROPOSED WORK ITEMS	OBLIGATED FUNDS (D)09/30/06	EXPENDED FUNDS (E)09/30/06
Eastgate Gardens		**Demolished in 1998 & 16 Units Demolished in 2002)**		
DC1-38	RHF501-02	Development of Sr.Bldg on the Stoddert site, approx. 75 PH units	3,289,637.00	3,289,637.00
DC1-38	RHF501-03	Development of Sr.Bldg on the Stoddert site, approx. 75 PH units	237,040.00	237,040.00
DC1-38	RHF501-04	Acquisiton of 30 units at Oxford Manor	3,572,123.00	2,040,677.00
DC1-38	**Eastgate Gardens Subtotal**		**7,098,800.00**	**5,567,354.00**

DEVLPMT NAME NUMBER	BUDGET	DESCRIPTION OF PROPOSED WORK ITEMS	OBLIGATED FUNDS (D)09/30/06	EXPENDED FUNDS (E)09/30/06
LeDroit Apartments		**Creek Region, Built 1965, Modernized N.A.**		
DC1-39a	CFP501-02	UFAS renovation of 3 units. HRGM LITIGATION. Fire alarm system modifications, UFAS requirement	13,825.00	13,825.00
DC1-39a	BONDS	A&E for UFAS common space & comprehensive renovations	37,965.00	37,743.00
DC1-39a	BONDS	Fan coil units replacement & plumbing upgrade. Mechanical equipment replacement	908,207.00	637,300.00
DC1-39a	BONDS	Hazmat abatement in boiler rooms	37,176.00	37,176.00
DC1-39a	**LeDroit Apartments Subtotal**		**997,173.00**	**726,044.00**

DEVLPMT NAME NUMBER	BUDGET	DESCRIPTION OF PROPOSED WORK ITEMS	OBLIGATED FUNDS (D)09/30/06	EXPENDED FUNDS (E)09/30/06
Greenleaf Extension		**Modernized N.A.**		
DC1-39b	CFP			
DC1-39b	**Greenleaf Extension Subtotal**		-	-

DEVLPMT NAME NUMBER	BUDGET	DESCRIPTION OF PROPOSED WORK ITEMS	OBLIGATED FUNDS (D)09/30/06	EXPENDED FUNDS (E)09/30/06
Langston Addition		**Modernized N.A.**		
DC1-40	**Langston Addition Subtotal**		-	-

DEVLPMT NAME NUMBER	BUDGET	DESCRIPTION OF PROPOSED WORK ITEMS	OBLIGATED FUNDS (D)09/30/06	EXPENDED FUNDS (E)09/30/06
Scattered Sites-Group 1		Demo/Dispo,1999 through 2001)		
DC1-41	CFP			
DC1-41	**Scattered Sites-Group 1 Subtotal**		-	-

DEVLPMT NAME NUMBER	BUDGET	DESCRIPTION OF PROPOSED WORK ITEMS	OBLIGATED FUNDS (D)09/30/06	EXPENDED FUNDS (E)09/30/06
Potomac Gardens		Region, Built 1968, Modernized 1992 (Rebound), Renovated in 2003, Private Mgt		
DC1-43	CFP501-04	Emergency dhw heating system replacement	15,120.00	15,120.00
DC1-43	BONDS	UFAS design	59,697.00	59,697.00
DC1-43	BONDS	3 dhw boilers, 2 hw heaters & associated piping replacement. Critical & other mod	117,666.00	117,666.00
DC1-43	**Potamac Gardens Subtotal**		**192,483.00**	**192,483.00**

DEVLPMT NAME NUMBER	BUDGET	DESCRIPTION OF PROPOSED WORK ITEMS	OBLIGATED FUNDS (D)09/30/06	EXPENDED FUNDS (E)09/30/06
Montana Terrace		Region, Built 1968, Renovated in 2003, Modernized N.A. (52 Units Demolished in 1999, 38		
DC1-44	CFP501-02	Additional work to rehab. 11 Vacant Units	33,855.00	33,855.00
DC1-44	BONDS	UFAS design	50,094.00	50,094.00
DC1-44	BONDS	Site work at Bldg A-5. Additional site work	171,853.00	171,853.00
DC1-44	BONDS	Renovation of 12 standard units at Bldg A-5. Competion of Bldg A-5 renovations	148,905.00	148,905.00
DC1-44	BONDS	Fire alarm system replacement at Bldg A-5	100,000.00	100,000.00
DC1-44	CFP501-05	Emergency boiler repair	306.00	306.00
DC1-44	**Montana Terrace Subtotal**		**505,013.00**	**505,013.00**

DEVLPMT NAME NUMBER	BUDGET	DESCRIPTION OF PROPOSED WORK ITEMS	OBLIGATED FUNDS (D)09/30/06	EXPENDED FUNDS (E)09/30/06
Edgewood Terrace		Creek Region, Built 1973, Redev 2003, (42 Units Demo in 2002, 292 Units Converted into 200,		
DC1-46	CFP			
DC1-46	**Edgewood Terrace Subtotal**		-	-

DEVLPMT NAME NUMBER	BUDGET	DESCRIPTION OF PROPOSED WORK ITEMS	OBLIGATED FUNDS (D)09/30/06	EXPENDED FUNDS (E)09/30/06
Sursum Corda		Built 1968, Renovation is Underway, Modernized N.A., Private Mgt		
DC1-50	BONDS	Other mod	-	-
DC1-50	**Sursum Corda Subtotal**		-	-

DEVLPMT NAME NUMBER	BUDGET	DESCRIPTION OF PROPOSED WORK ITEMS	OBLIGATED FUNDS (D)09/30/06	EXPENDED FUNDS (E)09/30/06
Highland Dwellings		**1942, Modernized 1990 (4 Units Converted into Mgt Offices)**		
DC1-53	CFP501-04	3 Emergency BTU furnaces installations & heating system clean/repair. Order parts for heating repairs. Emergency boiler controls replacement. Emergency meter stack replacement	22,841.00	22,841.00
DC1-53	CFP501-04	Completion of 5 UFAS units renovations	69,313.00	69,313.00
DC1-53	BONDS	Roof replacement. Canopy replacements, entire property. Renovation of ADA units, critical & other mod	1,299,692.00	900,645.00
DC1-53	CFP501-05	Sewer system upgrade, erosion control, security site lighting	-	-
DC1-53	CFP501-05	Emergency boiler & furnace repair	780.00	780.00
DC1-53	**Highland Dwellings Subtotal**		**1,392,626.00**	**993,579.00**

DEVLPMT NAME NUMBER	BUDGET	DESCRIPTION OF PROPOSED WORK ITEMS	OBLIGATED FUNDS (D)09/30/06	EXPENDED FUNDS (E)09/30/06
Fort Dupont Addition		**Rehabilitated in 1998 (37 Units Demolished in 1997, fire damaged, 31 Units Demolished in**		
DC1-57	BONDS	Convectors & entry door replacement. Critical & other mod	107,684.00	87,916.00
DC1-57	**Fort Dupont Addition Subtotal**		**107,684.00**	**87,916.00**

DEVLPMT NAME NUMBER	BUDGET	DESCRIPTION OF PROPOSED WORK ITEMS	OBLIGATED FUNDS (D)09/30/06	EXPENDED FUNDS (E)09/30/06
Scattered Sites-Group 2		**Demo/Dispo, 1999 through 2004)**		
DC1-58	CFP501-03	Additional renovation work: replacement of windows @1851 Lamont St, NW	4,471.00	4,471.00
DC1-58	**Scattered Sites-Group 2 Subtotal**		**4,471.00**	**4,471.00**

DEVLPMT NAME NUMBER	BUDGET	DESCRIPTION OF PROPOSED WORK ITEMS	OBLIGATED FUNDS (D)09/30/06	EXPENDED FUNDS (E)09/30/06
Wade Apartments		**Modernized 1990**		
DC1-58	BONDS	Soil erosion control & fencing	40,000.00	40,000.00
DC1-58	BONDS	Renovation of 12 standard units	40,000.00	40,000.00
DC1-58	BONDS	Security improvements	13,935.00	13,935.00

DC1-58	BONDS	Renovation of mech, plumbing, common areas, roof & windows. Renovation of ADA units, critical & other mod	144,800.00	100,514.00
DC1-58	**Wade Apartments Subtotal**		**238,735.00**	**194,449.00**

DEVLPMT NAME NUMBER	BUDGET	DESCRIPTION OF PROPOSED WORK ITEMS	OBLIGATED FUNDS (D)09/30/06	EXPENDED FUNDS (E)09/30/06
Claridge Towers		**Modernization is Underway, Private Mgt**		
DC1-60	CFP501-04	Relocation of residents	1,891.00	1,891.00
DC1-60	ADA-38FUND	ADA common areas renovations	205,281.00	89,744.00
DC1-60	BONDS	UFAS design of common space. Tech assistance for Green Bldg Project. Chiller & colling tower replacement design. Hazmat testing	52,205.00	45,067.00
DC1-60	BONDS	Landscaping	44,698.00	44,698.00
DC1-60	BONDS	VCT mastic abatement	35,119.00	-
DC1-60	BONDS	Renovation of front wall, Phase V&VI. Windows & sliding doors replacement. Common space renovations. Additional structural work	1,551,190.00	650,351.00
DC1-60	**Claridge Towers Subtotal**		**1,890,384.00**	**831,751.00**

DEVLPMT NAME NUMBER	BUDGET	DESCRIPTION OF PROPOSED WORK ITEMS	OBLIGATED FUNDS (D)09/30/06	EXPENDED FUNDS (E)09/30/06
Knox Hill		**Modernized N.A.**		
DC1-61	BONDS	UFAS A&E for common areas	56,889.00	56,889.00
DC1-61	BONDS	Site improvements	154,709.00	87,578.00
DC1-61	BONDS	Replacement of lobby heat pump. Elec & mech upgrades. Renovation of ADA units & other mod	482,617.00	403,970.00
DC1-61	BONDS	Common space renovations	401,671.00	28,935.00
DC1-61	**Knox Hill Subtotal**		**1,095,886.00**	**577,372.00**

DEVLPMT NAME NUMBER	BUDGET	DESCRIPTION OF PROPOSED WORK ITEMS	OBLIGATED FUNDS (D)09/30/06	EXPENDED FUNDS (E)09/30/06
Horizon House		**Modernized N.A., Private Mgt**		
DC1-62	ADA-38FUND	UFAS renovations & remodeling of 9 efficiancy units. Fire alarm relocation & programming for 9 UFAS units. Complete renovation & remodeling of 5 UFAS units. Latent conditions for 5 UFAS units	506,393.00	506,393.00

DC1-62	ADA-38FUND	ADA common areas renovations	-	-
DC1-62	BONDS	Window replacements. Roof replacements	1,059,632.00	11,174.00
DC1-62	BONDS	UFAS common space upgrade. Remote monitoring equipment installation	172,075.00	13,210.00
DC1-62	BONDS	Fan coil units & risers replacement. Cooling tower replacement. Electrical upgrades. Fire alarm system upgrade. Oil tank removal. Renovation of ADA, vacant units, critical & other mod	1,209,876.00	86,812.00
DC1-62	**Horizon House Subtotal**		**2,947,976.00**	**617,589.00**

DEVLPMT NAME NUMBER	BUDGET	DESCRIPTION OF PROPOSED WORK ITEMS	OBLIGATED FUNDS (D)09/30/06	EXPENDED FUNDS (E)09/30/06
Fort Lincoln		**1971, Modernized N.A.**		
DC1-64	BONDS	UFAS design fees. A&E design for site improvements. Soil survey, tests, comments of oil tank existance	77,617.00	25,950.00
DC1-64	BONDS	2 boilers & assoc. piping replacement. 149 fan coil units & assoc. piping replacement. A/c unit replacement to Community rooms. Heater & exhaust system replacement in Laundry room. Renovation of ADA units, critical & other mod	1,137,680.00	547,187.00
DC1-64	**Fort Lincoln Subtotal**		**1,215,297.00**	**573,137.00**

DEVLPMT NAME NUMBER	BUDGET	DESCRIPTION OF PROPOSED WORK ITEMS	OBLIGATED FUNDS (D)09/30/06	EXPENDED FUNDS (E)09/30/06
Judiciary House		**Modernization is Underway**		
DC1-65	CFP501-04	Emergency replacement of auto sliding door at rear entrance. Hazmat abatement, plumbing systems replacement, renovation of units. Asbestos abatement of mechanical shafts & plumbing risers replacement	4,846.00	4,846.00
DC1-65	CFP501-04	Resident relocation from upper floors to 1st floor units after the units repairs	26,751.00	26,751.00
DC1-65	BONDS	UFAS design fees	80,348.00	62,923.00
DC1-65	BONDS	Hazmat abatement, Phase I, II & III. Asbestos & LBP additional abatement, Phase I	1,491,415.00	699,415.00

DC1-65	BONDS	Risers replacement	357,311.00	117,311.00
DC1-65	BONDS	Renovations of 125 std units. Renovations of ADA units, critical & other mod	2,569,537.00	703,124.00
DC1-65	CFP501-05	Emergency handicap lift repair. Hazmat abatement, plumbing systems replacement, renovation of units	14,017.00	14,017.00
DC1-65	**Judiciary House Subtotal**		**4,544,225.00**	**1,628,387.00**

DEVLPMT NAME NUMBER	BUDGET	DESCRIPTION OF PROPOSED WORK ITEMS	OBLIGATED FUNDS (D)09/30/06	EXPENDED FUNDS (E)09/30/06
Capitol View Plaza		**Modernized N.A. (92 Units Disposed in 2001)**		
DC1-67			-	-
DC1-67	**Capitol View Plaza Subtotal**		**-**	**-**

DEVLPMT NAME NUMBER	BUDGET	DESCRIPTION OF PROPOSED WORK ITEMS	OBLIGATED FUNDS (D)09/30/06	EXPENDED FUNDS (E)09/30/06
Harvard Towers		**Modernized N.A., Renovated in 2003**		
DC1-68	ADA-38FUND	UFAS site improvements	39,222.00	-
DC1-68	ADA-38FUND	Fire alarm relocation & programming for 3 UFAS units. Complete renovation & remodeling of 7 UFAS units. Contract reduction. Latent conditions for 7 UFAS units	268,229.00	268,229.00
DC1-68	BONDS	A&E design. Hazmat testing	101,247.00	82,489.00
DC1-68	BONDS	Cooling tower replacement. Fan coil units & risers replacement. Renovations of ADA, vacant units, critical & other mod	1,348,834.00	62,721.00
DC1-68	**Harvard Towers Subtotal**		**1,757,532.00**	**413,439.00**

DEVLPMT NAME NUMBER	BUDGET	DESCRIPTION OF PROPOSED WORK ITEMS	OBLIGATED FUNDS (D)09/30/06	EXPENDED FUNDS (E)09/30/06
Regency House		**1964, Modernized N.A., Renovated in 2003, Private Mgt**		
DC1-69	CFP501-03	Cooling tower replacement	36,734.00	36,734.00
DC1-69	BONDS	UFAS design fees	69,074.00	64,292.00
DC1-69	BONDS	Parking lot upgrade	73,401.00	2,835.00
DC1-69	BONDS	Common space UFAS upgrade	587,318.00	41,130.00
DC1-69	CFP501-05	Emergency backup power generator	466.00	466.00
DC1-69	**Regency House Subtotal**		**766,993.00**	**145,457.00**

DEVLPMT NAME NUMBER	BUDGET	DESCRIPTION OF PROPOSED WORK ITEMS	OBLIGATED FUNDS (D)09/30/06	EXPENDED FUNDS (E)09/30/06

James Apartments		Modernized 1992 (10 Units Demolished in 1990)		
DC1-70	CFP501-03	Chiller replacement	109,329.00	109,329.00
DC1-70	CFP501-04	Chiller replacement	25,000.00	25,000.00
DC1-70	BONDS	UFAS design fees	59,154.00	59,154.00
DC1-70	BONDS	Replace roof & windows	846,804.00	761,900.00
DC1-70	BONDS	Common areas & UFAS renovations	510,533.00	135,000.00
DC1-70	BONDS	Boilers, HW heaters & cooling tower replacement	550,208.00	412,200.00
DC1-70	**James Apartments Subtotal**		**2,101,028.00**	**1,502,583.00**

DEVLPMT NAME NUMBER	BUDGET	DESCRIPTION OF PROPOSED WORK ITEMS	OBLIGATED FUNDS (D)09/30/06	EXPENDED FUNDS (E)09/30/06
Frontiers Apartments		Modernized 1994, (54 Units Diposed 1998 through 2003), Home Ownership		
DC1-73	CFP			
DC1-73	**Frontiers Apartments Subtotal**		-	-

DEVLPMT NAME NUMBER	BUDGET	DESCRIPTION OF PROPOSED WORK ITEMS	OBLIGATED FUNDS (D)09/30/06	EXPENDED FUNDS (E)09/30/06
Wylie Courts		1980, Modernized N.A. (3 Units Disposed in 1991 & 2 Units Disposed in 2003), Home		
DC1-80	CFP			
DC1-80	**Wylie Courts Subtotal**		-	-

DEVLPMT NAME NUMBER	BUDGET	DESCRIPTION OF PROPOSED WORK ITEMS	OBLIGATED FUNDS (D)09/30/06	EXPENDED FUNDS (E)09/30/06
Scattered Sites-Group 3		Demo/Dispo, 1999 through 2003)		
DC1-81	CFP501-04	Emergency installation of BTU furnace	2,259.00	2,259.00
DC1-81	**Scattered Sites-Group 3 Subtotal**		**2,259.00**	**2,259.00**

DEVLPMT NAME NUMBER	BUDGET	DESCRIPTION OF PROPOSED WORK ITEMS	OBLIGATED FUNDS (D)09/30/06	EXPENDED FUNDS (E)09/30/06
Scattered Sites-Group 4		1998 & 38 Units Demo/Dispo, 1999 through 2003)		
DC1-82	CFP			
DC1-82	**Scattered Sites-Group 4 Subtotal**		-	-

DEVLPMT NAME NUMBER	BUDGET	DESCRIPTION OF PROPOSED WORK ITEMS	OBLIGATED FUNDS (D)09/30/06	EXPENDED FUNDS (E)09/30/06
Scattered Sites-Group 5		Demo/Dispo, 1999 through 2001)		
DC1-83	CFP			
DC1-83	**Scattered Sites-Group 5 Subtotal**		-	-

DEVLPMT NAME NUMBER	BUDGET	DESCRIPTION OF PROPOSED WORK ITEMS	OBLIGATED FUNDS (D)09/30/06	EXPENDED FUNDS (E)09/30/06
Elvans Road		Modernized N.A.		

DC1-85	BONDS	A&E electrical design for CAD. Tech assistance for Green Bldg Project. A&E design for site improvements. Engineering plans for elec svcs	58,946.00	11,818.00
DC1-85	**Elvans Road Subtotal**		**58,946.00**	**11,818.00**

DEVLPMT NAME NUMBER	BUDGET	DESCRIPTION OF PROPOSED WORK ITEMS	OBLIGATED FUNDS (D)09/30/06	EXPENDED FUNDS (E)09/30/06
Scattered Sites-Group 6		**Demo/Dispo, 1999 through 2003)**		
DC1-88	CFP			
DC1-88	**Scattered Sites-Group 6 Subtotal**		-	-

DEVLPMT NAME NUMBER	BUDGET	DESCRIPTION OF PROPOSED WORK ITEMS	OBLIGATED FUNDS (D)09/30/06	EXPENDED FUNDS (E)09/30/06
Scattered Sites-Group 7		**Demo/Dispo, 1999 through 2001)**		
DC1-90	CFP			
DC1-90	**Scattered Sites-Group 7 Subtotal**		-	-

DEVLPMT NAME NUMBER	BUDGET	DESCRIPTION OF PROPOSED WORK ITEMS	OBLIGATED FUNDS (D)09/30/06	EXPENDED FUNDS (E)09/30/06
The Villager		**Modernized N.A.**		
DC1-91	BONDS	Site improvements	70,000.00	70,000.00
DC1-91	BONDS	Plumbing, roof & common space renovations. Additional misc renovations. Renovation of ADA units & critical mod	231,699.00	225,000.00
DC1-91	**The Villager Subtotal**		**301,699.00**	**295,000.00**

DEVLPMT NAME NUMBER	BUDGET	DESCRIPTION OF PROPOSED WORK ITEMS	OBLIGATED FUNDS (D)09/30/06	EXPENDED FUNDS (E)09/30/06
Columbia Road		**1986, Modernized N.A.**		
DC1-95	CFP501-05	Emergency installation of BTU furnace & boiler repair	3,053.00	3,053.00
DC1-95	**Columbia Road Subtotal**		**3,053.00**	**3,053.00**

DEVLPMT NAME NUMBER	BUDGET	DESCRIPTION OF PROPOSED WORK ITEMS	OBLIGATED FUNDS (D)09/30/06	EXPENDED FUNDS (E)09/30/06
Colorado Apartments		**Modernized N.A.**		
DC1-97	**Colorado Apartments Subtotal**		-	-

DEVLPMT NAME NUMBER	BUDGET	DESCRIPTION OF PROPOSED WORK ITEMS	OBLIGATED FUNDS (D)09/30/06	EXPENDED FUNDS (E)09/30/06
Lincoln Road		**1900, Modernized 1982, Private Mgt**		

DC1-98	CFP501-05	Emergency inspection of elec meters	1,095.00	1,095.00
DC1-98	BONDS	UFAS & comp renovations design	35,000.00	35,000.00
DC1-98	BONDS	Roof replacement. Common areas renovaton. Other mod	104,033.00	55,700.00
DC1-98	**Lincoln Road Subtotal**		**140,128.00**	**91,795.00**

DEVLPMT NAME NUMBER	BUDGET	DESCRIPTION OF PROPOSED WORK ITEMS	OBLIGATED FUNDS (D)09/30/06	EXPENDED FUNDS (E)09/30/06
Ontario Apartments		**1926, Modernized N.A.**		
DC1-98	CFP			
DC1-98	**Ontario Apartments Subtotal**		-	-

DEVLPMT NAME NUMBER	BUDGET	DESCRIPTION OF PROPOSED WORK ITEMS	OBLIGATED FUNDS (D)09/30/06	EXPENDED FUNDS (E)09/30/06
Scattered Sites-Group 8		**Demo/Dispo, 1999 through 2003)**		
DC1-99			-	-
DC1-99	**Scattered Sites-Group 8 Subtotal**		-	-

DEVLPMT NAME NUMBER	BUDGET	DESCRIPTION OF PROPOSED WORK ITEMS	OBLIGATED FUNDS (D)09/30/06	EXPENDED FUNDS (E)09/30/06
Western Mews		**1985, Modernized N.A. (25 Units Demolished in 1997)**		
DC1-100	CFP			
DC1-100	**Western Mews Subtotal**		-	-

DEVLPMT NAME NUMBER	BUDGET	DESCRIPTION OF PROPOSED WORK ITEMS	OBLIGATED FUNDS (D)09/30/06	EXPENDED FUNDS (E)09/30/06
Wheeler Creek		**Anacostia Region, Built in 2000**		
DC1-104	ADA-38FUND	Conversion of 3 Units to UFAS	50,964.00	50,964.00
DC1-104	**Wheeler Creek Subtotal**		**50,964.00**	**50,964.00**

DEVLPMT NAME NUMBER	BUDGET	DESCRIPTION OF PROPOSED WORK ITEMS	OBLIGATED FUNDS (D)09/30/06	EXPENDED FUNDS (E)09/30/06
PH-Wide		**Throughout DCHA Properties**		
DC1-zzz	CFP501-03	HRGM settlement claim	130,568.00	130,568.00
DC1-zzz	CFP502-03	Fees & Costs for A/E, CM, planning, surveys, studies, testing, consultants, permits, ACM testing	6,900.00	4,518.00
DC1-zzz	CFP501-04	M.I. Comprehensive Security Plan	3,580,081.00	3,580,081.00
DC1-zzz	CFP501-04	Supplies for DMA, 4190.33	63,683.00	62,610.00
DC1-zzz	CFP501-04	Construction Inspectors Costs	648,691.00	645,497.00

DC1-zzz	CFP501-04	Fees & Costs for A/E, CM, planning, surveys, studies, testing, consultants, permits, ACM testing & construction inspectors costs	1,047,134.00	603,070.00
DC1-zzz	CFP501-04	Mechanical systems upgrade	20,232.00	20,232.00
DC1-zzz	CFP501-04	HRGM settlement claim	540,769.00	540,769.00
DC1-zzz	CFP501-04	Upgrade of computer equipment & assoc. apprentices for DMA Office, etc.	81,526.00	74,192.00
DC1-zzz	CFP501-04	Resident relocation costs (Refer for direct expenditure at Claridge Towers & Judiciary House)	16,000.00	11,591.00
DC1-zzz	RHF501-04	Graham Staffing Svcs, P.K. Hayes	70,000.00	48,222.00
DC1-zzz	**BONDS**	Lease of 10 vehicles for DMA	46,310.00	28,007.00
DC1-zzz	CFP501-05	M.I. Comprehensive Security Plan	3,621,537.00	478,478.00
DC1-zzz	CFP501-05	Salaries: Non-Technical	600,000.00	36,155.00
DC1-zzz	CFP501-05	Supplies, travel, etc.for DMA, 4190.33, 4150.01	23,455.00	11,739.00
DC1-zzz	CFP501-05	Fees & Costs for A/E, CM, planning, surveys, studies, testing, consultants, permits, ACM testing & construction inspectors costs	312,697.00	226,917.00
DC1-zzz	CFP501-05	Mechanical systems upgrade, including boilers, air cond. units, pumps, heating & plumbing risers replacement at 1133 N.Capitol (Refer for direct exp. at Barry Farms, Carroll, Columbia Rd, Highland Dw, Kenilworth, Sibley)	19,443.00	19,443.00
DC1-zzz	CFP501-05	HRGM settlement claim	148,663.00	148,663.00
DC1-zzz	CFP501-05	Comp. Security Program equipment	94,242.00	40,606.00
DC1-zzz	CFP501-05	Upgrade of computer equipment & assoc. apprentices for DMA Office, etc.	38,920.00	26,989.00
DC1-zzz	CFP501-05	Replacement Reserve: Loan & Bonds repayment	7,578,593.00	7,578,593.00
DC1-zzz	**PH-Wide Subtotal**		**18,689,444.00**	**14,316,940.00**
DCHA TOTALS			**65,824,034.00**	**38,735,523.00**

Appendix D: DCHA FY05 Energy Capital Improvement Program Proposal

DCHA ENERGY CAPITAL IMPROVEMENT PROGRAM

HUD APPLICATION DOCUMENTATION

OCTOBER 2005

DCHA FY05 Energy Capital Improvement Program

HUD APPLICATION DOCUMENTATION

INTRODUCTION

Over the past four years as part of the DCHA Energy & Environmental Master Plan, DMA has developed a comprehensive Energy Capital Improvement Program (ECIP) valued at $26,024,925 . ECIP is a capital projects program designed to financially leverage the energy and water savings associated with the replacement of aging equipment and infrastructure. Using established HUD subsidy incentives, DCHA will fund the program from energy and water savings.

This package provides all of the documentation HUD requires to approve the ECIP program. The final list of documentation requirements will come from the HUD field office, however, this initial assembly of documentation results from a conversation held with HUD's Mr. John Miller (202-708-0614 x4237) who supplied DCHA with a presentation entitled *Los Angeles HUD EPC Seminar 6-15-05* in which a list of required documentation was provided.

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ENERGY CONSERVATION MEASURES

In April through June of 2004, Mr. Alan Stewart, P.E. accompanied by DCHA facility engineer Mr. Vishaw Mohan, conducted a series of building walkthroughs and interviews to determine which energy and water conservation measures (ECMs) would be appropriate for application in candidate buildings.

In each property specific M&V Plan, a list of ECMs is delineated under the title *M&V Plan – Planned ECM's.* (See Appendix A) During the walkthrough, the 30-year experience of Mr. Stewart as an energy systems engineer and facilities auditor, was combined with the anecdotal evidence of energy and water system requirements provided by Mr. Mohan. This institutional knowledge of the facilities was critical in determining the appropriate ECMs to recommend for every property. There are a total of 38 properties in which DCHA will install energy and water conservation measures.

ECM SELECTION

For the Senior hi-rise properties, with large central boiler and chiller systems, Mr. Stewart modeled the performance of his recommendations and conferred with Mr. Mohan to determine design and operational restrictions on the proposed systems. As a result, a comprehensive list of ECMs was compiled by property.

The ECMs are broken down into the following categories and descriptions. Although not every property will use every ECM, the basic description is used if applicable to that property.

Table 1: ECM Descriptions

Equipment Name	Model	Description
Mechanical Systems		
Chiller and auxiliaries	*Rack Chiller*	A central chiller system. Designed per actual unit – replace and upgrade if existing unit faulty or at end of useful life.
Boiler and auxiliaries	*200M BH High-Eff*	A central boiler for central heating (steam) applications. Designed per actual unit – replace and upgrade if existing unit faulty or at end of useful life.
DHW and auxiliaries	*DHW Boiler*	Central Domestic hot water boiler system. Designed per actual unit – replace and upgrade if existing unit faulty or at end of useful life.
DHW and auxiliaries		A heat pump package designed to capture waste heat from chiller operations for DHW applications. Reduces natural gas consumption during summer months.
Building Automation	*Central system*	A centralized whole building energy management automation and controls system which improves operational efficiency, reduces maintenance costs and provides a remote capability to monitor consumption and energy and security operations.
Building Automation	*Unit controls*	Thermostats or other unit level controls to improve operational efficiency and controls on whole energy systems.
Electrical Systems - Lighting		
Interior		Compact fluorescent lighting for resident application.
Appliances		
Refrigerators		Replace existing older refrigerators with Energy Star model 20.6 Cubic foot refrigerators.
Water systems		
Toilets	*1.5 gallon*	Replace toilets with 1.5 gallon per flush water saving toilets
Faucets		Repair and replace faucets and aerators for 2.5 gpm flow.
Showers/ Baths		Replace shower heads with maximum 2.5 gpm flow models
Associated Leaks		Repair associated leaks in residential plumbing systems
Other Capital Projects		
Fan Coil Units		Faulty or outdated fan coil units reduce efficiency of heating and cooling transfer and have higher maintenance costs.

An interactive ECIP model was created which allowed DCHA to select and deselect individual ECM projects per building to determine how each project effects the entire program. Costing data was provided by DMA for each individual class of systems. Costing data includes direct, indirect, and profit cost per ECM selected. Costing data was derived from existing JOC contract price sheets associated with each ECM. The final list of ECMs by property is provided as Appendix A. Figure 1 and Figure 2 illustrate which category of ECMs is included in each DCHA ECIP candidate property by summarizing ECM cost by property. The total summary list by ECM is provided as Table 2. The total final value of the ECIP project ECM capital cost is estimated as $26,024,925 .

Table 2: ECIP ECM Summary Data

ECM	Quantity	Est. Cost
Mechanical Systems		
Chiller and auxiliaries	12	$ 1,079,000
Boiler and auxiliaries	24	$ 8,866,250
DHW and auxiliaries	23	$ 2,647,000
Building Automation	20	$ 1,440,000
Lighting	16,329	$ 163,290
Appliances		$ 2,993,650
Refrigerators	5,443	
Water systems		$ 2,068,340
Toilets	5,443	
Faucets	5,443	
Showers/ Baths	5,443	
Other Capital Projects	10	$ 1,862,000
TOTAL ECIP PROJECT		**$21,119,530**

Property	Units	Mechanical Systems					Lighting	Appliances	Water Systems	Project Size
		Heating	Cooling	DHW	Controls	Fan Coils				
Claridge Towers	343	$ -	$ 95,000	$ 170,000	$ 100,000	$ 235,000	$ 10,290	$ 188,650	$ 130,340	$929,280
Colorado Apts	21	$ 60,000	$ 21,000	$ 10,000	$ -	$ -	$ 600	$ 11,000	$ 7,600	$110,200
Columbia Road	23	$ 46,000	$ 23,000	$ 10,000	$ -	$ -	$ 690	$ 12,650	$ 8,740	$101,080
Ft. Lincoln	120	$ 170,000	$ 150,000	$ 70,000	$ 60,000	$ 120,000	$ 3,600	$ 66,000	$ 45,600	$685,200
Garfield Terrace Family	51	$ -	$ -	$ -	$ -	$ -	$ 1,530	$ 28,050	$ 19,380	$48,960
Garfield Terrace Senior	278	$ 275,250	$ 30,000	$ 50,000	$ 100,000	$ 278,000	$ 8,340	$ 152,900	$ 105,640	$1,000,130
Greenleaf Senior	215	$ 210,000	$ -	$ 75,000	$ 100,000	$ 215,000	$ 6,450	$ 118,250	$ 81,700	$806,400
Harvard Towers	193	$ 210,000	$ 60,000	$ 75,000	$ 100,000	$ 193,000	$ 5,790	$ 106,150	$ 73,340	$823,280
Horizon House	105	$ -	$ 60,000	$ -	$ 100,000	$ 105,000	$ 3,150	$ 57,750	$ 39,900	$365,800
James Apartments	141	$ 250,000	$ 260,000	$ 75,000	$ 100,000	$ 141,000	$ 4,230	$ 77,550	$ 53,580	$961,360
James Creek	239	$ -	$ -	$ -	$ -	$ -	$ 7,170	$ 131,450	$ 90,820	$229,440
Judiciary House	271	$ 250,000	$ -	$ 65,000	$ 100,000	$ -	$ 8,130	$ 149,050	$ 102,980	$675,160
Kelly Miller	169	$ 600,000	$ -	$ 150,000	$ 50,000	$ 169,000	$ 5,070	$ 92,950	$ 64,220	$1,131,240
Langston Terrace	308	$ 900,000	$ -	$ 400,000	$ -	$ -	$ 9,240	$ 169,400	$ 117,040	$1,595,680
Ledroit	124	$ 250,000	$ -	$ 35,000	$ 60,000	$ -	$ 3,720	$ 68,200	$ 47,120	$464,040
Lincoln Road	20	$ 20,000	$ 20,000	$ 10,000	$ -	$ -	$ 600	$ 11,000	$ 7,600	$69,200
Park Morton	174	$ 720,000	$ -	$ 300,000	$ -	$ -	$ 5,220	$ 95,700	$ 66,120	$1,187,040
Regency House	160	$ 250,000	$ -	$ 70,000	$ 100,000	$ 160,000	$ 4,800	$ 88,000	$ 60,800	$733,600
Sibley Plaza	246	$ 250,000	$ -	$ 35,000	$ 100,000	$ 246,000	$ 7,380	$ 135,300	$ 93,480	$867,160
Syphax Gardens	174	$ 150,000	$ -	$ 100,000	$ 50,000	$ -	$ 5,220	$ 95,700	$ 66,120	$467,040
Region Sub- Ttal	**3,375**	**$ 4,611,250**	**$ 719,000**	**$ 1,700,000**	**$ 1,120,000**	**$ 1,862,000**	**$ 101,220**	**$ 1,855,700**	**$ 1,282,120**	**$13,251,290**

Figure 1: Summary ECIP ECM Cost by Property (Rock Creek)

Property	Units	Mechanical Systems					Lighting	Appliances	Water Systems	Project Size
		Heating	Cooling	DHW	Controls	Fan Coils				
Benning Terrace	274	$ 275,000	$ -	$ 137,000	$ -	$ -	$ 8,220	$ 150,700	$ 104,120	$675,040
Carroll Apts	60	$ 60,000	$ 60,000	$ -	$ 60,000	$ -	$ 1,800	$ 33,000	$ 22,800	$237,600
Ft. Dupont	104	$ -	$ -	$ -	$ -	$ -	$ 3,120	$ 57,200	$ 39,520	$99,840
Highland Dwellings & Addition	454	$ -	$ -	$ -	$ -	$ -	$ 13,620	$ 249,700	$ 172,520	$435,840
Kenilworth	290	$ 1,100,000	$ -	$ 300,000	$ 100,000	$ -	$ 8,700	$ 159,500	$ 110,200	$1,778,400
Kentucky Courts	163	$ 600,000	$ 150,000	$ 150,000	$ -	$ -	$ 4,890	$ 89,650	$ 61,940	$1,056,480
Knox Hill	122	$ 350,000	$ 150,000	$ 30,000	$ 60,000	$ -	$ 3,660	$ 67,100	$ 46,360	$707,120
Richardson Dwell	190	$ 170,000	$ -	$ 30,000	$ 50,000	$ -	$ 5,700	$ 104,500	$ 72,200	$432,400
Stoddert Terrace	158	$ -	$ -	$ -	$ 7,500	$ -	$ 4,740	$ 86,900	$ 60,040	$159,180
Villager	20	$ 100,000	$ -	$ -	$ 7,500	$ -	$ 600	$ 11,000	$ 7,600	$126,700
Woodland Terrace	234	$ 1,600,000	$ -	$ 300,000	$ 35,000	$ -	$ 7,020	$ 128,700	$ 88,920	$2,159,640
Region Sub- Ttal	**2,069**	**$ 4,255,000**	**$ 360,000**	**$ 947,000**	**$ 320,000**	**$ -**	**$ 62,070**	**$ 1,137,950**	**$ 786,220**	**$7,868,240**
DCHA TOTAL	**5,444**	**$ 8,866,250**	**$ 1,079,000**	**$ 2,647,000**	**$ 1,440,000**	**$ 1,862,000**	**$ 163,290**	**$ 2,993,650**	**$ 2,068,340**	**$21,119,530**

Figure 2: Summary ECIP ECM Cost by Property (Potomac)

ECM COST REASONABLENESS

MECHANICAL SYSTEMS

Mechanical systems costs were estimated based upon the estimates drawn from the professional energy engineering expertise of Mr. Alan Stewart. Given the unique aspects of each property and complexity associated with the design, and installation of each individual unit. Given that there are a total of 89 mechanical system improvements in the program, it was not cost effective to design the system prior to HUD application. Rather, during the audit, Mr. Stewart provided a industry practice cost estimate (based on RS Means methodology) for each type of system, providing a contingency "cushion" for each standard system to account for unique design and installation issues associated with each property. The mechanical systems costs also include the Fan Coil Units listed under Other Projects.

These costs were reviewed by DCHA's P.E., Vishaw Mohan, and adjusted for additional design and installation contingencies known by Mr. Mohan. So to save costs on the front-end audit, a generic cost for each type of mechanical system is provided. Direct costs are only provided as indirect and profit are examined elsewhere.

Costing data is consistent with RS Means costing data protocol, and materials, labor, and equipment cost are estimated based on past experience of Mr. Alan Stewart and Mr. Vishaw Mohan.

Results are provided in Table 3 through Table 6.

Property	[illegible]		Cooling System		DHW System	
	Work Description	Est. Dir Cost	Work Description	Est. Dir Cost	Work Description	Est. Dir Cost
Claridge Towers		$ -	2-50 ton Modular Stack	$ 95,000	2 600k-MBh DHW	$ 170,000
Colorado Apts	HE Condensing Boiler	$ 60,000	High-Effi Conden. Units	$ 21,000	HE DHW	$ 10,000
Columbia Road	HE Furnaces	$ 46,000	High-Effi Conden. Units	$ 23,000	HE DHW	$ 10,000
Ft. Lincoln	HE Condensing Boiler	$ 170,000	Stackable chillers	$ 150,000	2 600k-MBh DHW Heat-pump pkg	$ 70,000
Garfield Terrace Family		$ -		$ -		$ -
Garfield Terrace Senior	200M BH High-Eff	$ 275,250	Cooling Tower	$ 30,000	3 - 600k-MBh	$ 50,000
Greenleaf Senior	200M BH High-Eff	$ 210,000		$ -	2 600k-MBh	$ 75,000
Harvard Towers	200M BH High-Eff	$ 210,000	250Tons vs300TCooling Tower	$ 60,000	High-Efficiency DHW Heaters	$ 75,000
Horizon House		$ -	Cooling Tower	$ 60,000		$ -
James Apartments	200M BH High-Eff	$ 250,000	Stackable chillers	$ 260,000	250k-MBh DHW Heat Pump Pkg	$ 75,000
James Creek		$ -		$ -		$ -
Judiciary House	200M BH High-Eff	$ 250,000		$ -	250k-MBh DHW Heat Pump Pkg	$ 65,000
Kelly Miller	HE Condensing Boiler	$ 600,000		$ -	HE DHW	$ 150,000
Langston Terrace	Upgrade boiler rooms	$ 900,000		$ -	HE DHW	$ 400,000
Ledroit	200M BH High-Eff	$ 250,000		$ -	2 600k-MBh	$ 35,000
Lincoln Road	High Efi. Furnances	$ 20,000	High Efi. Cond. Units	$ 20,000	HE DHW	$ 10,000
Park Morton	High Effi. BoilersFor 5 Boiler Rm.	$ 720,000		$ -	HE DHW	$ 300,000
Regency House	200M BH High-Eff	$ 250,000		$ -	250k-MBh	$ 70,000
Sibley Plaza	200M BH High-Eff	$ 250,000		$ -	2 600k-MBh	$ 35,000
Syphax Gardens	Replace Boilers	$ 150,000		$ -	2 600k-MBh	$ 100,000

Table 3: Mechanical Cost Reasonableness HVAC-(Rock Creek)

Property	[redacted]		Cooling System		DHW System	
	Work Description	Est. Dir Cost	Work Description	Est. Dir Cost	Work Description	Est. Dir Cost
Benning Terrace	200M BH High-Eff Boiler	$ 275,000		$ -	2 600k-MBh DHW	$ 137,000
Carroll Apts	HE Condensing Boiler	$ 60,000	Air-cooled Chiller	$ 60,000		$ -
Ft. Dupont		$ -		$ -		$ -
Highland Dwell		$ -		$ -		$ -
Kenilworth	High Effi. BoilersFor 10 Boiler Rm.	$ 1,100,000		$ -	High Efi. HWHeaters in 10Boiler Rms.	$ 300,000
Kentucky Courts	Boiler Room Upgrade	$ 600,000	Chiller efficiency upgrade	$ 150,000	HE DHW system	$ 150,000
Knox Hill	200M BH High-Eff, renovate 2-pipe system	$ 350,000	120T Chiller, renovate 2 pipe system	$ 150,000	2 600k-MBh	$ 30,000
Richardson Dwell	Replace Boilers	$ 170,000		$ -	HE DHW	$ 30,000
Stoddert Terrace		$ -		$ -		$ -
Villager	HE Boiler	$ 100,000		$ -		$ -
Woodland Terrace	High Efi. Boilers For 8 Boiler Rooms	$ 1,600,000		$ -	High Efi. Water Heaters in 8 Boiler Rooms	$ 300,000

Table 4: Mechanical Cost Reasonableness HVAC (Potomac)

Property	Controls		Fan Coil Units	
	Work Description	Est. Dir Cost	Work Description	Est. Dir Cost
Claridge Towers	EMS Control package	$ 100,000	Fan Coil replacement & upgrade	$ 235,000
Colorado Apts		$ -		$ -
Columbia Road		$ -		$ -
Ft. Lincoln	EMS Control package- HVAC	$ 60,000	Fan Coil replacement & upgrade	$ 120,000
Garfield Terrace Family		$ -		$ -
Garfield Terrace Senior	EMS Control package	$ 100,000	Fan Coil replacement & upgrade	$ 278,000
Greenleaf Senior	EMS Control package	$ 100,000	Fan Coil replacement & upgrade	$ 215,000
Harvard Towers	EMS Control package	$ 100,000	Fan Coil replacement & upgrade	$ 193,000
Horizon House	EMS Control package	$ 100,000	Fan Coil replacement & upgrade	$ 105,000
James Apartments	EMS Control package	$ 100,000	Fan Coil replacement & upgrade	$ 141,000
James Creek		$ -		$ -
Judiciary House	EMS Control package	$ 100,000		$ -
Kelly Miller	EMS Control package- HVAC	$ 50,000	Fan Coil replacement & upgrade	$ 169,000
Langston Terrace		$ -		$ -
Ledroit	EMS Control package- HVAC	$ 60,000		$ -
Lincoln Road		$ -		$ -
Park Morton		$ -		$ -
Regency House	EMS Control package	$ 100,000	Fan Coil replacement & upgrade	$ 160,000
Sibley Plaza	EMS Control package	$ 100,000	Fan Coil replacement & upgrade	$ 246,000
Syphax Gardens	EMS Control package- HVAC	$ 50,000		$ -

Table 5: Other Mechanical Project Cost Reasonableness (Rock Creek)

Property	Controls		Fan Coil Units	
	Work Description	Est. Dir Cost	Work Description	Est. Dir Cost
Benning Terrace		$ -		$ -
Carroll Apts	EMS Control package- HVAC	$ 60,000		$ -
Ft. Dupont		$ -		$ -
Highland Dwell		$ -		$ -
Kenilworth	EMS Control package	$ 100,000		$ -
Kentucky Courts		$ -		$ -
Knox Hill	EMS Control package- HVAC	$ 60,000		$ -
Richardson Dwell	EMS Control package	$ 50,000		$ -
Stoddert Terrace	EMS Control package - Water	$ 7,500		$ -
Villager	EMS Control package - Water	$ 7,500		$ -
Woodland Terrace	EMS Control package- HVAC	$ 35,000		$ -

Table 6: Table 5: Other Mechanical Project Cost Reasonableness (Potomac)

LIGHTING

Lighting systems consist exclusively of compact fluorescent light bulbs for distribution to the residents. Costing data for compact fluorescent bulbs was found on the GSA Advantage web site. The GSA site lists all Federally approved contractors for the sale of products and services. For the ECIP program, a search was run on the GSA Advantage site to find three or more quotes for compact fluorescent bulbs. Assumed a 60W replacement bulb which fits a standard incandescent fixture with a twist bottom. The following five vendors were found:

Table 7: GSA Advantage Price Quotes for Lighting

GSA Vendor	Contract Number	Brand - Model	Price
MER-WIL INDUSTRIES, INC	GS-06F-0059N	Lights of America	$4.55
NOBLE SALES COMPANY, INC	GS-06F-0032K	GE Lighting	$4.88
NOBLE SALES COMPANY, INC	GS-06F-0032K	Westinghouse Lighting	$4.34
HARDWARE ASSOCIATES, INC	GS-06F-0002	Westinghouse Lighting	$4.93
BIC SUPPLY	GS-06F-0041M	GE Lighting	$4.63
		AVERAGE	**$ 4.67**

The average price was rounded up to $5.00 per bulb and then doubled to $10, assuming two bulbs per residence.

APPLIANCES

Costing data for refrigerators was found on the GSA Advantage web site. The GSA site lists all Federally approved contractors for the sale of Energy-Star compliance appliances. For the ECIP program, a search was run on the GSA Advantage site to find three or more quotes for an Energy Star compliant 20.9 cu. Ft. refrigerator. The following five vendors were found:

Table 8: GSA Advantage Price Quotes for Appliances

GSA Vendor	Contract Number	Brand - Model	Price
Absocold Corporation	GS-21F-0087H	Whirlpool - ET1MTEXMQ	$520.70
Capitol Furniture Distributing	GS-21F-0001K	Whirlpool - CF71583	$514.74
Elmbrook Corporate Services	GS-21F-0007L	Whirlpool - ET1MTEXMQ	$498.00
Blockhouse Dq, Inc	GS-21F-0002N	Whirlpool - ET1MTEXMQ	$522.13
Glenco Distributing Inc	GS-21F-0006J	Whirlpool - ET1MTEXMQ	$525.00
		AVERAGE	**$ 516.11**

The average price of $516.11 was rounded up to $550 to include disposal of old refrigerators.

PLUMBING FIXTURES

Costing data for all plumbing fixtures was found on the GSA Advantage web site. The GSA site lists all Federally approved contractors for the sale of Energy-Star compliant plumbing fixtures. For the ECIP program, a search was run on the GSA Advantage site to find three or more quotes for the following fixtures. The following five vendors were found:

Table 9: GSA Advantage Price Quotes for Cadet 1.6 gal Toilet

GSA Vendor	Contract Number	Brand – Model	Price
OSC SOLUTIONS, INC	GS-06F-0035M	OSC206939	$188.28
NOLAND COMPANY	GS-07F-0438M	American Standard - 2264703	$274.94
THE HOME DEPOT SUPPLY	GS-06F-0080M	404744 / 4392.001SMT	$152.58

		AVERAGE	$ 205.27

The average price of $205.27 was rounded up to $220 to include disposal of old toilet and then multiplied by 1.5 to account for units with more than one fixture.

Table 10: GSA Advantage Price Quotes for 2.0 gpm faucet (kitchen and bath)

GSA Vendor	Contract Number	Brand – Model	Price
COMPLETE PACKAGING & SHIPPING SUPPL	GS-06F-0046N	Delta - CL15M	$45.52
SUPPLYCORE INC.	GS-06F-0014N	PEERLESS/DELTA CL25M	$30.53
THE HOME DEPOT SUPPLY	GS-06F-0080M	MOEN - 412601 / 67425	$54.02
		AVERAGE	$ 43.36

The average price of $43.56 was rounded down to $40 since many faucets may only require a replacement aerator.

Table 11: GSA Advantage Price Quotes for low-flow shower head

GSA Vendor	Contract Number	Brand – Model	Price
SUPPLYCORE INC.	GS-06F-0014N	DS2C	$10.88
COMPLETE PACKAGING & SHIPPING SUPPL	GS-06F-0046N	PLUMB SHOP DIV BRASSCRAFT	$9.89
THE HOME DEPOT SUPPLY	GS-06F-0080M	531209	$15.94
		AVERAGE	$ 12.24

The average price of $10.00 was used, discounting the Home Depot price.

ECIP BASELINE DATA

The DCHA Development and Modernization Administration has collected verifiable, relevant whole facility monthly energy billing data for electricity, natural gas and water on a per meter basis since October 2001 through the present. Managing over 9,600 monthly utility accounts, DCHA has maintained a comprehensive utility billing and administration program for over five years. A Microsoft Access Database was constructed to house the utility billing data. This information is readily available for independent analysis upon request to the Development and Modernization Administration Office.

MONTHLY ENERGY BILLING DATA MATRIX

Table 12 through Table 15 provide the data points available in the DCHA Utility Database.

Table 12 Development Data Base Data Points

Development	Unit ID	Address	Electric Account	Electric Meter(s)	Natural Gas Account	Gas Supplier Account	Water Account	Water Meter(s)

Table 13 Electricity Monthly Energy Billing Data Points

Account	Date	Consumption [kWh]	Demand [kW]	Billing Days	Hard Copy Cost [$]	Adjusted Cost [$]

Table 14 Natural Gas Monthly Energy Billing Data Points

Account	Bill Date	Consumption Therms	Current Charge [$]	Supplier Charge [$]

Table 15 Water Monthly Energy Billing Data Points

Account	Bill Date	Previous Read Date	Current Read Date	Read Type	CCF	Total Current Billed

From the utility database, a three year monthly, whole building utility cost and consumption data table is created. The data tables (shown on the following pages) provide consumption and cost data for the ECIP property subset as well as DCHA as a whole which includes utility consumption and cost for properties not included in the ECIP program. All analysis for the ECIP program are based upon the ECIP building subset of the utility data and does not include utility consumption or cost data for the other properties. The data is provided by property, by utility, and by fiscal year. (See Figure 3 through Figure 11)

The database is a fluid system, therefore is a correction is found in the identification of a property, for example reclassifying the property name from Property A to Property B, all historical data for that account will be reclassified as well. This may cause some discrepancies in the grand totals for consumption, particularly if an account was found to be an erroneous account, however, in comparing the data to the total consumption found on HUD Form 52722-A, there may be a slight difference in consumption reported.

In reviewing the DCHA reported consumptions, less then a 1% difference was noted on reported consumptions and this difference was primarily in the positive (meaning more actual consumption then reported.).

Electricity - FY02	10/1/2001		11/1/2001		12/1/2001		1/1/2002		2/1/2002		3/1/2002		4/1/2002		5/1/2002		6/1/2002		7/1/2002		8/1/2002		9/1/2002		FY02	
Development	kWh	Cost	kWh	Cost	kWh	Cost	kWh	Cost	kWh	Cost	kWh	Cost	kWh	Cost	kWh	Cost	kWh	Cost	kWh	Cost	kWh	Cost	kWh	Cost	kWh	Cost
Benning Terrace	137,058	$1,363	163,210	$5,341	144,652	$7,645	154,812	$9,331	126,488	$7,949	165,166	$9,786	143,296	$9,297	152,502	$10,643	208,988	$18,021	258,216	$24,290	283,078	$26,994	217,730	$18,659	2,155,196	$149,319
Carroll Apartments	43,650	$1,839	41,850	$2,819	39,150	$2,582	41,850	$2,615	34,650	$2,146	39,600	$2,398	34,650	$2,168	39,150	$2,580	50,850	$4,507	71,550	$5,799	72,450	$5,520	64,800	$5,152	574,200	$40,125
Claridge Towers	176,850	$20,052	129,150	$0	151,200	$4,995	152,100	$12,936	137,700	$11,706	141,750	$12,067	125,550	$10,639	126,450	$10,758	196,650	$22,408	204,300	$23,315	220,050	$24,806	185,850	$20,698	1,947,600	$174,380
Colorado Apartments	18,790	$1,514	16,710	$16	25,650	$1,299	25,680	$1,792	36,270	$2,640	26,990	$1,998	27,260	$2,042	19,160	$1,351	19,420	$1,777	16,470	$1,296	16,470	$1,695	21,820	$1,939	270,690	$19,358
Columbia Road	6,980	$735	4,840	$174	5,720	$461	32,270	$2,370	9,750	$253	9,712	$664	9,484	$636	10,736	$714	16,342	$1,412	22,056	$2,017	28,766	$2,802	26,996	$2,503	183,652	$14,740
Ft. Dupont Dwelling	27,800	$1,881	81,860	$5,820	130,000	$5,542	94,730	$5,142	80,660	$4,921	78,680	$4,738	74,090	$4,714	59,810	$5,343	65,990	$4,963	87,270	$7,293	84,350	$8,444	92,760	$6,709	958,000	$65,510
Ft. Lincoln Apartments	84,900	$7,068	75,300	$0	25,200	$0	58,200	$2,881	53,700	$3,199	51,000	$2,963	51,900	$3,042	67,200	$4,392	81,300	$6,645	111,900	$10,272	109,200	$8,644	96,600	$8,208	857,400	$57,314
Garfield Terrace Family	7,547	$608	5,041	$1	5,335	$6	5,878	$355	5,165	$315	10,203	$757	4,652	$270	5,266	$320	6,148	$454	7,844	$657	8,037	$678	15,227	$1,486	86,342	$5,906
Garfield Terrace Senior	188,573	$15,191	125,949	$16	133,305	$159	146,852	$8,873	129,035	$7,863	254,917	$18,920	116,218	$6,754	131,574	$7,994	153,602	$11,331	195,986	$16,419	200,793	$16,932	380,453	$37,116	2,157,258	$147,569
Greenleaf House	295,560	$28,242	207,450	$401	243,240	$4,345	237,150	$15,958	196,170	$13,783	253,570	$19,474	205,910	$13,657	210,670	$14,761	309,200	$26,724	316,830	$28,546	418,488	$39,495	233,564	$25,461	3,127,802	$230,845
Harvard Towers	246,600	$9,904	78,600	$0	72,600	$0	79,200	$4,620	67,200	$2,542	64,800	$3,661	74,400	$4,219	60,600	$3,432	72,000	$4,088	150,000	$12,898	145,800	$12,471	145,200	$12,034	1,257,000	$69,869
Highland Dwelling & Addition	118,334	$1,451	112,679	$2,798	141,967	$6,780	186,660	$11,725	164,797	$10,524	220,924	$13,598	212,643	$13,618	203,744	$13,314	316,295	$27,316	447,633	$39,203	434,441	$39,312	395,272	$24,653	2,955,389	$204,291
Horizon House	107,280	$9,297	86,220	$0	97,350	$2,464	74,730	$4,877	68,340	$4,269	74,250	$4,773	66,960	$4,192	91,320	$6,321	122,430	$10,778	120,570	$10,553	130,950	$11,514	110,430	$9,415	1,150,830	$78,453
James Apartments	133,150	$10,892	88,400	$79	105,170	$2,968	102,100	$4,188	86,000	$3,915	93,880	$4,660	80,780	$4,213	105,670	$6,817	157,580	$12,040	145,090	$11,036	155,300	$10,964	140,830	$10,503	1,393,950	$82,275
James Creek	140,357	$11,108	117,361	$555	132,169	$3,438	148,001	$7,202	119,288	$6,786	128,669	$8,033	114,987	$7,388	130,326	$8,781	176,349	$14,883	223,876	$20,498	244,388	$22,273	206,281	$17,466	1,882,052	$128,410
Judiciary House	45,450	$15,211	113,850	$0	111,150	$0	113,850	$3,848	108,900	$6,174	89,550	$5,038	101,700	$5,727	90,000	$5,062	144,900	$10,743	197,550	$16,607	238,950	$21,621	179,550	$14,069	1,535,400	$104,100
Kelly Miller	69,766	$4,344	77,596	$0	83,336	$1,082	78,418	$4,500	75,522	$4,343	71,974	$4,150	72,780	$4,196	78,250	$4,485	67,240	$3,789	116,054	$8,337	120,810	$9,086	116,016	$8,258	1,027,762	$56,572
Kenilworth Courts	261,360	$24,476	267,570	$7,358	205,650	$13,772	221,040	$16,831	195,900	$15,401	182,600	$14,791	190,960	$15,217	213,310	$17,352	251,660	$21,688	363,140	$34,681	354,760	$32,566	384,600	$33,404	3,092,550	$247,538
Kentucky Courts	60,200	$343	41,640	$645	16,800	$442	103,960	$6,186	66,760	$2,527	132,840	$4,031	6,320	$2,467	94,360	$3,828	76,840	$4,600	0	$4,256	109,040	$9,234	85,720	$4,857	794,480	$43,416
Knox Hill	91,290	$2,218	91,350	$3,030	79,220	$3,093	98,180	$4,620	76,160	$4,150	84,020	$4,981	74,860	$4,546	81,240	$4,812	97,210	$7,410	118,230	$9,039	122,600	$9,472	93,930	$6,810	1,108,290	$64,182
Langston Terrace	15,680	$1,353	15,680	$157	13,410	$467	37,670	$2,243	18,190	$1,117	19,230	$1,321	19,840	$1,438	18,050	$1,275	22,760	$1,996	36,330	$3,522	34,720	$3,337	29,370	$2,774	280,930	$21,002
Ledroit	37,620	$6,528	47,400	$0	67,200	$0	69,360	$3,287	61,680	$3,522	59,940	$3,432	60,960	$3,474	68,760	$4,101	78,720	$5,371	101,700	$7,710	112,260	$8,817	108,120	$8,195	873,720	$54,438
Lincoln Road	4,810	$499	2,690	$0	2,670	$178	8,190	$680	11,770	$854	10,890	$801	8,590	$621	8,800	$615	13,350	$1,030	18,960	$1,962	26,400	$2,370	27,220	$2,574	144,340	$12,183
Park Morton	22,480	$2,367	29,620	$1,682	28,340	$2,466	31,500	$2,771	93,840	$6,614	71,520	$4,992	82,250	$5,884	72,400	$5,004	83,280	$6,438	122,320	$10,552	124,950	$10,906	125,920	$10,383	888,420	$70,059
Regency House	94,950	$7,261	69,300	$0	74,250	$0	81,000	$4,952	69,300	$4,023	59,400	$3,321	68,850	$4,065	63,900	$3,592	90,450	$6,733	103,500	$8,333	127,800	$11,107	109,800	$8,745	1,012,500	$62,134
Richardson Dwelling	16,870	$1,846	19,970	$927	20,860	$2,003	79,020	$5,695	85,760	$5,975	88,580	$6,137	105,190	$7,463	87,600	$6,113	122,230	$9,594	198,830	$18,876	194,840	$18,027	164,510	$13,409	1,184,260	$96,066
Sibley Plaza	60,600	$18,848	147,420	$140	152,340	$2,424	144,660	$9,582	161,940	$11,019	141,600	$9,346	132,600	$8,601	140,280	$9,225	179,160	$15,002	190,140	$16,300	254,460	$24,067	240,960	$21,411	1,946,160	$145,964
Stoddert Terrace	28,840	$2,303	24,880	$792	21,360	$1,311	28,110	$2,038	126,935	$9,565	92,135	$5,919	96,091	$6,418	80,896	$5,657	100,880	$7,901	138,619	$12,120	150,903	$13,814	163,696	$14,445	1,053,345	$82,283
Syphax Gardens	19,980	$2,178	25,380	$1,356	27,940	$2,637	32,170	$2,912	101,530	$7,357	85,660	$6,237	78,290	$5,796	78,660	$5,506	102,920	$8,459	155,060	$14,260	156,130	$14,498	130,370	$11,201	994,090	$82,397
Villager	4,000	$0	4,140	$339	5,180	$466	10,220	$811	9,660	$648	9,120	$645	10,170	$692	7,920	$552	12,620	$1,046	19,320	$1,782	27,890	$2,318	21,720	$1,229	141,960	$10,527
Woodland Terrace	157,500	$5,190	171,150	$10,649	176,850	$10,344	185,850	$10,654	323,550	$8,217	162,750	$9,516	167,850	$10,577	135,300	$8,316	196,200	$16,498	303,000	$6,920	301,650	$37,638	251,100	$18,927	2,532,750	$153,447
ECIP TOTAL	2,724,825	$216,112	2,484,256	$45,095	2,539,264	$83,371	2,863,411	$176,474	2,902,610	$174,315	2,975,920	$193,147	2,620,081	$174,033	2,733,904	$183,017	3,593,564	$295,646	4,562,344	$389,349	5,001,724	$461,421	4,566,415	$382,693	39,568,318	$2,774,673
Arthur Capper	304,270	$4,889	321,810	$13,056	330,420	$15,916	401,920	$22,237	286,710	$17,098	329,840	$19,879	266,170	$16,103	256,580	$15,192	319,880	$24,246	398,580	$32,306	396,600	$30,612	380,340	$27,791	3,993,120	$239,326
Arthur Capper Family	21,844	$1,607	20,916	$2,122	21,998	$2,518	23,898	$2,917	17,320	$2,423	25,842	$3,130	21,910	$2,711	33,548	$3,569	29,578	$3,796	41,772	$5,781	39,854	$5,408	38,336	$5,524	336,816	$41,507
Barry Farm	283,500	$3,391	260,298	$20,836	315,120	$18,013	338,834	$22,989	255,118	$17,083	300,752	$21,355	276,164	$19,429	260,448	$18,206	407,654	$37,651	521,988	$50,590	548,466	$53,118	482,978	$45,178	4,251,320	$327,839
Capitol View Plaza	189,900	$16,759	133,200	$176	153,000	$9,332	187,200	$11,400	110,700	$7,713	122,460	$7,648	111,730	$6,612	5,580	$6,303	261,570	$15,938	2,310	$224	199,667	$15,244	379,022	$27,770	1,856,339	$125,120
Carrollsburg Dwelling	28,168	$1,558	68,464	$5,798	83,816	$5,246	154,946	$11,238	140,590	$8,934	154,218	$11,091	149,432	$10,484	130,414	$8,578	190,580	$16,386	275,488	$27,509	281,472	$25,301	250,440	$22,304	1,908,028	$154,427
East Capitol Dwelling	18,830	$1,945	17,960	$266	20,280	$1,674	133,511	$9,012	127,450	$8,668	146,088	$10,351	137,761	$9,597	122,699	$8,557	154,107	$11,891	228,795	$19,706	211,259	$18,400	170,692	$13,380	1,489,432	$113,446
Edgewood Terrace	119,700	$6,695	85,500	$0	88,200	$0	77,400	$524	71,100	$4,089	65,700	$3,845	61,200	$3,501	47,700	$2,861	55,800	$3,205	64,800	$3,747	68,400	$3,944	89,100	$4,844	894,600	$37,254
Elvans Road	2,330	$187	1,470	$153	1,980	$198	10,450	$753	10,920	$746	12,590	$901	13,740	$999	13,120	$950	27,570	$2,803	33,820	$3,517	34,480	$3,379	30,750	$3,055	193,220	$17,642
Error	0	$0	0	$0	0	$0	100	$6	120	$7	140	$8	110	$7	100	$6	140	$8	200	$12	950	$85	300	$16	2,160	$156
Frederick Douglas	6,550	$131	8,300	$738	8,710	$153	1,270	$131	1,000	$106	1,160	$120	140	$20	140	$20	130	$21	140	$22	130	$20	90	$16	27,760	$1,497
Frontiers	620	$28	490	$0	710	$4	2,960	$144	10,890	$775	8,720	$557	7,450	$497	8,880	$610	10,020	$895	9,140	$773	8,210	$627	7,780	$595	75,870	$5,504
Greenleaf Gardens	148,500	$7,659	73,260	$1,274	62,790	$1,900	98,180	$6,461	61,550	$3,779	87,750	$6,534	71,910	$5,267	66,656	$4,425	95,390	$8,676	115,365	$11,086	131,540	$12,726	191,973	$16,230	1,204,864	$86,017
Henson Ridge	0	$0	0	$0	0	$0	0	$0	0	$0	0	$0	0	$0	0	$0	0	$0	0	$0	0	$0	0	$0	0	$0
Hopkins Apartments	75,636	$3,252	73,852	$23,458	81,240	$5,215	149,816	$4,452	58,750	$3,923	74,740	$4,815	70,498	$4,580	48,730	$3,515	95,042	$6,883	123,880	$8,972	412,460	$34,636	101,358	$10,368	1,366,002	$114,069
Lincoln Heights	32,810	$3,247	30,220	$948	35,220	$2,573	148,430	$10,716	168,012	$11,624	191,204	$12,659	170,966	$11,271	182,018	$11,795	257,090	$20,708	324,550	$28,345	356,752	$31,791	317,132	$27,234	2,214,404	$172,911
Montana Terrace	16,100	$1,514	25,320	$7,965	23,140	$677	29,770	$1,836	20,280	$1,342	23,510	$1,581	21,230	$1,341	22,700	$1,379	39,840	$2,842	42,280	$3,911	55,730	$5,226	46,260	$4,143	366,160	$33,759
Office	347,360	$30,132	287,080	$4,304	272,880	$18,246	267,440	$16,978	268,840	$17,336	249,080	$16,463	290,080	$18,443	314,560	$20,276	337,520	$30,330	416,800	$33,999	398,320	$33,349	400,000	$31,747	3,849,960	$271,605
Ontario	2,180	$241	2,820	$165	3,220	$303	2,900	$274	2,860	$270	3,280	$309	2,600	$246	2,630	$249	2,940	$323	2,950	$324	2,230	$247	2,510	$266	33,120	$3,216
Parkside Additions	23,830	$1,882	21,660	$244	22,910	$531	24,900	$1,220	22,420	$1,342	20,140	$1,328	21,800	$1,487	20,550	$1,386	25,850	$2,017	35,580	$3,274	37,620	$3,466	35,030	$3,072	312,290	$21,248
Potomac Gardens	231,418	$5,903	190,038	$11,941	242,210	$14,734	358,600	$13,615	179,698	$11,318	227,380	$13,642	204,514	$13,597	199,404	$12,853	262,056	$19,897	351,532	$25,160	326,124	$22,572	301,208	$20,968	3,074,182	$186,201
Scattered Sites	136,040	$9,202	147,480	$737	152,530	$3,264	217,060	$1,861	206,481	$26,933	200,969	$13,142	194,835	$12,315	174,155	$10,939	196,567	$14,185	249,169	$20,745	266,465	$21,824	250,107	$20,050	2,391,858	$155,196
Stanton Dwelling	20,882	$1,146	19,740	$1,743	24,100	$2,088	48,743	$3,728	40,369	$3,008	48,003	$3,723	29,393	$1,698	18,694	$1,071	16,527	$1,034	17,730	$992	18,365	$2,105	4,740	$285	307,286	$22,621
Sursum Corda	5,520	$319	20,080	$567	320	$58	800	$63	2,480	$153	2,160	$135	20,800	$1,476	2,320	$144	2,880	$174	3,520	$210	3,520	$0	0	$0	64,400	$3,298
Warehouse	30,240	$2,666	20,400	$2,225	22,980	$1,441	22,680	$1,338	22,800	$1,365	19,140	$1,191	20,160	$1,248	22,020	$1,499	26,880	$2,440	30,240	$2,646	36,360	$2,960	31,620	$2,607	305,520	$23,625
Wheeler Creek	0	$0	0	$0	0	$0	680	$47	620	$42	580	$36	490	$29	420	$24	550	$40	670	$55	530	$37	470	$30	5,010	$339
DCHA TOTAL	4,771,053	$320,464	4,314,614	$143,813	4,507,038	$187,457	5,565,899	$320,413	4,989,688	$324,393	5,291,366	$347,590	4,785,164	$316,988	4,687,970	$317,425	6,409,725	$522,036	7,853,643	$673,251	8,837,228	$788,499	8,078,651	$670,166	70,092,839	$4,932,496

Figure 3: FY02 Electricity

Electricity - FY03	10/1/2002		11/1/2002		12/1/2002		1/1/2003		2/1/2003		3/1/2003		4/1/2003		5/1/2003		6/1/2003		7/1/2003		8/1/2003		9/1/2003		FY03	
Development	kWh	Cost	kWh	Cost	kWh	Cost	kWh	Cost	kWh	Cost	kWh	Cost	kWh	Cost	kWh	Cost	kWh	Cost	kWh	Cost	kWh	Cost	kWh	Cost	kWh	Cost
Benning Terrace	158,440	$11,975	138,980	$9,223	161,784	$9,883	164,022	$11,500	126,006	$8,245	137,316	$9,281	127,884	$8,571	139,246	$9,647	150,372	$11,891	275,124	$25,929	261,504	$26,591	222,490	$17,358	2,063,168	$160,095
Carroll Apartments	45,000	$4,227	36,000	$2,009	41,400	$2,337	44,100	$2,042	30,600	$1,865	38,250	$1,238	31,950	$2,700	39,150	$2,360	43,650	$4,020	67,500	$5,037	71,100	$5,591	57,150	$4,964	545,850	$38,390
Claridge Towers	190,800	$21,220	129,600	$10,697	154,350	$12,881	143,098	$11,877	128,250	$10,672	126,000	$10,475	115,650	$9,466	121,050	$9,932	143,100	$15,779	204,300	$22,890	206,550	$23,645	213,300	$24,522	1,876,048	$184,056
Colorado Apartments	17,890	$1,549	16,310	$1,108	25,600	$1,858	37,880	$2,659	43,580	$2,916	33,570	$3,116	30,280	$1,269	20,670	$1,523	17,990	$1,457	15,900	$1,270	20,300	$1,755	17,790	$1,555	297,760	$22,035
Columbia Road	20,398	$1,774	15,180	$1,066	12,402	$865	13,026	$922	12,600	$859	10,090	$692	10,330	$560	10,682	$697	9,710	$678	18,320	$1,517	25,672	$2,264	24,718	$2,319	183,128	$14,213
Ft. Dupont Dwelling	76,650	$7,665	44,480	$2,554	58,030	$4,208	168,735	$13,379	161,612	$10,830	141,164	$7,238	147,874	$6,398	100,225	$5,339	83,769	$5,158	79,628	$5,125	97,328	$6,455	89,852	$7,459	1,249,347	$81,807
Ft. Lincoln Apartments	96,900	$8,242	69,600	$4,422	50,400	$2,797	54,000	$2,629	55,200	$3,228	60,000	$3,641	45,300	$2,464	45,300	$2,464	75,000	$5,723	104,400	$9,139	104,700	$9,424	113,100	$10,420	873,900	$64,594
Garfield Terrace Family	320	$25	239	$16	169	$11	169	$12	152	$2,108	31,799	$14	13,304	$899	5,948	$383	6,864	$540	7,286	$595	8,595	$748	8,444	$749	83,290	$6,099
Garfield Terrace Senior	8,880	$702	6,631	$446	4,691	$307	4,681	$321	4,198	$58,409	881,021	$376	368,596	$24,904	164,792	$10,621	190,176	$14,954	201,864	$16,481	238,135	$20,713	233,936	$20,755	2,307,600	$168,989
Greenleaf House	446,458	$43,871	211,372	$14,287	251,790	$17,777	230,680	$14,051	211,708	$14,282	250,584	$17,566	198,190	$13,130	191,410	$12,521	280,544	$23,722	344,302	$31,130	376,110	$35,679	305,656	$27,320	3,298,804	$265,337
Harvard Towers	128,400	$10,075	99,000	$6,005	80,400	$5,039	91,800	$5,270	69,300	$4,601	72,900	$4,948	73,200	$4,878	70,200	$4,687	75,300	$7,119	117,300	$10,622	141,300	$12,521	141,900	$13,650	1,161,000	$89,415
Highland Dwelling & Addition	208,864	$16,337	248,051	$12,142	208,132	$11,170	309,104	$16,556	167,462	$9,457	391,049	$12,677	207,398	$11,516	184,548	$10,581	249,467	$18,896	357,916	$31,239	381,062	$35,110	279,588	$24,362	3,192,641	$210,043
Horizon House	123,330	$10,729	62,550	$4,088	107,490	$6,901	0	$4,669	69,090	$4,102	71,970	$4,447	68,760	$4,335	90,840	$6,120	100,020	$8,126	129,630	$11,446	123,300	$10,865	125,940	$11,359	1,072,920	$87,187
James Apartments	149,910	$11,361	89,680	$4,788	101,800	$4,929	0	$5,495	39,170	$2,340	142,150	$8,055	82,030	$4,629	101,150	$4,483	119,600	$10,491	160,830	$11,065	149,700	$10,829	169,720	$12,133	1,305,740	$90,598
James Creek	173,209	$14,397	116,946	$7,258	142,752	$8,227	139,706	$9,253	130,873	$8,428	131,134	$8,341	124,927	$7,766	117,469	$7,558	152,207	$12,130	209,245	$19,642	223,576	$20,223	238,111	$22,055	1,900,155	$145,277
Judiciary House	153,000	$10,982	123,750	$7,126	130,050	$7,401	83,250	$4,583	110,250	$6,047	100,800	$5,484	99,900	$4,483	91,350	$4,986	106,200	$5,725	131,850	$8,565	351,900	$18,865	215,100	$18,698	1,697,400	$102,944
Kelly Miller	101,804	$6,734	59,890	$3,336	81,184	$4,479	81,866	$4,586	68,108	$3,324	71,150	$3,970	71,108	$3,871	60,292	$3,397	64,448	$3,589	93,540	$5,942	108,402	$7,431	121,116	$9,112	982,908	$59,771
Kenilworth Courts	343,140	$29,930	219,520	$14,217	205,880	$13,067	246,970	$16,243	214,740	$14,764	262,780	$17,379	170,640	$10,523	297,550	$15,471	219,590	$18,918	299,740	$27,046	372,950	$32,662	348,860	$32,609	3,202,360	$242,828
Kentucky Courts	41,120	$2,434	79,680	$4,674	6,480	$3,045	31,440	$2,919	73,080	$2,973	205,200	$5,276	44,320	$2,723	32,960	$3,965	101,080	$3,876	32,360	$5,226	130,760	$4,137	52,920	$3,296	831,400	$44,546
Knox Hill	79,420	$5,699	80,990	$4,712	116,160	$6,176	116,810	$6,530	93,700	$5,689	93,730	$5,439	75,880	$4,449	77,920	$4,472	79,790	$6,081	129,110	$9,446	103,940	$7,931	94,970	$7,270	1,142,420	$73,895
Langston Terrace	28,370	$2,628	19,880	$1,472	21,540	$1,440	24,020	$1,768	19,050	$1,363	21,150	$1,547	20,980	$1,495	20,280	$1,455	19,930	$1,596	33,110	$3,101	35,740	$3,520	35,770	$3,502	299,820	$24,886
Ledroit	89,100	$6,142	68,160	$3,981	73,980	$4,372	76,500	$4,600	66,360	$3,383	63,000	$3,526	57,720	$3,100	60,600	$3,349	72,120	$4,606	90,540	$6,301	95,220	$6,668	107,760	$8,195	921,060	$58,223
Lincoln Road	15,400	$1,344	15,600	$928	27,530	$2,043	11,590	$679	10,300	$666	10,230	$654	7,780	$480	9,730	$628	11,510	$898	18,660	$1,640	20,950	$1,882	34,070	$2,677	193,350	$14,518
Park Morton	101,040	$8,020	75,580	$5,094	90,510	$6,174	86,570	$5,914	74,460	$5,116	82,520	$5,905	68,470	$3,567	65,590	$4,050	73,030	$5,007	109,800	$8,617	125,490	$10,118	151,530	$11,747	1,104,590	$79,329
Regency House	88,650	$6,237	72,900	$4,232	77,850	$4,701	75,150	$4,438	71,100	$4,050	62,550	$3,422	66,150	$3,092	66,600	$3,699	65,700	$3,489	98,550	$7,515	96,300	$7,201	110,700	$9,139	952,200	$61,213
Richardson Dwelling	131,140	$10,942	94,590	$6,243	114,900	$6,785	0	$8,375	96,790	$6,536	106,257	$7,241	101,697	$7,570	98,652	$6,276	116,529	$9,235	189,188	$17,437	179,188	$16,674	172,764	$15,981	1,401,695	$119,295
Sibley Plaza	177,420	$14,296	183,840	$12,652	147,600	$9,505	165,780	$11,233	190,500	$12,107	138,000	$8,672	172,020	$9,676	141,480	$9,019	168,600	$13,341	203,640	$16,246	236,580	$20,981	270,840	$25,496	2,196,300	$163,224
Stoddert Terrace	127,392	$10,428	96,995	$6,580	118,280	$8,047	121,768	$8,071	115,666	$8,024	100,714	$7,053	103,645	$5,699	86,436	$5,792	82,802	$6,207	132,961	$11,593	154,762	$14,250	166,374	$15,253	1,407,795	$106,997
Syphax Gardens	115,150	$10,112	85,310	$5,856	100,510	$6,210	88,130	$5,902	88,560	$6,242	86,880	$6,259	84,660	$5,669	80,880	$5,373	97,390	$7,455	140,610	$12,234	152,510	$14,036	159,270	$14,793	1,279,860	$100,139
Villager	9,500	$691	15,150	$1,077	16,250	$1,067	15,780	$1,106	17,570	$1,210	10,600	$763	36,280	$281	8,170	$280	10,330	$749	17,530	$1,453	16,720	$1,454	23,040	$2,211	196,920	$12,342
Woodland Terrace	170,400	$14,078	42,150	$2,877	296,100	$15,953	176,850	$7,971	151,050	$9,188	213,000	$8,660	164,700	$9,544	138,750	$8,083	178,950	$13,553	284,250	$19,923	263,100	$20,099	233,400	$18,650	2,312,700	$148,579
	3,617,495	$304,845	2,618,604	$165,166	3,025,994	$189,654	2,803,475	$195,552	2,711,085	$233,025	4,147,558	$183,353	2,991,623	$179,705	2,739,920	$169,211	3,165,768	$245,009	4,298,984	$365,413	4,873,444	$410,321	4,540,179	$399,609	41,534,129	$3,040,863
Arthur Capper	283,910	$20,630	308,460	$17,506	371,370	$21,262	463,640	$24,707	317,200	$19,141	356,610	$20,498	256,700	$14,764	259,670	$14,277	251,580	$17,372	324,750	$26,353	350,830	$27,122	312,780	$24,429	3,857,500	$248,060
Arthur Capper Family	22,454	$3,315	79,838	$6,968	25,762	$3,112	44,262	$2,288	30,340	$4,601	30,060	$3,137	27,988	$2,569	29,440	$2,927	32,600	$3,444	49,463	$10,594	50,344	$9,236	44,970	$5,789	467,521	$57,980
Barry Farm	327,700	$25,974	283,346	$19,381	349,850	$22,847	344,862	$24,636	289,322	$20,091	290,080	$19,554	258,828	$17,233	276,332	$19,218	315,630	$26,147	523,524	$50,060	547,306	$54,363	427,682	$39,669	4,234,462	$339,171
Capitol View Plaza	168,750	$12,707	94,940	$5,350	103,600	$5,733	108,900	$4,623	103,470	$6,151	81,590	$4,726	8,610	$14	91,650	$5,147	83,510	$4,809	85,500	$6,499	94,040	$13,440	85,680	$154	1,110,240	$69,352
Carrollsburg Dwelling	150,736	$12,075	146,340	$10,171	216,250	$13,221	191,208	$14,575	160,005	$11,448	174,873	$11,693	143,546	$10,031	124,205	$8,737	126,963	$10,322	225,925	$20,543	215,959	$20,600	217,443	$18,514	2,093,453	$161,929
East Capitol Dwelling	115,856	$9,215	90,972	$9,310	99,986	$6,516	1,570	$6,306	78,047	$6,424	71,484	$4,917	63,773	$4,371	94,909	$3,332	38,464	$5,322	68,292	$5,983	46,797	$3,998	31,936	$1,827	802,086	$67,520
Edgewood Terrace	79,200	$4,282	52,200	$3,016	65,700	$3,592	0	$0	0	$0	0	$4,401	103,200	$5,820	147,600	$8,226	69,000	$3,846	97,200	$5,292	88,800	$4,852	234,600	$8,052	937,500	$51,378
Elvans Road	15,080	$1,287	12,190	$831	14,410	$927	14,430	$1,020	12,650	$882	12,870	$901	10,710	$730	13,420	$912	16,840	$1,495	35,520	$3,640	28,300	$2,888	27,500	$2,795	213,920	$18,308
Error	200	$11	140	$8	230	$8	250	$14	180	$10	180	$10	190	$11	190	$11	0	$0	0	$0	0	$0	0	$0	1,560	$82
Frederick Douglas	1,090	$65	75,500	$6,825	7,110	$659	6,730	$564	5,140	$486	19,680	$492	5,290	$471	5,160	$474	5,980	$559	11,650	$998	9,720	$940	8,490	$832	161,540	$13,366
Frontiers	4,520	$324	1,930	$107	2,400	$64	1,520	$93	1,200	$67	1,460	$87	940	$54	1,030	$57	1,350	$90	2,510	$246	3,640	$361	450	$11	22,950	$1,561
Greenleaf Gardens	97,654	$8,947	95,301	$6,058	91,007	$5,650	92,776	$6,736	59,842	$3,851	65,936	$4,438	69,427	$4,517	85,086	$8,220	97,770	$6,516	152,021	$13,503	126,023	$12,782	124,476	$11,833	1,157,319	$93,052
Henson Ridge	0	$0	0	$0	0	$0	0	$0	0	$0	0	$0	0	$0	0	$0	0	$0	0	$0	0	$0	0	$0	0	$0
Hopkins Apartments	94,006	$7,116	66,348	$3,991	83,834	$11,323	72,270	$4,342	32,560	$4,431	79,796	$7,241	62,658	$6,579	59,838	$4,024	72,470	$11,156	113,672	$11,792	115,682	$9,422	109,676	$13,242	962,810	$94,658
Lincoln Heights	268,028	$21,095	177,334	$12,606	256,204	$13,630	213,004	$14,050	217,127	$14,172	213,559	$14,300	184,239	$12,220	180,196	$12,725	222,902	$17,207	326,747	$28,700	352,554	$32,198	373,706	$32,817	2,985,600	$225,720
Montana Terrace	30,760	$2,595	28,030	$1,694	27,940	$2,293	5,980	$2,031	35,600	$2,057	32,210	$2,058	39,270	$1,574	25,070	$1,783	32,770	$3,010	55,930	$5,065	56,850	$5,942	49,580	$5,109	419,990	$35,212
Office	397,680	$31,003	289,400	$17,405	309,360	$17,953	279,280	$14,107	277,080	$15,918	249,280	$15,511	297,280	$17,940	302,240	$18,354	322,040	$26,014	371,560	$29,949	398,360	$30,782	434,840	$34,198	3,928,400	$269,135
Ontario	3,030	$320	2,780	$251	3,080	$278	3,450	$289	2,800	$255	2,790	$254	2,490	$227	2,580	$235	2,820	$294	2,990	$311	1,880	$198	2,600	$282	33,290	$3,193
Parkside Additions	28,050	$2,326	18,230	$1,197	21,800	$1,490	22,760	$1,574	20,870	$1,439	19,540	$1,352	19,830	$1,122	17,690	$1,176	18,180	$1,306	30,580	$2,609	36,800	$3,297	40,180	$3,760	294,510	$22,649
Potomac Gardens	213,006	$15,694	195,334	$12,483	229,952	$13,536	205,694	$10,195	182,624	$10,948	202,074	$11,684	169,288	$10,534	185,210	$11,281	204,244	$15,204	297,958	$20,331	312,646	$21,840	251,832	$18,321	2,649,862	$172,050
Scattered Sites	209,126	$15,701	201,215	$12,443	242,530	$15,872	247,826	$16,800	265,914	$18,390	52,141	$3,585	48,941	$3,037	466,126	$28,673	48,325	$3,752	69,449	$6,710	83,957	$8,595	87,810	$8,133	2,023,360	$141,691
Stanton Dwelling	52,557	$3,203	46,025	$3,737	65,462	$4,702	14,100	$1,601	29,552	$2,034	11,150	$349	4,467	$334	3,541	$240	3,321	$312	2,480	$143	4,937	$372	2,460	$351	240,052	$17,376
Sursum Corda	8,960	$526	2,240	$134	3,360	$192	4,480	$215	15,680	$995	0	$0	6,720	$389	2,560	$152	0	$0	0	$0	0	$0	0	$0	44,000	$2,603
Warehouse	27,720	$2,295	19,080	$1,201	22,620	$1,266	24,000	$1,140	20,880	$1,294	22,440	$1,299	20,460	$1,189	38,880	$2,587	21,360	$561	32,940	$2,567	29,280	$2,410	29,880	$2,596	309,540	$20,405
Wheeler Creek	460	$28	600	$36	940	$56	1,210	$81	930	$61	770	$49	630	$39	500	$29	470	$30	490	$32	660	$53	540	$39	8,200	$533
DCHA TOTAL	6,218,028	$505,579	4,906,377	$317,874	5,640,751	$355,835	5,167,677	$347,540	4,870,098	$378,170	6,138,131	$315,888	4,797,098	$295,473	5,153,043	$322,005	5,154,357	$403,777	7,180,135	$617,334	7,828,809	$676,012	7,439,290	$632,362	70,493,794	$5,167,847

Figure 4: FY03 Electricity

Electricity - FY04	10/1/2003		11/1/2003		12/1/2003		1/1/2004		2/1/2004		3/1/2004		4/1/2004		5/1/2004		6/1/2004		7/1/2004		8/1/2004		9/1/2004		FY04	
Development	kWh	Cost	kWh	Cost	kWh	Cost	kWh	Cost	kWh	Cost	kWh	Cost	kWh	Cost	kWh	Cost	kWh	Cost	kWh	Cost	kWh	Cost	kWh	Cost	kWh	Cost
Benning Terrace	140,378	$11,660	127,822	$8,730	178,560	$12,540	152,926	$11,689	151,816	$9,642	133,372	$9,350	149,976	$10,580	171,848	$12,612	211,522	$19,427	304,522	$26,846	264,438	$21,445	246,414	$19,270	2,233,394	$173,791
Carroll Apartments	40,500	$3,846	36,450	$2,100	0	$0	75,600	$4,438	32,400	$2,035	33,750	$1,895	31,050	$1,862	52,200	$3,276	58,950	$5,073	67,950	$5,633	69,750	$5,613	63,000	$5,433	561,600	$41,204
Claridge Towers	191,700	$21,968	101,700	$8,580	141,750	$12,035	150,750	$12,869	128,700	$10,883	127,800	$10,846	133,200	$11,323	126,900	$10,806	193,050	$22,076	226,800	$26,200	189,450	$21,647	195,750	$22,397	1,907,550	$191,628
Colorado Apartments	16,180	$1,466	14,740	$1,000	20,160	$1,527	36,760	$2,674	43,920	$3,147	34,540	$2,559	27,040	$2,028	22,400	$1,657	17,500	$1,412	18,510	$1,563	20,330	$1,810	17,580	$1,493	289,660	$22,337
Columbia Road	19,762	$1,763	37,372	$2,105	10,716	$707	14,812	$898	11,618	$674	11,900	$707	11,980	$784	10,800	$704	14,532	$1,117	14,170	$1,097	47,872	$4,791	22,824	$2,101	228,358	$17,448
Ft. Dupont Dwelling	66,533	$4,819	48,349	$2,784	56,562	$3,224	65,266	$5,155	66,879	$4,108	54,540	$3,900	58,408	$3,692	48,333	$2,987	75,983	$5,939	90,431	$7,219	92,416	$7,653	90,883	$7,501	814,583	$58,980
Ft. Lincoln Apartments	63,600	$4,550	45,900	$2,586	52,800	$3,124	54,000	$3,230	62,400	$3,971	46,200	$2,603	46,500	$2,619	55,500	$3,364	97,800	$8,649	103,500	$9,327	96,300	$8,470	109,800	$10,077	834,300	$62,572
Garfield Terrace Family	8,135	$714	6,054	$406	156	$11	13,355	$927	207	$17	184	$12	172	$12	153	$12	311	$26	302	$26	372	$35	46,576	$3,351	75,977	$5,548
Garfield Terrace Senior	225,375	$19,769	167,736	$11,253	4,324	$307	370,005	$25,692	5,743	$464	5,096	$337	4,778	$341	4,247	$321	8,619	$714	8,358	$733	10,298	$956	1,290,414	$92,829	2,104,993	$153,716
Greenleaf House	267,750	$23,180	207,454	$13,852	233,898	$16,181	259,060	$18,811	181,086	$12,521	233,566	$16,238	204,132	$13,611	209,812	$14,077	346,278	$32,631	348,232	$32,509	348,298	$32,531	361,532	$33,285	3,201,098	$259,428
Harvard Towers	127,500	$12,286	80,700	$5,484	72,900	$4,951	83,100	$5,528	69,600	$4,779	69,000	$4,768	73,800	$4,945	66,000	$4,580	91,500	$8,542	265,200	$17,996	155,100	$15,192	138,300	$14,017	1,292,700	$103,069
Highland Dwelling & Addition	210,490	$16,197	200,228	$12,519	247,353	$17,116	273,210	$17,790	221,564	$14,190	218,185	$13,193	179,326	$10,931	244,690	$17,506	291,941	$26,091	360,927	$34,599	308,732	$27,942	303,102	$27,761	3,059,748	$235,835
Horizon House	115,290	$10,080	58,230	$3,548	77,640	$5,029	88,530	$5,712	66,660	$4,275	75,750	$4,912	78,660	$5,229	79,860	$5,348	120,360	$10,638	141,930	$12,952	122,370	$10,716	126,240	$11,131	1,151,520	$89,569
James Apartments	145,680	$11,487	86,760	$5,017	101,540	$6,075	112,940	$6,757	102,200	$6,234	93,350	$5,546	86,760	$5,224	122,940	$7,769	158,430	$11,966	167,860	$12,394	162,940	$12,101	147,110	$11,081	1,488,510	$101,650
James Creek	135,755	$10,524	129,027	$8,599	141,075	$9,487	166,901	$11,883	113,096	$7,373	146,071	$9,700	123,675	$8,372	157,632	$11,237	192,570	$17,492	238,302	$22,703	228,748	$21,104	245,547	$22,915	2,018,399	$161,391
Judiciary House	170,100	$13,469	112,050	$6,342	108,000	$6,103	121,950	$7,295	104,400	$5,905	91,800	$5,167	104,400	$5,882	103,050	$5,805	164,250	$12,794	160,200	$12,315	193,950	$16,329	172,800	$13,812	1,606,950	$111,217
Kelly Miller	70,594	$4,159	68,530	$3,966	78,034	$4,515	74,912	$4,316	68,004	$3,937	82,088	$4,826	73,600	$4,245	63,592	$3,696	92,694	$5,986	96,862	$6,524	112,320	$8,212	17,688	$1,188	898,918	$55,569
Kenilworth Courts	267,710	$25,059	212,040	$16,353	202,038	$15,174	221,816	$17,670	189,009	$16,347	179,734	$14,216	267,807	$20,025	190,645	$14,862	370,810	$33,658	343,164	$30,228	363,058	$36,158	398,521	$38,927	3,206,352	$278,677
Kentucky Courts	110,120	$6,527	57,080	$3,533	68,360	$4,164	66,920	$4,085	64,320	$3,929	267,960	$2,638	48,280	$3,011	58,920	$3,593	75,760	$4,563	63,200	$2,895	200,040	$8,175	86,400	$5,159	1,167,360	$52,272
Knox Hill	92,350	$6,789	79,470	$4,740	115,730	$6,952	102,090	$6,293	97,360	$5,884	96,370	$5,767	82,410	$4,938	97,740	$5,869	107,680	$8,209	119,320	$9,368	65,780	$10,092	123,370	$8,631	1,179,670	$83,532
Langston Terrace	25,570	$2,321	25,220	$1,943	25,290	$1,951	23,400	$1,606	18,120	$1,299	22,900	$1,731	22,520	$1,698	20,590	$1,460	33,600	$3,331	35,440	$3,471	33,860	$3,283	38,620	$3,848	325,130	$27,942
Ledroit	76,620	$5,115	70,080	$4,071	72,900	$4,394	69,780	$4,176	72,180	$4,432	66,540	$3,909	63,480	$3,663	24,360	$3,219	91,080	$6,549	88,020	$6,311	98,880	$7,244	90,060	$6,458	883,980	$59,542
Lincoln Road	13,880	$1,076	10,010	$611	11,200	$696	12,260	$783	12,630	$810	8,690	$543	7,950	$497	35,550	$1,757	21,620	$2,051	26,890	$2,589	22,510	$2,097	23,400	$2,685	206,590	$16,194
Park Morton	101,380	$8,245	89,060	$6,289	135,380	$7,723	83,640	$5,599	79,380	$5,534	82,450	$5,287	79,040	$5,396	80,340	$5,498	115,540	$9,728	125,750	$11,034	133,950	$11,920	134,850	$12,031	1,240,760	$94,284
Regency House	77,850	$5,297	68,400	$4,029	72,900	$4,307	73,350	$4,426	68,850	$4,069	59,400	$3,375	67,050	$3,871	60,750	$3,375	92,250	$7,098	99,450	$7,795	117,450	$10,044	99,000	$7,795	956,700	$65,480
Richardson Dwelling	117,285	$9,619	127,911	$7,156	107,065	$7,250	122,610	$8,446	113,500	$8,057	229,123	$9,590	95,843	$6,421	120,794	$8,506	149,966	$13,508	192,757	$18,426	170,209	$15,092	178,161	$16,564	1,725,224	$128,638
Sibley Plaza	192,180	$16,508	172,200	$12,011	150,840	$10,157	189,060	$13,465	166,140	$11,268	149,460	$10,094	153,660	$10,449	143,160	$8,892	222,780	$20,231	194,880	$16,835	253,800	$24,147	244,800	$22,833	2,232,960	$176,890
Stoddert Terrace	122,315	$9,535	96,531	$5,833	102,158	$6,495	122,330	$8,662	118,134	$8,228	89,521	$6,119	101,267	$6,945	81,244	$5,625	127,929	$11,602	143,974	$13,084	146,982	$13,608	149,888	$13,699	1,402,273	$109,434
Syphax Gardens	87,610	$6,746	93,460	$5,688	116,000	$8,963	103,140	$7,434	107,160	$7,893	90,310	$6,265	95,670	$6,808	94,070	$6,660	136,420	$12,064	161,240	$14,936	154,490	$13,976	156,570	$14,362	1,396,140	$111,796
Villager	13,160	$1,114	12,240	$941	15,250	$886	13,070	$722	11,250	$779	9,940	$629	14,790	$1,039	12,580	$863	16,400	$1,446	21,580	$1,896	18,020	$1,762	15,380	$1,480	173,660	$13,558
Woodland Terrace	143,700	$12,158	192,750	$11,380	23,400	$1,647	25,800	$1,766	757,950	$24,804	163,350	$9,412	159,300	$9,500	201,750	$12,103	223,950	$18,257	271,200	$20,788	265,800	$20,740	36,000	$19,635	2,464,950	$162,190
	3,457,052	$288,046	2,835,554	$183,446	2,743,779	$183,692	3,343,343	$230,796	3,306,276	$197,488	2,972,940	$176,136	2,646,524	$175,942	2,762,450	$188,039	3,922,075	$342,868	4,500,921	$390,293	4,468,513	$394,886	5,370,580	$473,749	42,330,007	$3,225,381
Arthur Capper	250,170	$18,955	270,620	$15,862	307,490	$18,821	374,670	$22,705	313,950	$18,828	274,760	$16,512	232,820	$13,987	256,830	$15,148	255,320	$20,019	285,000	$22,965	289,890	$23,056	272,370	$21,345	3,383,890	$228,203
Arthur Capper Family	21,600	$2,565	21,285	$2,392	22,066	$2,823	27,909	$3,473	21,532	$4,511	19,734	$2,141	15,880	$1,909	25,722	$3,100	34,147	$4,924	36,408	$4,837	39,049	$5,192	27,414	$4,166	312,686	$42,033
Barry Farm	286,714	$22,798	285,572	$19,949	322,450	$24,398	356,190	$25,414	287,676	$19,921	292,858	$21,067	270,142	$17,950	326,468	$23,132	455,846	$43,189	467,878	$44,493	478,510	$46,105	470,932	$45,610	4,301,236	$354,034
Capitol View Plaza	89,340	$7,082	216,580	$14,248	216,240	$3,992	148,560	$3,701	740	$32	59,390	$3,443	810	$49	1,200	$87	1,690	$158	2,410	$244	1,970	$191	1,970	$191	740,900	$33,420
Carrollsburg Dwelling	136,483	$11,592	142,915	$10,220	158,132	$11,466	103,220	$7,797	166,987	$10,503	94,102	$4,280	58,449	$4,017	72,531	$5,126	113,561	$9,435	88,078	$7,252	79,835	$6,900	77,352	$7,551	1,291,645	$96,139
East Capitol Dwelling	67,465	$3,478	24,338	$2,136	29,177	$2,508	46,255	$3,235	23,813	$2,300	24,206	$1,497	19,024	$2,005	15,850	$3,335	18,040	$1,662	18,725	$1,722	25,922	$2,560	10,543	$841	323,358	$27,278
Edgewood Terrace	99,000	$5,622	92,400	$5,294	95,400	$5,425	118,800	$6,706	128,400	$7,199	88,200	$5,099	89,400	$5,099	94,200	$5,329	132,600	$7,520	144,000	$8,742	120,600	$6,891	136,200	$7,885	1,339,200	$76,812
Elvans Road	23,790	$1,402	16,580	$833	13,350	$894	15,530	$1,164	13,040	$865	12,480	$887	12,320	$862	24,970	$1,950	27,250	$2,760	33,450	$3,216	34,800	$3,903	28,990	$2,955	256,550	$21,690
Error	0	$0	0	$0	0	$0	0	$0	0	$0	0	$0	0	$0	0	$0	0	$0	0	$0	0	$0	0	$0	0	$0
Frederick Douglas	10	$574	9,920	$433	5,500	$500	5,850	$543	4,650	$456	4,420	$424	10,770	$575	5,960	$564	7,530	$770	7,750	$798	180	$797	7,850	$689	70,390	$7,123
Frontiers	80	$5	140	$8	80	$5	60	$4	0	$0	0	$0	0	$0	0	$0	0	$0	0	$0	0	$0	0	$0	360	$22
Greenleaf Gardens	81,112	$7,127	69,191	$5,048	84,218	$6,399	109,605	$5,994	134,130	$5,304	90,952	$6,304	76,150	$5,365	92,602	$6,953	97,294	$9,328	131,316	$12,516	117,642	$11,419	121,792	$11,955	1,206,004	$93,713
Henson Ridge	0	$0	0	$0	0	$0	0	$0	0	$2,300	28,923	$4,445	42,989	$2,645	48,689	$3,535	76,494	$10,462	117,072	$10,249	110,050	$10,455	90,701	$11,326	514,918	$55,417
Hopkins Apartments	70,444	$5,229	77,896	$5,160	69,240	$3,725	70,866	$13,899	57,448	$8,248	61,854	$3,885	59,368	$8,289	63,972	$3,988	106,178	$13,039	113,276	$7,668	105,640	$15,042	89,980	$5,691	946,162	$93,861
Lincoln Heights	215,058	$18,602	199,226	$14,073	237,469	$15,499	240,954	$16,376	252,152	$16,993	197,174	$13,301	206,744	$13,759	262,520	$18,334	302,562	$25,984	362,898	$32,998	400,368	$36,210	356,971	$32,471	3,234,096	$254,600
Montana Terrace	39,752	$3,241	27,463	$2,083	53,614	$4,275	49,057	$3,847	46,161	$3,557	34,818	$2,701	31,140	$2,549	406,700	$3,077	53,019	$5,390	63,522	$7,183	73,159	$7,581	94,265	$9,312	972,670	$54,794
Office	353,240	$30,044	309,200	$19,276	324,760	$19,620	306,680	$18,373	274,240	$16,961	288,040	$17,787	284,640	$17,860	311,160	$19,254	429,870	$34,924	425,120	$35,255	386,400	$32,824	418,840	$36,715	4,112,190	$298,894
Ontario	2,520	$274	2,450	$228	2,860	$265	2,930	$272	2,470	$230	2,420	$226	2,770	$257	2,710	$252	3,050	$336	1,530	$172	2,400	$266	2,180	$242	30,290	$3,021
Parkside Additions	29,710	$2,553	20,840	$1,484	23,750	$1,718	22,090	$1,589	21,500	$1,557	17,490	$1,228	24,469	$1,631	19,190	$1,341	29,310	$2,564	33,473	$3,040	39,307	$3,691	48,678	$3,340	329,807	$25,737
Potomac Gardens	205,820	$15,867	220,718	$13,373	199,114	$12,087	245,780	$15,823	186,648	$11,852	191,382	$11,618	192,048	$11,821	214,408	$13,319	292,712	$21,712	293,994	$21,715	317,684	$23,177	176,442	$12,079	2,736,750	$184,444
Scattered Sites	846,710	$63,891	189,636	$12,366	245,717	$16,902	254,108	$17,817	275,050	$20,056	211,988	$14,375	188,484	$12,226	175,235	$10,974	59,223	$5,348	62,761	$5,797	385,351	$30,357	67,867	$30,856	2,962,130	$240,964
Stanton Dwelling	3,428	$233	2,266	$164	2,446	$193	2,978	$218	2,959	$167	3,893	$188	2,130	$182	3,516	$185	6,381	$736	8,078	$944	11,123	$1,123	9,943	$944	59,141	$5,298
Sursum Corda	0	$0	18,080	$1,070	0	$0	0	$0	12,320	$783	3,440	$205	3,440	$151	3,520	$210	3,920	$233	3,840	$229	4,560	$269	4,080	$242	57,200	$3,392
Warehouse	22,500	$2,311	19,800	$1,288	22,200	$1,393	22,200	$1,391	22,020	$1,293	19,440	$1,183	20,220	$1,245	21,960	$1,351	46,560	$2,521	0	$0	49,360	$4,612	29,840	$2,655	296,100	$21,244
Wheeler Creek	500	$34	760	$50	1,230	$85	1,450	$101	980	$66	920	$62	670	$43	830	$55	820	$73	830	$74	740	$63	800	$70	10,530	$775
DCHA TOTAL	6,302,498	$511,524	5,073,430	$330,483	5,180,222	$336,686	5,869,085	$401,241	5,555,142	$351,491	4,995,824	$308,994	4,491,401	$300,429	5,213,193	$328,634	6,475,452	$565,956	7,202,330	$622,401	7,543,053	$667,569	7,906,580	$722,880	71,818,210	$5,448,289

Figure 5: FY04 Electricity

Nat Gas	10/1/2001		11/1/2001		12/1/2001		1/1/2002		2/1/2002		3/1/2002		4/1/2002		5/1/2002		6/1/2002		7/1/2002		8/1/2002		9/1/2002		FY02	
Development	Therms	Cost	Therms	Cost	Therms	Cost	Therms	Cost	Therms	Cost	Therms	Cost	Therms	Cost	Therms	Cost	Therms	Cost	Therms	Cost	Therms	Cost	Therms	Cost	Therms	Cost
Benning Terrace	7,596	$5,277	12,285	$11,392	20,756	$10,705	33,376	$14,430	29,835	$11,358	28,818	$14,431	24,583	$12,195	11,382	$6,838	7,746	$3,277	6,248	$2,533	5,024	$1,999	5,790	$4,708	193,439	$99,143
Carroll Apartments	944	$409	15	$24	5,333	$2,357	5,469	$2,410	6,955	$2,992	7,314	$3,133	5,036	$2,239	0	$0	957	$395	472	$190	0	$0	319	$324	32,815	$14,473
Claridge Towers	6,708	$16,706	14,294	$6,522	17,691	$7,853	31,755	$13,362	21,873	$9,491	25,498	$10,911	13,084	$6,046	4,443	$1,785	3,615	$1,446	3,201	$1,281	0	$0	3,006	$1,230	145,166	$76,633
Colorado Apts.																									0	$0
Columbia Road	138	$454	189	$143	139	$90	187	$105	1,451	$1,481	1,140	$1,260	55	$45	82	$62	549	$630	531	$588	0	$0	496	$711	4,956	$5,569
Ft. Dupont Dwelling	1,951	$1,146	2,538	$2,344	5,238	$2,597	7,474	$3,496	3,242	$1,627	6,388	$3,034	4,741	$2,339	1,089	$712	906	$387	1,019	$320	1,584	$944	1,692	$1,363	37,861	$20,309
Ft. Lincoln Apartments	2,746	$2,642	7,749	$3,493	2,172	$979	7,247	$3,114	7,979	$3,400	7,694	$3,289	6,762	$2,922	0	$0	0	$0	1,371	$548	1,225	$490	1,461	$612	46,406	$21,489
Garfield Terrace Family	234	$541	37	$23	3,608	$1,113	1,807	$755	2,013	$837	1,656	$697	1,085	$473	206	$91	146	$60	20	$9	18	$8	123	$58	10,953	$4,664
Garfield Terrace Senior	4,633	$10,724	728	$454	71,557	$22,069	35,843	$14,965	39,918	$16,602	32,837	$13,825	21,528	$9,382	4,094	$1,799	2,905	$1,190	397	$183	353	$165	2,438	$1,154	217,232	$92,512
Greenleaf Senior	5,548	$2,329	12,982	$11,257	25,257	$11,505	32,620	$14,338	32,949	$14,220	36,303	$15,546	27,800	$11,445	15,448	$6,198	9,290	$3,738	6,430	$2,588	5,986	$2,409	6,526	$2,747	217,139	$98,320
Harvard Towers	4,372	$14,891	998	$437	10,565	$4,673	15,112	$6,453	15,328	$6,538	11,499	$5,038	881	$391	1,625	$655	15,553	$6,645	2,485	$994	3,440	$1,412	3,005	$1,242	84,862	$49,367
Highland Dwelling & Addition	6,401	$3,231	9,596	$9,371	18,771	$8,575	27,329	$11,806	28,667	$12,352	21,528	$9,686	28,290	$12,274	13,485	$11,443	9,493	$5,459	753	$2,933	6,767	$4,207	6,795	$6,994	177,875	$98,330
Horizon House	3,308	$6,585	7,025	$3,203	7,583	$3,422	12,731	$5,438	8,929	$3,949	8,960	$3,961	5,391	$2,562	2,380	$969	1,843	$737	1,847	$739	1,510	$604	1,692	$704	63,198	$32,873
James Apartments	2,661	$7,706	6,291	$2,933	7,189	$3,285	52	$33	22,763	$9,838	9,741	$4,285	6,141	$2,873	1,591	$669	1,376	$562	1,231	$504	0	$0	1,215	$525	60,251	$33,214
James Creek	4,845	$4,979	10,653	$10,333	15,687	$8,359	25,148	$12,213	31,600	$14,341	28,325	$13,468	18,762	$9,251	11,266	$6,528	8,043	$3,513	4,366	$1,857	4,272	$1,591	3,570	$3,534	166,536	$89,966
Judiciary House	5,955	$5,225	9,386	$7,883	12,685	$5,649	19,264	$8,226	16,516	$7,150	15,506	$6,754	11,456	$5,165	0	$0	5,433	$2,173	6,774	$1,370	0	$0	3,120	$1,288	106,094	$50,884
Kelly Miller	12,057	$9,783	12,033	$10,093	17,012	$7,523	30,456	$12,789	27,539	$11,647	26,167	$11,110	22,808	$9,788	0	$0	0	$0	753	$395	2,989	$1,302	3,344	$1,523	155,159	$75,953
Kenilworth Courts	9,559	$5,193	15,517	$13,934	22,257	$10,691	29,971	$13,756	29,356	$13,522	31,785	$15,469	25,120	$12,490	12,293	$6,241	6,116	$2,865	8,327	$3,624	6,665	$2,943	7,887	$5,525	204,853	$106,253
Kentucky Courts	1,790	$840	4,491	$3,900	10,332	$4,500	10,771	$4,672	12,453	$5,331	11,136	$4,815	10,215	$4,452	0	$0	2,031	$812	1,742	$697	0	$0	1,382	$1,306	66,341	$31,325
Knox Hill	638	$278	838	$780	1,754	$825	2,654	$1,177	3,054	$1,333	3,142	$1,368	2,193	$996	0	$0	0	$0	574	$229	0	$0	565	$254	15,411	$7,240
Langston Terrace	5,006	$2,411	14,180	$12,107	34,291	$15,126	38,507	$20,944	33,363	$14,678	37,072	$19,888	32,337	$18,391	5,370	$2,429	1,511	$2,115	5,166	$3,006	4,527	$2,544	4,709	$3,256	216,039	$116,896
Ledroit	796	$1,645	9,305	$7,789	16,550	$7,131	19,189	$8,165	17,678	$7,573	16,428	$7,084	14,752	$6,424	0	$0	0	$0	117	$59	94	$38	1,769	$814	96,678	$46,721
Lincoln Road	239	$122	333	$299	517	$246	656	$280	644	$287	1,439	$1,269	476	$221	0	$0	11	$15	433	$305	443	$322	436	$511	5,628	$3,877
Park Morton	3,723	$13,315	10,805	$5,113	27,029	$11,675	24,561	$9,779	22,744	$10,077	21,517	$9,597	17,360	$7,869	0	$0	3,847	$1,272	3,192	$1,277	0	$0	2,744	$1,430	137,522	$71,405
Regency House	5,099	$11,113	0	$0	16,834	$10,388	9,310	$4,063	12,554	$5,334	9,847	$4,273	9,174	$4,010	926	$403	2,867	$1,173	0	$0	788	$327	2,029	$824	69,428	$41,909
Richardson Dwelling	5,484	$3,247	13,997	$12,746	21,605	$10,104	37,206	$16,082	34,353	$15,390	38,043	$22,434	31,105	$15,647	8,972	$4,052	5,987	$3,717	5,820	$3,861	4,898	$3,305	5,536	$4,408	213,004	$114,993
Sibley Plaza	9,089	$3,671	146	$164	21,298	$9,352	33,061	$14,419	26,160	$11,260	24,308	$10,531	25,121	$10,845	0	$0	0	$0	7,003	$2,802	211	$85	5,005	$2,085	151,401	$65,214
Stoddert Terrace	4,324	$3,582	7,176	$6,739	12,161	$6,277	22,943	$10,166	17,458	$8,190	18,621	$8,790	15,911	$7,526	6,576	$3,654	4,838	$2,046	3,285	$1,530	2,453	$1,030	3,096	$2,415	118,843	$61,943
Syphax Gardens	3,296	$1,516	7,386	$6,635	15,346	$6,979	22,404	$9,743	20,861	$9,139	22,472	$9,770	18,824	$8,339	9,402	$3,917	4,121	$1,711	2,655	$1,121	8,071	$1,086	2,134	$1,051	136,970	$61,006
Villager	360	$169	1,239	$1,090	1,569	$754	2,845	$1,254	3,084	$1,348	2,956	$1,298	2,248	$1,020	0	$0	492	$197	446	$179	0	$0	345	$166	15,584	$7,474
Woodland Terrace	8,581	$3,788	18,376	$15,224	62,164	$20,264	65,428	$28,207	63,707	$27,533	57,262	$25,008	48,811	$21,687	17,413	$7,179	11,904	$4,791	8,829	$3,532	7,880	$3,152	8,840	$3,980	379,195	$164,347
ECIP TOTAL	128,080	$143,517	210,587	$166,423	504,946	$215,066	605,373	$266,642	595,027	$258,819	565,401	$262,022	452,051	$209,307	128,043	$65,622	111,579	$50,928	85,487	$39,252	69,198	$29,964	91,067	$56,742	3,546,838	$1,764,304
Arthur Capper	3,236	$1,304	78	$69	5,089	$2,141	3,701	$1,597	3,829	$1,648	3,952	$1,696	3,461	$1,503	0	$0	2,967	$1,188	2,552	$1,022	22	$9	2,313	$1,891	31,198	$14,067
Arthur Capper Family	3,124	$2,007	5,173	$4,852	10,407	$5,027	12,801	$5,769	15,079	$6,926	15,208	$6,994	11,313	$5,623	6,182	$3,255	4,919	$2,098	5,979	$2,446	2,294	$956	2,208	$1,702	94,686	$47,655
Barry Farm	385	$357	521	$540	986	$686	1,365	$689	36,410	$37,460	1,592	$988	1,098	$653	17,014	$20,589	14,629	$16,117	7,574	$7,727	7,886	$8,641	9,050	$14,111	98,510	$108,558
Capitol View Plaza	2,053	$1,286	7,357	$6,311	11,164	$5,084	16,322	$7,337	350	$194	29,546	$12,909	12,616	$5,674	38	$49	1,713	$685	1,527	$635	1,317	$546	1,504	$709	85,507	$41,418
Carrollsburg Dwelling	0	$0	22,590	$21,394	29,430	$12,776	36,982	$15,806	36,100	$15,388	35,271	$15,074	29,755	$12,896	0	$0	6,177	$2,471	6,725	$2,690	0	$0	3,751	$3,199	206,780	$101,694
East Capitol Dwelling	12,095	$8,220	22,220	$20,997	34,176	$17,256	61,063	$30,723	60,384	$27,991	50,993	$20,998	38,318	$19,087	9,113	$5,037	55	$24	6,310	$2,261	4,110	$1,719	4,813	$4,680	303,649	$158,992
Eastgate Gardens	345	$201	971	$871	1,342	$652	1,705	$794	1,635	$766	1,785	$825	1,723	$801	0	$0	0	$0	0	$0	70	$28	509	$270	10,085	$5,207
Edgewood Terrace	2,146	$880	10,838	$7,287	6	$14	12,281	$5,816	5,224	$2,555	4,718	$2,356	3,791	$1,993	0	$0	1,333	$546	1,368	$559	2,002	$7,635	444	$217	44,151	$29,859
Elvans Road	10	$12	8	$12	11	$13	11	$13	117	$56	114	$110	9	$14	9	$14	0	$0	39	$44	52	$46	567	$901	948	$1,235
Frederick Douglas	139	$87	483	$476	789	$410	1,023	$508	1,197	$580	1,158	$564	1,062	$523	0	$0	0	$0	106	$45	102	$43	108	$75	6,165	$3,309
Frontiers	31	$64	66	$44	77	$48	136	$72	1,504	$1,502	1,749	$4,205	68	$75	518	$783	338	$1,338	348	$579	158	$516	194	$318	5,187	$9,544
Greenleaf Gardens	3,949	$2,703	8,043	$7,418	12,131	$6,052	17,952	$8,287	18,045	$8,423	20,157	$9,345	13,962	$6,780	9,843	$5,017	3,698	$1,560	3,518	$1,464	3,114	$1,296	2,904	$2,134	117,316	$60,480
Henson Ridge																									0	$0
Hopkins Apartments	3,729	$3,669	9,549	$8,175	19,869	$8,704	23,671	$10,193	21,589	$9,365	24,798	$10,635	20,012	$8,756	0	$0	4,742	$1,910	3,730	$1,505	21	$9	2,697	$2,438	134,406	$65,357
Lincoln Heights	13,627	$12,322	16,178	$16,163	18,326	$10,268	40,927	$20,117	43,033	$21,186	38,559	$27,392	28,744	$15,392	15,195	$9,554	2,361	$292	10,584	$4,097	14,272	$11,257	8,272	$10,492	250,076	$158,531
Montana Terrace	672	$643	952	$998	2,149	$1,465	4,171	$1,211	5,248	$2,228	4,945	$2,824	3,431	$1,997	0	$0	102	$236	613	$625	464	$372	581	$1,069	23,329	$13,668
Office	1	$28	657	$660	1,358	$687	4,155	$1,783	3,512	$1,531	3,160	$1,393	2,471	$1,123	0	$0	0	$0	0	$0	1	$0	0	$28	15,315	$7,233
Ontario	176	$202	0	$0	214	$107	259	$124	0	$0	0	$0	201	$101	149	$71	139	$68	127	$63	0	$0	138	$67	1,403	$802
Parkside Additions	728	$396	2,096	$1,880	3,319	$1,572	4,494	$2,032	3,957	$1,821	4,235	$1,930	3,208	$1,527	0	$0	0	$0	754	$302	608	$243	556	$333	23,955	$12,037
Potomac Gardens	4,885	$2,218	7,071	$6,329	24,217	$11,014	34,581	$15,032	28,465	$12,415	36,480	$15,818	30,164	$13,337	4,191	$1,686	6,638	$2,656	5,637	$2,489	0	$0	4,052	$3,814	186,381	$86,806
Scattered Sites	59	$125	109	$130	135	$105	288	$154	1,643	$1,570	5,610	$9,259	514	$516	505	$593	340	$450	962	$1,297	1,698	$1,189	2,000	$3,172	13,864	$18,560
Stanton Dwelling	3,134	$3,192	5,192	$6,078	7,715	$5,135	10,620	$6,209	23,055	$11,023	8,042	$4,336	4,386	$2,943	19	$10	209	$117	170	$70	201	$83	177	$521	62,918	$39,716
Sursum Corda	270	$135	370	$322	248	$132	356	$169	249	$125	321	$154	241	$122	0	$0	0	$0	28	$35	79	$38	383	$819	2,544	$2,051
UNCLASSIFIED	0	$0	0	$0	3,124	$1,788	6,087	$3,015	0	$0	7,756	$3,706	3,699	$2,025	2,002	$1,286	536	$228	112	$47	514	$544	493	$39	24,323	$12,678
Warehouse	47	$46	0	$0	2,642	$1,212	4,329	$1,873	0	$0	3,638	$1,603	2,294	$1,076	0	$0	296	$119	141	$56	0	$0	56	$50	13,442	$6,036
DCHA TOTAL	182,919	$183,614	331,110	$277,425	693,868	$307,415	964,652	$405,962	905,654	$423,573	869,185	$417,137	668,591	$313,843	192,820	$113,565	162,772	$83,031	144,390	$69,309	108,181	$65,135	138,833	$109,789	5,302,975	$2,769,798

Figure 6: FY02 Natural Gas

Nat Gas - FY03	10/1/2002		11/1/2002		12/1/2002		1/1/2003		2/1/2003		3/1/2003		4/1/2003		5/1/2003		6/1/2003		7/1/2003		8/1/2003		9/1/2003		FY03	
Development	Therms	Cost	Therms	Cost	Therms	Cost	Therms	Cost	Therms	Cost	Therms	Cost	Therms	Cost	Therms	Cost	Therms	Cost	Therms	Cost	Therms	Cost	Therms	Cost	Therms	Cost
Benning Terrace	6,121	$4,708	16,949	$9,403	30,348	$14,933	39,421	$18,769	43,478	$21,715	41,791	$19,941	33,179	$16,750	16,860	$8,867	12,171	$6,913	9,291	$10,389	5,417	$8,918	5,832	$8,936	260,857	$150,242
Carroll Apartments	444	$210	1,527	$828	5,011	$2,222	5,804	$2,560	7,629	$3,350	7,124	$3,089	4,301	$2,003	2,454	$947	610	$265	1,146	$682	448	$576	458	$555	36,956	$17,288
Claridge Towers	5,796	$2,346	19,287	$8,579	27,396	$11,744	28,389	$12,367	0	$0	27,873	$12,166	33,566	$15,318	0	$0	6,108	$2,612	7,607	$5,495	2,939	$3,546	3,574	$4,048	162,535	$78,221
Columbia Road	558	$791	1,664	$2,199	1,651	$1,807	2,156	$2,420	2,226	$2,484	43	$328	2,482	$1,499	0	$0	1,305	$780	504	$821	471	$766	588	$884	0	$0
Ft. Dupont Dwelling	1,730	$1,382	3,920	$2,433	6,788	$3,645	8,568	$4,454	9,737	$5,294	9,104	$4,251	5,649	$2,910	3,764	$1,803	2,895	$1,450	3,213	$2,886	1,347	$1,996	2,249	$2,974	13,649	$14,779
Ft. Lincoln Apartments	1,255	$530	5,042	$2,247	8,187	$3,482	8,261	$3,578	9,563	$4,065	8,561	$3,704	7,035	$3,123	4,455	$1,667	1,747	$663	3,509	$2,144	1,593	$1,935	1,529	$1,749	58,963	$35,478
Garfield Terrace Family	157	$72	1,937	$836	2,532	$1,067	2,857	$1,230	1,939	$991	124	$60	2,885	$1,290	0	$0	929	$362	245	$291	183	$229	214	$250	60,735	$28,886
Garfield Terrace Senior	3,104	$1,421	38,424	$16,583	50,213	$21,164	56,661	$24,401	38,455	$19,655	2,457	$1,189	57,225	$25,579	0	$0	18,431	$7,171	4,863	$5,777	3,636	$4,533	4,242	$4,953	14,002	$6,677
Greenleaf Senior	5,642	$2,396	15,590	$7,303	38,449	$16,349	41,516	$17,730	48,255	$20,680	41,345	$17,662	30,185	$13,455	23,002	$8,741	10,505	$3,878	11,105	$9,285	7,016	$8,535	5,349	$6,155	277,711	$132,425
Harvard Towers	4,101	$1,680	13,133	$5,696	15,802	$6,718	19,466	$8,315	1,080	$487	23,334	$9,999	15,088	$6,846	0	$0	11,103	$4,279	4,842	$5,835	3,912	$4,722	1,022	$1,162	277,959	$132,169
Highland Dwelling & Addition	7,348	$8,435	17,247	$11,705	32,661	$19,446	36,680	$22,871	60,306	$40,616	74,153	$53,752	38,589	$25,214	25,136	$15,124	15,079	$9,779	13,505	$10,907	7,221	$9,988	9,191	$11,727	112,884	$55,739
Horizon House	2,796	$1,146	7,970	$3,551	11,550	$4,950	12,651	$5,486	0	$0	13,066	$5,658	15,622	$7,053	0	$0	2,544	$1,122	3,434	$2,484	1,331	$1,621	1,787	$2,038	337,116	$239,564
James Apartments	2,745	$1,138	7,333	$3,254	10,208	$4,375	11,142	$4,833	0	$0	11,929	$5,153	14,674	$6,578	0	$0	2,273	$1,022	3,307	$2,525	1,347	$1,652	1,437	$1,656	72,749	$35,109
James Creek	5,903	$4,536	11,015	$1,586	24,893	$12,428	30,603	$14,975	39,426	$18,968	33,421	$15,921	18,586	$10,313	14,340	$7,600	8,572	$5,238	13,801	$8,508	4,710	$7,702	4,246	$6,843	66,394	$32,186
Judiciary House	3,577	$1,470	12,551	$5,567	19,219	$8,180	17,923	$7,817	24,381	$10,492	15,221	$6,693	11,726	$5,331	13,407	$4,914	4,340	$1,638	6,597	$3,608	3,464	$4,185	4,130	$4,686	209,517	$114,617
Kelly Miller	4,009	$1,789	21,017	$9,450	26,202	$11,449	25,581	$11,421	25,145	$3,124	26,651	$19,925	21,378	$9,846	4,854	$2,288	4,787	$1,903	3,758	$4,250	2,674	$3,388	2,987	$3,547	136,535	$64,581
Kenilworth Courts	7,276	$4,354	15,126	$5,618	27,963	$14,121	30,966	$15,616	38,005	$21,001	33,819	$15,851	21,676	$11,203	15,859	$7,160	12,728	$5,986	20,259	$11,568	7,199	$9,941	7,008	$9,210	169,043	$82,379
Kentucky Courts	1,831	$871	5,064	$2,487	10,881	$4,783	11,356	$5,017	12,872	$5,747	12,709	$5,559	11,011	$4,970	6,089	$2,391	2,966	$1,213	5,302	$2,936	1,878	$2,388	1,855	$2,226	237,883	$131,628
Knox Hill	663	$293	1,288	$626	0	$0	4,287	$1,829	4,523	$1,963	4,307	$1,857	2,664	$1,236	2,083	$795	1,140	$439	1,915	$959	613	$761	596	$698	83,813	$40,589
Langston Terrace	4,640	$3,076	24,222	$4,489	40,764	$22,460	43,452	$24,199	43,075	$19,717	41,568	$18,337	34,983	$15,810	12,115	$4,931	6,413	$2,729	10,307	$6,623	4,492	$5,795	4,611	$5,606	24,078	$11,457
Ledroit	1,890	$863	9,762	$4,494	18,477	$7,927	17,417	$7,654	18,473	$8,074	17,588	$7,724	7,961	$3,925	2,419	$1,020	2,150	$879	3,814	$2,109	1,464	$1,860	1,685	$2,003	270,640	$133,772
Lincoln Road	425	$511	993	$1,036	1,849	$1,764	2,006	$1,952	2,357	$2,852	2,120	$1,180	1,148	$714	675	$433	665	$496	851	$788	428	$684	495	$730	103,099	$48,531
Park Morton	3,320	$1,661	17,735	$8,077	24,735	$10,812	24,071	$10,737	28,211	$12,417	19,177	$8,674	22,529	$10,265	0	$0	4,888	$2,189	8,590	$6,482	2,700	$3,567	4,305	$5,222	14,013	$13,140
Regency House	1,934	$813	4,400	$1,800	10,693	$4,645	12,026	$5,144	15,473	$6,693	13,113	$5,693	8,971	$4,023	6,628	$2,831	6,069	$2,230	3,306	$1,847	1,350	$1,643	2,148	$2,611	160,262	$80,104
Richardson Dwelling	6,222	$4,398	22,609	$12,574	39,916	$19,762	42,030	$20,669	46,260	$27,785	41,697	$19,665	32,589	$16,250	17,011	$7,880	8,572	$4,773	12,834	$9,286	5,276	$7,867	5,891	$8,154	86,111	$39,973
Sibley Plaza	4,843	$2,021	11,972	$5,566	22,675	$9,783	25,591	$11,138	29,563	$12,740	26,779	$11,644	15,646	$7,301	9,908	$3,665	10,631	$4,052	16,381	$7,132	2,981	$3,658	3,053	$3,525	280,907	$159,061
Stoddert Terrace	3,272	$2,505	11,151	$5,980	20,700	$10,605	25,012	$13,155	27,581	$15,665	27,060	$13,569	16,469	$9,030	10,838	$5,531	8,386	$3,975	5,858	$6,223	3,231	$5,071	3,472	$5,187	180,021	$82,225
Syphax Gardens	2,706	$1,280	10,012	$4,835	21,321	$9,298	24,310	$10,581	26,496	$11,702	24,257	$10,560	18,253	$8,317	13,201	$5,138	5,576	$2,224	8,116	$3,239	3,088	$3,896	2,603	$3,128	163,028	$96,494
Villager	336	$162	1,248	$608	2,837	$1,235	3,333	$1,446	3,084	$1,379	3,256	$1,428	2,344	$1,092	1,562	$605	629	$257	1,240	$762	547	$683	419	$499	159,939	$74,197
Woodland Terrace	8,367	$3,563	29,352	$14,046	24,517	$10,666	70,974	$30,744	71,544	$31,657	61,439	$27,014	40,998	$19,636	39,208	$14,851	16,755	$6,551	29,265	$15,486	9,203	$11,463	7,667	$9,072	20,835	$10,156
ECIP TOTAL	103,008	$60,419	359,538	$163,455	578,437	$271,822	684,510	$323,108	679,137	$331,314	665,084	$328,246	549,413	$266,878	245,869	$109,180	190,964	$87,066	218,764	$151,327	92,156	$123,566	94,642	$120,033	409,288	$194,747
Arthur Capper	2,697	$1,115	2,860	$1,312	3,684	$1,632	3,742	$1,630	3,734	$1,709	3,408	$1,536	3,250	$1,498	2,977	$1,138	2,881	$1,068	5,199	$2,811	2,136	$2,593	2,317	$2,644	4,461,521	$2,336,413
Arthur Capper Family	3,121	$2,053	5,564	$3,065	14,320	$6,702	16,459	$7,656	19,419	$9,067	17,474	$8,079	11,366	$5,649	8,450	$4,054	5,686	$2,936	9,009	$4,822	2,556	$3,945	2,572	$3,725	38,886	$20,726
Barry Farm	14,314	$17,207	18,951	$25,805	43,053	$47,743	52,848	$59,366	66,604	$139,283	57,459	$31,508	34,966	$20,640	29,057	$17,346	18,500	$11,652	13,801	$19,846	11,817	$18,034	10,414	$15,583	115,996	$61,754
Capitol View Plaza	1,744	$806	9,567	$4,290	14,229	$6,134	16,215	$7,000	18,455	$8,193	19,212	$8,237	12,208	$5,549	8,168	$3,051	2,914	$1,110	5,679	$3,397	2,814	$3,408	2,808	$3,217	371,786	$424,014
Carrollsburg Dwelling	10,502	$4,732	15,439	$7,349	33,082	$14,313	36,534	$15,827	40,440	$17,682	46,464	$19,807	29,211	$13,184	22,260	$8,428	9,439	$3,592	14,870	$7,905	6,588	$8,053	6,234	$7,181	114,012	$54,393
East Capitol Dwelling	5,132	$4,162	17,572	$10,353	31,696	$15,875	36,853	$18,215	37,611	$18,581	34,316	$16,512	16,116	$9,007	7,903	$4,624	6,253	$3,704	5,527	$6,994	1,200	$2,912	1,185	$2,998	271,065	$128,054
Eastgate Gardens	82	$95	62	$180	0	$43	0	$0	0	$0	0	$0	0	$0	0	$0	0	$0	0	$0	0	$0	0	$0	201,363	$113,937
Edgewood Terrace	514	$251	538	$424	787	$521	815	$542	794	$529	729	$496	686	$493	515	$218	433	$183	813	$485	338	$433	0	$0	143	$322
Elvans Road	551	$898	967	$1,391	2,282	$2,497	2,903	$3,197	3,291	$7,356	3,189	$1,505	1,625	$881	1,121	$583	869	$480	792	$1,006	581	$863	569	$808	6,962	$4,575
Frederick Douglas	107	$75	429	$243	1,045	$500	1,258	$595	1,256	$608	1,288	$608	1,117	$546	824	$352	269	$134	223	$312	173	$249	185	$250	18,741	$21,463
Frontiers	174	$116	1,164	$1,377	754	$655	897	$855	75	-$20	741	$882	671	$373	15	$0	136	$102	216	$244	78	$128	25	$46	8,174	$4,471
Greenleaf Gardens	3,932	$2,735	7,901	$4,333	19,060	$8,977	22,073	$10,316	26,373	$12,345	23,137	$10,761	14,173	$7,074	11,442	$5,606	8,259	$5,092	11,513	$6,412	3,809	$7,023	3,216	$4,771	4,946	$4,758
Henson Ridge																									154,888	$85,446
Hopkins Apartments	4,009	$1,848	13,009	$6,115	29,109	$12,484	28,293	$12,272	32,367	$14,124	32,224	$13,903	27,328	$12,168	13,737	$5,271	7,095	$2,743	9,825	$6,335	4,450	$5,506	4,852	$5,638	0	$0
Lincoln Heights	9,934	$11,321	22,300	$13,244	42,430	$21,609	45,103	$19,541	56,212	$28,357	47,549	$23,882	27,886	$16,020	20,687	$12,385	16,434	$9,904	27,314	$17,585	8,515	$14,012	9,393	$14,378	206,297	$98,406
Montana Terrace	625	$900	2,738	$3,166	5,108	$4,592	6,092	$3,568	5,840	$5,768	6,146	$3,739	3,921	$2,645	1,864	$1,287	1,607	$1,193	2,459	$1,783	1,261	$1,645	1,407	$1,516	333,757	$202,237
Office	54	$49	1,954	$919	4,284	$1,838	4,960	$2,145	5,726	$2,433	4,618	$2,014	2,799	$1,306	1,215	$480	475	$201	0	$28	1	$29	0	$28	39,067	$31,801
Ontario	140	$68	224	$107	262	$122	292	$136	273	$129	0	$0	420	$205	0	$0	356	$152	146	$187	134	$172	146	$176	26,087	$11,470
Parkside Additions	680	$383	2,487	$1,221	4,438	$1,989	5,121	$2,281	6,143	$2,743	5,196	$2,338	3,577	$1,733	1,971	$840	1,103	$511	1,915	$1,089	771	$1,034	913	$1,138	2,394	$1,455
Potomac Gardens	4,905	$12,757	15,856	$7,502	38,136	$16,576	40,910	$17,842	47,127	$20,730	42,594	$18,507	32,655	$14,794	19,409	$7,541	8,029	$3,279	14,750	$8,456	5,652	$7,129	5,938	$7,043	34,314	$17,301
Scattered Sites	1,478	$2,620	6,777	$8,041	8,213	$8,644	12,244	$13,767	11,707	$16,213	8,870	$5,171	7,397	$3,683	1,967	$1,316	2,299	$1,318	1,338	$1,800	823	$1,342	1,126	$1,711	275,962	$142,155
Stanton Dwelling	159	$511	578	$721	1,725	$1,173	3,046	$1,740	3,968	$2,166	3,522	$1,972	2,239	$1,470	1,211	$964	386	$603	216	$985	100	$279	17	$122	64,238	$65,624
Sursum Corda	1,057	$1,618	1,744	$1,926	905	$659	3,043	$3,129	3,547	$8,343	2,991	$2,445	1,721	$1,274	900	$709	841	$1,488	743	$891	460	$727	506	$749	17,167	$12,705
UNCLASSIFIED	81	$64	1,880	$1,040	5,856	$2,705	9,163	$4,131	11,602	$5,268	10,873	$4,856	4,830	$2,359	3,176	$1,275	353	$174	109	$168	110	$169	102	$151	18,459	$23,958
Warehouse	54	$49	1,991	$938	4,793	$2,045	5,213	$2,253	6,014	$2,576	0	$0	7,111	$3,195	0	$0	1,154	$502	0	$0	111	$160	454	$591	48,136	$22,361
DCHA TOTAL	169,055	$126,857	512,088	$268,517	887,688	$451,851	1,038,586	$531,152	1,067,714	$655,494	1,037,086	$507,005	796,686	$392,624	404,738	$186,648	286,736	$139,187	345,224	$244,866	146,635	$203,414	149,021	$194,496	6,861,257	$3,902,110

Figure 7: FY03 Natural Gas

Nat Gas - FY04	10/1/2003		11/1/2003		12/1/2003		1/1/2004		2/1/2004		3/1/2004		4/1/2004		5/1/2004		6/1/2004		7/1/2004		8/1/2004		9/1/2004		FY04	
Development	Therms	Cost	Therms	Cost	Therms	Cost	Therms	Cost	Therms	Cost	Therms	Cost	Therms	Cost	Therms	Cost	Therms	Cost	Therms	Cost	Therms	Cost	Therms	Cost	Therms	Cost
Benning Terrace	11,120	$14,939	12,962	$17,110	29,942	$38,055	35,115	$47,279	49,152	$67,738	31,316	$38,966	25,144	$33,756	14,146	$21,475	7,189	$12,659	11,368	$18,223	5,543	$9,998	6,115	$10,297	239,111	$330,495
Carroll Apartments	400	$489	1,638	$2,085	3,300	$4,108	5,313	$6,949	6,905	$9,300	4,983	$5,966	3,949	$5,101	2,493	$3,353	753	$1,100	695	$994	1,459	$2,005	842	$1,103	32,728	$42,554
Claridge Towers	5,929	$6,698	0	$0	14,145	$16,694	27,468	$33,527	21,177	$27,506	21,688	$29,234	14,399	$17,325	13,027	$16,809	6,246	$8,327	13,518	$18,897	3,635	$5,015	3,913	$4,962	145,145	$184,994
Columbia Road	667	$995	993	$1,336	1,865	$2,453	0	$0	2,389	$3,268	2,055	$2,944	4,747	$6,522	20	$33	733	$1,238	2,095	$3,773	466	$860	567	$938	0	$0
Ft. Dupont Dwelling	2,157	$2,829	3,380	$4,311	6,169	$7,798	7,666	$10,244	9,945	$13,648	7,212	$8,844	6,281	$8,274	3,604	$5,227	2,289	$3,641	1,968	$3,121	1,677	$2,719	1,828	$2,725	16,596	$24,361
Ft. Lincoln Apartments	1,520	$1,738	4,819	$5,703	6,423	$7,848	8,529	$11,044	8,973	$12,051	7,091	$8,423	8,035	$10,156	3,816	$5,099	1,489	$2,120	1,945	$2,697	1,371	$1,909	1,351	$1,733	54,176	$73,382
Garfield Terrace Family	240	$279	801	$975	1,065	$1,349	0	$0	1,408	$1,863	2,238	$2,952	877	$1,160	43	$63	813	$1,119	244	$370	151	$217	171	$226	55,363	$70,521
Garfield Terrace Senior	4,753	$5,528	15,896	$19,346	21,120	$26,760	0	$0	27,930	$36,944	44,388	$58,556	17,396	$22,999	860	$1,246	16,121	$22,188	4,844	$7,347	3,002	$4,307	3,400	$4,476	8,053	$10,573
Greenleaf Senior	5,723	$6,577	16,143	$19,543	31,265	$38,030	38,856	$50,432	45,676	$61,310	39,479	$46,714	32,344	$41,155	19,104	$25,532	5,996	$8,568	6,114	$8,531	4,491	$5,807	5,188	$6,686	159,709	$209,695
Harvard Towers	8,860	$10,036	9,245	$10,903	16,649	$20,216	0	$0	16,956	$21,894	16,716	$22,426	13,080	$15,794	0	$0	14,406	$19,633	6,154	$8,591	3,912	$5,407	5,292	$6,713	250,379	$318,886
Highland Dwelling & Addition	8,985	$11,360	13,082	$16,326	22,335	$27,780	68,583	$87,043	52,821	$72,112	50,328	$62,747	38,418	$49,826	20,309	$28,493	10,333	$15,887	10,121	$15,254	8,340	$12,803	17,267	$24,456	111,268	$141,612
Horizon House	2,806	$3,184	0	$0	6,878	$8,112	12,089	$14,713	14,159	$18,234	12,575	$16,867	8,257	$9,858	6,544	$8,425	1,874	$2,519	6,215	$8,754	1,546	$2,150	1,457	$1,866	320,922	$424,086
James Apartments	2,533	$2,890	0	$0	19,873	$23,853	0	$0	14,650	$18,834	13,565	$18,144	8,939	$10,620	6,563	$8,429	1,904	$2,571	6,865	$9,703	1,697	$2,369	1,670	$2,147	74,401	$94,683
James Creek	5,251	$7,989	10,704	$14,214	19,861	$25,620	28,571	$38,623	39,030	$53,951	26,254	$32,690	19,787	$26,742	11,354	$17,383	5,672	$10,158	4,682	$8,593	4,116	$7,363	4,549	$7,912	78,259	$99,559
Judiciary House	1,307	$1,483	16,124	$18,753	7,029	$8,896	21,253	$27,466	22,961	$30,695	23,507	$27,557	14,186	$18,025	5,870	$7,840	5,413	$7,645	4,485	$6,193	5,038	$6,951	5,063	$6,425	179,830	$251,238
Kelly Miller	3,711	$4,361	15,959	$18,822	28,422	$34,408	28,327	$36,604	21,085	$27,623	29,146	$36,091	24,562	$31,051	5,373	$7,333	3,286	$4,811	2,764	$3,986	2,539	$3,677	3,035	$4,021	132,237	$167,928
Kenilworth Courts	9,322	$11,818	12,538	$16,192	25,577	$32,252	32,042	$42,675	36,494	$50,143	27,888	$34,231	21,660	$28,824	15,541	$22,068	9,420	$14,768	8,529	$13,093	7,861	$12,173	7,760	$11,175	168,209	$212,789
Kentucky Courts	1,855	$2,227	4,983	$6,094	9,429	$11,532	12,211	$15,900	12,236	$16,542	11,597	$13,804	10,186	$13,013	7,109	$9,590	2,273	$3,339	1,778	$2,585	3,328	$4,669	1,862	$2,523	214,630	$289,412
Knox Hill	680	$793	1,242	$1,546	2,775	$3,408	3,759	$4,892	4,901	$6,575	3,197	$3,819	2,584	$3,311	1,604	$2,160	755	$1,090	673	$953	621	$881	642	$838	78,846	$101,816
Langston Terrace	5,873	$7,027	20,445	$24,594	34,753	$42,536	41,734	$54,261	42,199	$56,954	38,777	$46,115	34,148	$43,577	11,391	$15,572	5,943	$8,787	5,488	$7,966	4,935	$7,208	5,734	$7,668	23,434	$30,267
Ledroit	2,179	$2,559	9,274	$11,053	16,835	$20,487	16,532	$21,482	17,583	$23,685	12,260	$14,703	10,629	$13,695	2,896	$3,960	2,092	$3,051	1,471	$2,131	1,491	$2,157	1,699	$2,255	251,422	$322,266
Lincoln Road	606	$856	830	$1,123	1,620	$2,117	2,052	$2,805	2,816	$3,921	1,678	$2,137	1,611	$2,189	777	$1,230	562	$973	474	$832	466	$821	540	$863	94,941	$121,217
Park Morton	7,385	$8,672	17,797	$21,092	22,715	$27,901	18,164	$23,653	28,727	$38,616	22,379	$27,291	18,376	$23,675	10,893	$14,823	4,107	$6,115	4,274	$6,213	3,789	$5,577	3,794	$5,265	14,033	$19,868
Regency House	2,460	$2,807	5,233	$5,927	8,663	$10,253	11,486	$14,098	15,916	$20,533	10,553	$14,303	7,892	$9,523	6,402	$8,335	3,181	$4,267	2,709	$3,847	4,575	$6,358	2,252	$2,881	162,400	$208,892
Richardson Dwelling	7,589	$10,096	18,425	$23,424	36,769	$46,107	39,630	$52,944	43,663	$60,280	35,565	$43,714	33,771	$62,791	14,750	$21,265	6,626	$10,926	5,989	$9,845	5,873	$9,673	6,258	$9,516	81,323	$103,133
Sibley Plaza	3,836	$4,407	11,767	$14,115	23,750	$28,917	26,478	$34,289	29,184	$39,162	21,332	$25,371	18,919	$24,139	6,518	$8,755	4,893	$6,967	4,468	$6,222	4,564	$6,353	5,005	$6,405	254,908	$360,582
Stoddert Terrace	4,743	$6,578	8,034	$10,422	18,372	$23,153	21,191	$28,374	30,017	$41,139	19,167	$23,603	16,057	$21,293	9,154	$13,532	4,330	$7,374	3,589	$6,196	3,149	$5,645	3,540	$5,695	160,714	$205,102
Syphax Gardens	2,975	$3,546	8,265	$10,210	16,634	$20,406	22,903	$29,818	26,594	$35,797	21,368	$25,448	18,440	$23,588	11,973	$16,115	3,483	$5,101	3,287	$4,717	2,868	$3,834	3,071	$4,144	141,342	$193,005
Villager	580	$680	1,526	$1,827	2,600	$3,163	2,894	$3,761	3,855	$5,165	3,108	$3,677	2,781	$3,528	1,518	$2,046	596	$866	518	$739	831	$1,169	206	$290	141,862	$182,723
Woodland Terrace	10,798	$12,655	30,081	$36,280	54,331	$66,257	64,153	$83,400	82,249	$110,307	57,153	$68,066	53,429	$68,090	28,386	$38,178	14,486	$20,816	10,561	$14,952	8,539	$12,208	9,123	$11,951	21,012	$26,911
ECIP TOTAL	126,843	$156,096	272,187	$333,326	511,161	$630,471	596,998	$776,276	731,650	$985,790	618,564	$765,404	490,884	$649,601	242,057	$334,370	147,262	$218,622	137,886	$205,317	101,871	$152,282	113,194	$158,154	423,288	$543,159
Arthur Capper	2,187	$2,497	2,381	$2,812	3,288	$3,984	3,170	$4,135	2,871	$3,902	2,821	$3,375	2,445	$3,141	2,400	$3,228	1,919	$2,734	1,798	$2,504	3,409	$4,573	1,733	$2,224	4,090,537	$5,365,710
Arthur Capper Family	2,800	$3,987	5,886	$7,508	9,781	$12,415	14,381	$19,220	16,440	$22,625	12,527	$15,703	9,240	$12,254	6,487	$9,482	2,419	$4,184	1,862	$3,358	3,036	$5,517	1,441	$2,515	30,422	$39,107
Barry Farm	11,768	$17,136	20,354	$26,960	37,763	$47,801	53,310	$72,063	70,450	$97,486	49,979	$62,111	38,230	$51,527	24,124	$36,351	12,928	$22,295	11,186	$19,444	11,074	$18,445	11,255	$18,294	86,319	$118,766
Capitol View Plaza	2,233	$2,561	7,065	$8,523	13,986	$17,013	13,064	$17,068	16,196	$21,823	65	$117	14,872	$18,917	34	$67	334	$490	301	$435	11	$37	11	$35	352,420	$489,911
Carrollsburg Dwelling	6,424	$7,395	11,257	$14,167	22,670	$28,075	22,304	$29,417	24,896	$33,926	21,900	$27,329	13,856	$18,870	9,501	$12,991	3,785	$5,404	3,352	$4,750	5,573	$7,527	3,026	$3,912	68,173	$87,085
East Capitol Dwelling	571	$1,085	804	$1,283	3,209	$4,099	4,140	$5,536	5,736	$7,886	4,031	$5,023	2,061	$2,792	715	$1,124	454	$777	313	$565	280	$535	165	$360	148,543	$193,761
Eastgate Gardens	0	$0	0	$0	0	$0	0	$0	0	$0	0	$0	0	$0	0	$0	0	$0	0	$0	0	$0	0	$0	22,477	$31,066
Edgewood Terrace	0	$0	410	$511	689	$862	965	$1,268	1,333	$1,797	1,117	$1,332	1,154	$1,467	923	$1,255	831	$1,197	770	$1,085	726	$1,024	766	$995	0	$0
Elvans Road	706	$964	954	$1,246	2,047	$2,599	2,507	$3,378	3,965	$5,443	2,340	$2,900	1,984	$2,646	1,168	$1,748	745	$1,234	685	$1,127	615	$1,029	645	$1,000	9,682	$12,791
Frederick Douglas	188	$253	639	$825	975	$1,275	1,398	$1,932	1,399	$2,007	1,238	$1,569	1,005	$1,374	597	$869	195	$321	168	$275	131	$221	294	$454	18,359	$25,314
Frontiers	9	$19	0	$0	46	$72	39	$53	0	$0	0	$35	0	$0	0	$0	0	$0	0	$0	0	$0	0	$0	8,228	$11,377
Greenleaf Gardens	4,091	$5,769	8,647	$10,977	14,910	$18,846	21,043	$28,080	25,959	$35,654	19,042	$23,359	15,111	$19,997	9,097	$13,419	4,372	$7,386	3,943	$6,644	4,046	$6,561	3,769	$5,984	94	$179
Henson Ridge											5,909	$7,312	5,158	$6,876	2,698	$4,351	1,388	$2,394	1,474	$2,493	1,261	$2,216	2,930	$4,747	134,031	$182,676
Hopkins Apartments	5,022	$5,857	12,542	$15,171	29,847	$36,014	36,241	$46,780	36,888	$49,439	32,525	$38,391	27,834	$35,271	17,160	$22,985	6,394	$9,169	6,293	$8,818	11,085	$15,036	4,814	$6,257	20,818	$30,389
Lincoln Heights	11,956	$17,311	16,549	$22,539	38,202	$49,289	46,783	$63,707	55,804	$77,985	36,114	$45,922	31,266	$42,784	19,110	$29,739	10,310	$18,502	9,748	$17,389	9,451	$17,028	9,209	$15,609	226,643	$289,187
Montana Terrace	1,005	$1,564	2,075	$2,919	4,313	$5,694	5,454	$7,524	7,743	$10,880	5,106	$6,563	4,523	$6,262	2,077	$3,322	1,288	$2,374	1,181	$2,175	1,164	$2,150	1,265	$2,152	294,501	$417,805
Office	221	$277	1,069	$1,383	4,317	$5,265	5,568	$7,204	6,531	$8,745	2,983	$3,608	3,181	$4,092	393	$552	7	$39	6	$38	6	$38	6	$37	37,192	$53,580
Ontario	167	$200	172	$213	235	$298	0	$0	269	$359	248	$346	902	$1,154	0	$0	184	$257	695	$1,015	136	$199	157	$210	24,288	$31,277
Parkside Additions	1,050	$1,293	2,550	$3,144	4,527	$5,600	4,984	$6,569	5,306	$7,239	3,921	$4,782	3,343	$4,391	1,607	$2,252	801	$1,243	744	$1,137	712	$1,094	685	$981	3,166	$4,253
Potomac Gardens	6,393	$7,528	16,255	$19,890	30,125	$36,888	35,196	$46,036	53,037	$71,161	42,318	$50,185	33,534	$42,837	22,452	$30,207	7,748	$11,264	6,351	$9,090	11,573	$15,959	5,800	$7,692	30,230	$39,724
Scattered Sites	1,662	$2,279	3,991	$4,963	8,239	$10,259	6,590	$8,674	14,221	$19,017	11,130	$14,336	10,332	$13,173	2,385	$3,518	1,915	$3,300	2,010	$3,495	1,083	$1,941	1,221	$1,999	270,783	$348,737
Stanton Dwelling	17	$131	21	$160	21	$138	41	$170	194	$321	44	$116	20	$89	19	$71	18	$71	135	$258	42	$113	97	$217	64,777	$86,952
Sursum Corda	655	$936	1,502	$2,009	2,979	$3,801	3,268	$4,421	4,069	$5,614	2,744	$3,556	2,054	$2,784	914	$1,452	717	$1,238	621	$1,080	621	$1,088	643	$1,040	666	$1,855
UNCLASSIFIED	150	$208	2,268	$3,053	5,553	$5,688																			20,786	$29,018
Warehouse	743	$863	1,744	$2,149	0	$0	10,051	$12,712	0	$0	5,350	$7,205	3,084	$3,982	194	$286	0	$0	228	$433	53	$102	56	$100	7,971	$8,949
DCHA TOTAL	186,861	$236,207	391,320	$485,730	748,882	$926,446	887,493	$1,162,222	1,084,954	$1,469,100	882,015	$1,090,579	716,070	$946,280	366,087	$513,637	206,013	$314,495	191,768	$292,924	167,960	$254,715	163,185	$234,970	1,992,606	$7,927,304

Figure 8: FY04 Natural Gas

Water FY02	10/1/2001		11/1/2001		12/1/2001		1/1/2002		2/1/2002		3/1/2002		4/1/2002		5/1/2002		6/1/2002		7/1/2002		8/1/2002		9/1/2002		FY02	
Development	CCF	Cost	CCF	Cost	CCF	Cost	CCF	Cost	CCF	Cost	CCF	Cost	CCF	Cost	CCF	Cost	CCF	Cost	CCF	Cost	CCF	Cost	CCF	Cost	CCF	Cost
Benning Terrace	6,513	$3,004	6,826	$31,304	5,240	$25,421	3,528	$16,179	6,054	$2,776	2,785	$12,772	3,290	$15,088	3,786	$174	3,706	$170	4,342	$19,912	5,502	$25,232	5,750	$26,370	57,322	$178,403
Carroll Apartments	205	$94	248	$1,137	271	$2,337	215	$986	490	$225	72	$330	193	$885	246	$11	285	$13	218	$1,000	346	$1,587	244	$1,119	3,033	$9,724
Claridge Towers	3,230	$1,490	2,656	$11,923	3,141	$14,120	2,213	$9,953	3,466	$1,560	3,298	$14,858	2,904	$13,042	3,379	$148	2,669	$116	3,174	$14,004	4,521	$20,017	3,799	$16,809	38,450	$118,041
Colorado	119	$55	125	$573	145	$665	173	$793	165	$76	136	$624	132	$605	138	$6	165	$8	131	$601	175	$803	171	$784	1,775	$5,593
Columbia Road	180	$83	221	$1,014	124	$569	160	$1,069	174	$80	201	$922	218	$1,000	136	$6	106	$5	36	$165	0	$0	200	$917	1,756	$5,828
Fort Dupont	1,093	$504	760	$3,485	791	$3,628	532	$2,440	881	$404	523	$2,398	639	$2,930	834	$38	1,070	$49	850	$3,898	1,082	$4,962	846	$3,880	9,901	$28,617
Fort Lincoln	1,024	$472	335	$1,888	716	$3,206	562	$2,513	679	$302	722	$3,214	468	$2,068	530	$24	844	$37	933	$4,074	976	$4,271	922	$4,024	8,711	$26,093
Garfield Terrace Family	268	$124	113	$513	65	$0	238	$0	275	$0	97	$0	46	$0	43	$0	42	$0	70	$306	96	$420	80	$352	1,432	$1,715
Garfield Terrace Senior	4,361	$2,012	1,842	$8,351	1,051	$0	3,875	$0	4,468	$0	1,577	$0	743	$0	700	$0	677	$0	1,134	$4,974	1,563	$6,830	1,303	$5,722	23,295	$27,889
Greenleaf Senior	1,550	$715	1,404	$6,439	1,453	$5,060	1,496	$4,770	1,474	$488	1,474	$5,326	1,474	$4,473	1,591	$51	1,650	$55	1,447	$6,636	1,841	$8,443	1,700	$7,796	18,554	$50,251
Harvard Towers	1,771	$817	1,950	$8,770	1,860	$8,369	1,835	$8,431	1,665	$747	1,735	$7,790	2,120	$9,533	1,435	$64	1,673	$73	1,662	$7,277	2,635	$11,637	1,700	$7,413	22,041	$70,922
Highland Dwelling & Addition	5,402	$2,492	5,444	$24,966	5,480	$25,131	4,878	$22,371	4,392	$2,014	4,819	$22,100	5,015	$22,999	5,639	$259	5,904	$271	7,075	$32,446	5,802	$26,608	6,703	$30,740	66,553	$212,396
Horizon House	1,222	$564	1,101	$4,791	1,070	$4,623	653	$2,799	995	$427	889	$3,810	966	$4,155	1,451	$59	905	$36	1,066	$4,336	1,506	$6,191	1,282	$5,266	13,106	$37,056
James Apartments	1,260	$581	1,282	$6,317	677	$3,105	1,136	$5,210	1,128	$517	1,271	$5,829	1,096	$5,026	859	$39	1,057	$48	947	$4,343	1,365	$6,260	1,333	$6,113	13,411	$43,388
James Creek	4,738	$2,186	4,650	$21,325	2,460	$11,282	2,695	$12,359	3,572	$1,593	2,927	$13,423	2,995	$13,735	11,845	$543	6,019	$276	5,151	$23,623	5,760	$26,415	6,337	$29,061	59,149	$155,822
Judiciary House	1,796	$828	2,035	$9,767	1,930	$8,664	1,455	$6,526	1,885	$842	1,660	$7,413	1,595	$7,108	1,340	$56	1,380	$59	1,440	$6,190	2,075	$8,979	1,825	$7,909	20,416	$64,342
Kelly Miller	2,935	$1,354	2,017	$9,250	2,041	$9,073	1,486	$6,944	1,876	$824	2,444	$10,834	1,688	$7,302	1,667	$70	1,540	$94	1,709	$7,837	2,892	$13,263	1,741	$7,984	24,056	$74,829
Kenilworth Courts	5,404	$2,493	6,226	$28,552	4,538	$20,811	4,971	$22,797	5,333	$2,446	5,449	$24,989	3,718	$17,051	3,453	$158	4,123	$189	4,986	$22,866	5,409	$24,806	6,274	$28,773	59,884	$195,931
Kentucky Courts	648	$299	775	$3,554	552	$2,531	582	$2,669	859	$83	742	$3,403	317	$1,454	749	$34	800	$37	674	$3,091	792	$3,632	554	$2,541	8,044	$23,328
Knox Hill	1,138	$525	583	$2,567	710	$3,139	587	$2,592	362	$156	800	$3,562	450	$1,957	629	$28	64	$3	988	$4,245	0	$0	0	$0	6,311	$18,774
Langston Terrace	4,252	$1,961	4,371	$22,786	4,194	$19,234	4,478	$20,536	5,594	$2,565	4,987	$22,870	4,496	$20,619	5,537	$254	6,048	$277	6,486	$29,745	7,012	$32,157	7,098	$33,077	64,553	$296,082
Le Droit Apartments	1,185	$547	1,073	$4,921	1,278	$5,861	857	$4,989	1,256	$576	964	$4,421	1,068	$4,898	1,120	$51	1,060	$49	1,032	$4,733	1,399	$6,416	1,198	$5,494	13,490	$42,955
Lincoln Road	0		0	$0	10	$46	26	$119	14	$6	8	$37	8	$37	25	$1	27	$1	26	$119	50	$229	44	$202	238	$798
Park Morton	2,663	$12,286	2,167	$9,938	2,400	$11,006	1,733	$7,948	2,765	$1,268	1,865	$8,553	2,062	$9,456	2,234	$102	2,296	$105	1,979	$9,076	3,535	$16,212	3,069	$14,074	28,768	$100,024
Regency House	1,190	$549	1,274	$5,665	0	$0	0	$0	1,393	$620	5,395	$24,575	871	$3,822	1,117	$46	921	$39	851	$3,558	1,266	$5,358	1,030	$4,289	15,308	$48,522
Richardson Dwellings	2,821	$1,302	3,303	$15,148	2,612	$11,979	2,261	$10,369	2,946	$1,351	2,874	$13,180	2,437	$11,176	2,397	$110	2,713	$124	2,997	$13,744	3,792	$17,390	4,493	$20,605	35,646	$116,478
Sibley Plaza	-768	-$354	2,158	$9,794	2,497	$11,337	1,756	$8,461	2,684	$1,219	2,596	$11,799	2,808	$12,767	2,554	$114	3,666	$166	2,943	$13,276	3,468	$15,618	3,248	$14,650	29,610	$98,847
Stoddert Terrace	2,103	$970	2,214	$10,153	2,046	$9,383	1,342	$6,154	2,900	$1,330	1,156	$5,301	2,070	$9,034	2,259	$104	3,096	$142	3,098	$14,207	4,262	$19,546	3,097	$14,203	29,643	$90,528
Syphax Gardens	1,928	$889	1,675	$7,682	1,486	$6,815	1,586	$7,273	2,726	$1,250	598	$2,742	1,267	$5,810	1,962	$90	2,033	$93	2,017	$9,250	3,052	$13,996	3,036	$13,923	23,366	$69,815
Villager	123	$57	159	$729	261	$1,197	120	$550	224	$103	151	$692	129	$592	389	$18	376	$17	352	$1,614	389	$1,784	287	$1,316	2,960	$8,670
Woodland Terrace	3,174	$1,464	3,550	$16,280	3,905	$17,908	3,192	$14,639	4,473	$2,051	2,306	$10,575	2,638	$12,098	3,074	$141	3,209	$147	3,520	$16,143	3,285	$15,065	3,510	$16,097	39,836	$122,609
ECIP TOTAL	63,526	$40,362	62,537	$289,582	55,004	$246,498	50,621	$212,442	67,168	$27,902	56,521	$248,344	49,921	$220,721	63,118	$2,802	60,124	$2,699	63,334	$287,287	75,848	$344,126	72,874	$331,502	740,596	$2,254,269
Arthur Capper Senior	5,005	$2,309	5,294	$23,917	5,601	$25,300	5,466	$24,680	7,081	$3,197	4,726	$21,338	3,273	$14,649	7,419	$330	6,473	$288	5,620	$24,913	5,252	$23,137	5,836	$25,904	67,046	$189,962
Barry Farms	9,234	$4,259	8,686	$39,834	8,662	$39,724	6,389	$29,300	9,165	$4,032	7,546	$34,606	6,651	$30,501	8,275	$384	8,937	$410	8,051	$36,922	11,103	$46,169	8,699	$39,894	101,398	$306,036
Capitol View	5,407	$2,494	4,040	$18,527	4,661	$0	4,195	$0	5,282	$0	3,154	$0	3,154	$0	5,200	$0	4,741	$0	3,806	$17,454	4,201	$19,266	3,938	$18,060	51,779	$75,802
Carrolsburg	6,317	$2,914	6,385	$29,282	6,149	$8,386	4,501	$7,420	5,962	$735	3,028	$6,714	5,514	$5,911	4,476	$71	5,723	$72	6,594	$29,622	6,014	$27,580	6,798	$31,176	67,461	$149,883
East Capitol	6,317	$2,914	6,326	$29,011	5,330	$24,443	8,404	$27,094	6,507	$2,956	9,709	$43,526	5,849	$26,741	6,049	$241	7,261	$331	7,398	$33,927	6,940	$32,101	6,795	$31,212	82,885	$254,497
Eastgate Gardens	121	$56	125	$573	6	$28	140	$642	137	$63	139	$637	137	$628	147	$7	170	$8	309	$1,417	225	$1,032	270	$1,238	1,926	$6,329
Edgewood Terrace	1,747	$806	2,573	$11,605	1,017	$4,497	2,107	$9,513	3,341	$1,513	2,605	$11,813	947	$4,171	0	$0	0	$0	2,791	$12,390	2,793	$12,400	0	$0	19,921	$68,709
Elvans Road	0	$0	0	$0	0	$0	0	$0	516	$237	565	$2,591	482	$2,210	276	$13	267	$12	250	$1,147	422	$1,935	396	$1,816	3,174	$9,961
Greenleaf Addition	283	$131	287	$1,316	306	$1,403	259	$1,188	573	$263	63	$289	129	$592	349	$16	408	$19	290	$1,330	509	$2,334	588	$2,697	4,044	$11,577
Greenleaf Extension	85	$39	89	$408	81	$371	74	$339	140	$64	15	$69	0	$0	29	$1	79	$4	79	$362	70	$321	51	$234	792	$2,213
Greenleaf Gardens	4,006	$1,848	3,674	$16,849	4,584	$15,963	3,414	$10,886	9,151	$3,030	973	$3,516	2,170	$6,584	3,706	$119	4,273	$141	3,927	$18,009	5,899	$27,053	6,342	$29,084	52,119	$133,083
Henson Ridge	46	$21	38	$174	19	$87	24	$110	31	$14	21	$96	24	$110	18	$1	26	$1	25	$115	28	$128	26	$119	326	$977
Homeownership	464	$214	318	$1,408	303	$1,440	165	$757	576	$128	235	$1,078	230	$1,055	239	$11	174	$8	139	$619	71	$326	148	$729	3,062	$7,772
Hopkins Apartment	1,444	$666	1,418	$6,503	1,578	$7,237	1,282	$5,879	2,019	$926	1,116	$5,118	1,139	$5,223	1,279	$59	1,246	$57	1,191	$5,462	1,548	$7,099	1,793	$8,223	17,053	$52,452
Leasing Units	6	$3	6	$28	6	$28	5	$23	9	$4	8	$37	7	$32	8	$0	7	$0	6	$28	13	$60	10	$46	91	$287
Lincoln Heights	4,872	$2,248	4,959	$22,738	5,313	$24,360	4,299	$19,710	4,806	$2,204	4,842	$22,200	4,999	$21,952	6,007	$275	5,593	$256	4,319	$19,801	6,877	$31,533	6,605	$30,783	63,491	$198,060
Montana Terrace	249	$115	318	$1,438	216	$987	205	$940	193	$89	185	$848	275	$899	238	$11	254	$11	229	$1,050	359	$1,696	363	$1,665	3,084	$9,749
Office	0	$0	140	$642	214	$981	174	$798	34	$16	91	$417	123	$564	179	$8	232	$11	358	$1,642	317	$1,454	196	$899	2,058	$7,432
Ontario	98	$45	104	$477	79	$362	94	$431	82	$38	78	$358	100	$459	86	$4	145	$7	64	$294	75	$344	79	$362	1,084	$3,180
Parkside Addition	411	$1,894	553	$2,536	470	$2,155	389	$1,784	445	$204	476	$2,183	359	$1,646	354	$16	394	$18	379	$1,738	383	$1,756	408	$1,871	5,021	$17,803
Potomac Gardens	3,715	$1,714	4,050	$18,573	4,837	$22,977	4,255	$19,513	15,701	$1,819	4,713	$21,614	4,438	$20,353	4,990	$229	4,896	$225	4,676	$21,444	3,860	$17,702	5,701	$26,145	65,832	$172,307
Project 60	799	$369	729	$3,343	557	$2,554	593	$2,720	657	$301	624	$2,862	868	$3,981	489	$22	531	$24	419	$1,922	703	$3,224	645	$3,007	7,614	$24,328
Rehabilitation	33	$15	31	$142	27	$124	59	$271	15	$7	60	$275	20	$92	32	$1	101	$5	35	$161	50	$229	34	$156	497	$1,477
Scattered Sites	605	$279	2,253	$10,295	549	$2,518	443	$2,032	418	$187	545	$2,499	337	$1,545	295	$13	285	$13	210	$963	404	$1,853	343	$1,573	6,687	$23,771
Stanton Dwellings	2,810	$1,296	1,876	$8,603	275	$1,261	301	$1,380	5,747	$1,597	8,012	$29,919	1,456	$5,544	476	$20	985	$41	650	$2,981	264	$1,211	195	$944	23,047	$54,799
Suesum Corda	0	$0	292	$2,380	274	$1,257	247	$1,133	310	$142	265	$1,215	265	$1,215	293	$13	283	$13	351	$1,610	293	$1,344	274	$1,257	3,147	$11,578
Wade Apartments	707	$326	671	$3,077	1,060	$4,861	684	$3,137	690	$316	1,143	$5,261	835	$3,412	743	$34	1,179	$54	987	$4,526	938	$4,302	943	$4,325	10,580	$33,632
T206 1936 Montana	5	$2	53	$243	50	$229	45	$206	56	$26	48	$220	48	$220	53	$2	52	$2	59	$271	66	$303	342	$1,568	877	$3,293
DCHA TOTAL	118,313	$67,340	117,825	$543,507	107,228	$440,031	98,834	$384,328	146,812	$52,009	111,506	$469,644	93,750	$381,012	114,823	$4,705	114,839	$4,731	116,546	$529,406	135,525	$612,017	130,692	$596,487	1,406,693	$4,085,217

Figure 9: FY02 Water

Water FY03	10/1/2002		11/1/2002		12/1/2002		1/1/2003		2/1/2003		3/1/2003		4/1/2003		5/1/2003		6/1/2003		7/1/2003		8/1/2003		9/1/2003		FY03	
Development	CCF	Cost	CCF	Cost	CCF	Cost	CCF	Cost	CCF	Cost	CCF	Cost	CCF	Cost	CCF	Cost	CCF	Cost	CCF	Cost	CCF	Cost	CCF	Cost	CCF	Cost
Benning Terrace	5,214	$24,663	4,929	$23,579	4,801	$22,976	4,745	$22,713	5,825	$27,799	4,192	$20,108	4,416	$21,163	5,141	$24,578	3,754	$18,045	4,290	$20,570	5,159	$24,663	5,200	$24,856	57,666	$275,712
Carroll Apartments	229	$1,139	165	$849	213	$1,075	304	$1,503	269	$1,338	277	$1,376	307	$1,517	176	$900	216	$1,089	270	$1,343	257	$1,282	178	$910	2,861	$14,321
Claridge Towers	4,079	$18,821	3,685	$17,218	2,521	$11,794	2,634	$12,301	2,380	$11,105	2,478	$11,575	1,861	$8,677	2,869	$13,366	2,972	$13,536	2,754	$12,490	3,221	$14,690	3,440	$15,721	34,894	$161,294
Colorado	138	$646	101	$479	137	$649	117	$555	123	$583	125	$592	121	$573	142	$672	130	$616	147	$696	114	$541	200	$946	1,595	$7,548
Columbia Road	200	$971	200	$982	200	$982	200	$982	192	$944	194	$954	186	$916	200	$982	200	$982	200	$982	200	$982	200	$982	2,372	$11,641
Fort Dupont	1,317	$6,346	824	$4,084	712	$3,556	1,565	$7,574	706	$3,528	610	$3,076	654	$3,283	773	$3,843	667	$3,344	831	$4,117	785	$3,900	890	$4,394	10,334	$51,044
Fort Lincoln	665	$3,092	679	$3,188	485	$2,290	667	$3,134	731	$3,422	701	$3,284	433	$2,040	481	$2,266	588	$2,671	1,068	$4,890	1,067	$4,885	893	$4,090	8,458	$39,250
Garfield Terrace Family	53	$256	66	$320	72	$348	50	$245	50	$244	50	$245	54	$265	55	$263	53	$255	46	$223	55	$261	58	$277	662	$3,202
Garfield Terrace Senior	1,375	$6,661	1,715	$8,330	1,866	$9,046	1,298	$6,370	1,298	$6,359	1,299	$6,375	1,411	$6,901	1,434	$6,851	1,389	$6,646	1,197	$5,792	1,421	$6,792	1,510	$7,201	17,213	$83,325
Greenleaf Senior	1,918	$8,993	1,408	$6,698	1,893	$8,984	1,845	$8,758	1,661	$7,896	1,703	$8,095	1,917	$9,104	1,454	$6,914	1,655	$7,869	1,822	$8,646	2,112	$10,010	1,901	$9,020	21,289	$100,986
Harvard Towers	2,105	$9,745	1,425	$6,714	1,925	$9,038	1,995	$9,383	2,009	$9,417	1,246	$5,892	1,730	$8,146	1,810	$8,485	1,595	$7,276	1,755	$8,018	1,725	$7,888	1,983	$9,055	21,303	$99,058
Highland Dwelling & Addition	7,585	$32,077	5,918	$28,096	5,252	$24,960	6,619	$31,398	5,651	$26,839	6,566	$31,149	5,191	$24,672	7,013	$33,254	5,895	$27,988	6,613	$31,370	7,215	$34,205	7,598	$36,009	77,116	$362,018
Horizon House	1,587	$7,143	872	$3,926	854	$3,875	866	$3,906	876	$3,953	920	$4,169	868	$3,932	1,061	$4,782	2,013	$8,951	1,925	$8,517	1,859	$8,207	1,677	$7,349	15,378	$68,710
James Apartments	1,513	$7,109	1,068	$5,102	1,387	$6,604	1,211	$5,775	1,082	$5,168	927	$4,438	945	$4,522	1,317	$6,275	1,196	$5,705	1,171	$5,587	1,237	$5,898	1,403	$6,680	14,457	$68,862
James Creek	6,334	$29,956	4,880	$23,457	6,153	$29,471	4,752	$22,872	3,503	$16,977	4,300	$20,728	4,967	$23,882	3,774	$18,263	3,800	$18,384	4,383	$21,130	3,855	$18,641	5,952	$28,513	56,653	$272,275
Judiciary House	1,995	$9,201	1,540	$7,216	1,800	$8,421	1,585	$7,421	1,205	$5,632	1,270	$5,944	1,170	$5,479	1,660	$7,743	1,620	$7,319	1,790	$8,105	2,220	$10,145	2,395	$10,940	20,250	$93,566
Kelly Miller	1,851	$8,695	1,714	$8,148	1,857	$8,822	1,824	$8,666	1,596	$7,592	1,537	$7,314	1,716	$8,157	1,997	$9,481	1,563	$7,437	2,311	$10,960	1,880	$8,930	1,704	$8,101	21,550	$102,303
Kenilworth Courts	4,990	$23,388	5,520	$26,171	4,115	$19,553	4,579	$21,739	5,129	$24,329	4,686	$22,243	4,893	$23,218	4,637	$22,012	4,650	$22,073	6,169	$29,228	6,272	$29,713	5,539	$26,260	61,179	$289,926
Kentucky Courts	749	$3,569	716	$3,448	651	$3,142	649	$3,132	636	$3,071	632	$3,052	424	$2,072	696	$3,354	724	$3,485	593	$2,868	645	$3,113	449	$2,190	7,564	$36,497
Knox Hill	633	$2,866	1,574	$7,359	1,663	$7,758	619	$2,881	523	$2,372	1,506	$7,052	878	$4,088	998	$4,623	74	$389	0	$40	1,111	$4,978	0	$40	9,579	$44,446
Langston Terrace	6,583	$30,916	6,091	$28,946	5,079	$24,180	5,584	$26,558	5,404	$25,710	4,514	$21,519	5,297	$25,207	4,737	$22,569	4,642	$22,121	5,348	$25,447	5,566	$26,474	6,643	$31,546	65,488	$311,193
Le Droit Apartments	1,181	$5,573	1,113	$5,321	946	$4,535	959	$4,596	884	$4,243	800	$3,847	677	$3,268	874	$4,196	883	$4,238	896	$4,299	929	$4,455	830	$3,988	10,972	$52,557
Lincoln Road	56	$263	36	$172	49	$233	48	$228	13	$64	75	$356	35	$167	47	$224	10	$49	99	$469	14	$68	47	$224	529	$2,517
Park Morton	3,250	$15,182	2,675	$12,646	2,866	$13,546	3,223	$15,227	2,829	$13,372	2,772	$13,103	2,402	$11,360	3,136	$14,818	3,140	$14,836	3,318	$15,675	3,327	$15,717	2,705	$12,788	35,643	$168,271
Regency House	954	$4,423	844	$3,941	696	$3,281	776	$3,642	872	$4,094	834	$3,920	698	$3,285	1,207	$5,645	907	$4,036	977	$4,353	956	$4,266	992	$4,412	10,713	$49,297
Richardson Dwellings	3,724	$17,404	3,653	$17,283	2,945	$13,949	3,361	$15,908	3,453	$16,341	2,723	$12,903	3,000	$14,208	2,491	$11,810	2,623	$12,432	3,088	$14,622	3,241	$15,343	3,367	$15,936	37,669	$178,140
Sibley Plaza	4,037	$18,800	3,599	$16,980	2,745	$12,981	2,435	$11,511	2,432	$11,496	2,327	$11,005	2,093	$9,906	2,772	$13,081	2,839	$13,271	2,995	$13,998	3,218	$15,056	3,632	$16,990	35,124	$165,074
Stoddert Terrace	2,311	$10,893	2,272	$10,824	2,173	$10,358	2,427	$11,554	3,024	$14,366	4,559	$21,596	3,272	$15,534	3,936	$18,662	3,527	$16,735	3,979	$18,864	2,984	$14,178	3,156	$14,988	37,620	$178,555
Syphax Gardens	3,050	$14,319	2,168	$10,315	2,280	$10,843	2,296	$10,918	1,559	$7,447	1,583	$7,560	2,209	$10,509	1,570	$7,499	1,745	$8,323	2,108	$10,033	2,953	$14,013	1,797	$8,568	25,318	$120,347
Villager	137	$642	149	$704	252	$1,189	129	$610	247	$1,166	129	$610	129	$610	389	$1,835	376	$1,773	352	$1,660	377	$1,778	297	$1,401	2,963	$13,978
Woodland Terrace	4,019	$18,797	2,985	$14,150	3,174	$15,041	3,776	$17,876	4,095	$19,378	2,981	$14,132	3,439	$16,355	3,733	$17,627	2,752	$13,057	2,635	$12,505	3,225	$15,284	3,210	$15,214	40,024	$189,415
ECIP TOTAL	73,832	$342,547	64,584	$306,648	61,762	$293,478	63,138	$299,938	60,257	$286,247	58,516	$278,211	57,393	$273,017	62,580	$296,872	58,198	$274,932	65,130	$307,496	69,200	$326,353	69,846	$329,590	764,436	$3,615,320
Arthur Capper Senior	7,017	$32,514	5,099	$23,864	5,238	$24,519	5,222	$24,443	4,981	$23,272	5,803	$27,180	3,778	$17,642	4,253	$19,334	4,759	$22,026	5,691	$26,107	7,490	$34,411	4,493	$20,549	63,824	$295,861
Barry Farms	10,481	$48,948	7,773	$36,740	9,157	$43,259	8,051	$38,050	7,522	$35,558	7,203	$34,056	5,465	$25,870	7,644	$36,133	6,673	$31,559	9,018	$42,657	9,389	$44,354	9,028	$42,653	97,404	$459,835
Capitol View	3,481	$16,433	3,263	$15,555	3,738	$17,792	3,574	$17,020	3,481	$16,582	3,154	$15,042	3,388	$16,144	4,894	$23,237	5,659	$26,840	3,806	$18,113	4,070	$19,356	4,069	$19,351	46,577	$221,466
Carrolsburg	6,909	$32,735	4,104	$19,847	5,858	$28,109	4,482	$21,628	5,180	$24,915	4,582	$22,099	4,718	$22,739	3,606	$17,502	3,921	$18,945	5,869	$28,160	5,062	$24,359	5,237	$25,184	59,528	$286,223
East Capitol	7,288	$34,281	6,253	$30,191	5,287	$25,593	5,636	$27,258	6,249	$29,861	3,479	$16,637	3,022	$14,532	1,526	$7,473	1,474	$7,173	1,177	$5,775	1,098	$5,364	2,526	$12,049	45,015	$216,187
Eastgate Gardens	189	$927	5	$68	29	$177	5	$64	6	$68	7	$75	7	$73	14	$108	8	$78	8	$78	18	$125	5	$64	301	$1,904
Edgewood Terrace	0	$71	0	$71	0	$71	0	$71	0	$71	0	$71	0	$71	0	-$500	0	$0	0	$0	0	$0	0	$0	0	$0
Elvans Road	422	$2,010	396	$1,905	383	$1,844	383	$1,844	285	$1,382	482	$2,310	482	$2,310	276	$1,340	267	$1,298	250	$1,218	409	$1,966	409	$1,966	4,444	$21,394
Greenleaf Addition	365	$1,709	193	$917	309	$1,463	223	$1,058	218	$1,034	253	$1,199	404	$1,910	385	$1,821	436	$2,061	226	$1,072	411	$1,943	446	$2,108	3,869	$18,295
Greenleaf Extension	110	$516	38	$183	113	$536	279	$1,318	76	$362	37	$178	56	$267	35	$168	38	$183	100	$475	102	$484	116	$550	1,100	$5,219
Greenleaf Gardens	6,639	$31,129	3,686	$17,534	4,790	$22,732	4,593	$21,804	3,819	$18,154	3,802	$18,072	4,229	$20,083	3,835	$18,236	3,727	$17,720	4,923	$23,362	6,000	$28,437	4,919	$23,341	54,962	$260,604
Henson Ridge	23	$114	33	$162	42	$205	24	$120	25	$125	77	$369	29	$143	29	$143	29	$143	36	$176	64	$308	111	$530	522	$2,538
Homeownership	48	$245	84	$417	35	$187	15	$87	50	$250	14	$80	28	$144	196	$933	18	-$1,760	20	$101	14	$73	17	$87	539	$844
Hopkins Apartment	2,033	$9,534	818	$3,906	1,642	$7,787	1,818	$8,616	1,714	$8,126	1,619	$7,679	1,638	$7,768	1,825	$8,649	1,298	$6,167	1,383	$6,567	1,682	$7,975	1,835	$8,696	19,305	$91,470
Leasing Units	6	$30	2	$12	0	$2	0	$2	0	$2	0	$2	1	$7	1	$7	12	$59	0	$2	10	$49	7	$35	39	$212
Lincoln Heights	7,173	$34,272	5,800	$28,187	6,732	$32,557	5,341	$26,023	5,466	$26,611	4,608	$22,567	4,737	$23,178	5,106	$24,969	4,367	$21,499	5,873	$28,536	6,327	$30,675	6,685	$32,318	68,215	$331,393
Montana Terrace	428	$2,052	355	$1,728	454	$2,192	447	$2,159	307	$1,500	265	$1,302	855	$4,081	614	$2,946	260	$1,279	1,038	$4,943	735	$3,512	806	$3,844	6,544	$31,538
Office	179	$873	135	$676	112	$568	157	$780	145	$723	166	$822	115	$582	243	$1,185	163	$808	236	$1,152	246	$1,199	225	$1,100	2,122	$10,465
Ontario	87	$408	72	$343	113	$536	87	$413	99	$470	36	$173	63	$300	78	$371	73	$347	88	$418	92	$437	92	$437	980	$4,654
Parkside Addition	483	$2,262	538	$2,549	354	$1,683	463	$2,196	489	$2,319	512	$2,427	597	$2,827	389	$1,848	523	$2,479	502	$2,380	433	$2,055	331	$1,574	5,614	$26,598
Potomac Gardens	5,336	$25,080	3,774	$17,971	3,886	$18,499	5,140	$24,405	4,019	$19,125	4,446	$21,136	5,592	$26,534	3,349	$15,969	4,014	$19,101	5,017	$23,826	4,156	$19,770	6,634	$31,442	55,363	$262,858
Project 60	766	$3,632	582	$2,810	1,156	$5,461	901	$4,313	709	$3,404	787	$3,770	324	$1,590	814	$3,892	529	$2,553	523	$2,628	519	$2,510	513	$2,482	8,123	$39,047
Rehabilitation	62	$293	27	$132	50	$238	18	$87	14	$68	42	$200	48	$228	42	$200	7	$35	48	$228	23	$110	29	$139	410	$1,957
Scattered Sites	314	$1,511	232	$1,142	254	$1,238	372	$1,802	256	$1,251	224	$1,095	587	$2,802	-81	-$292	204	$998	369	$1,775	348	$1,676	573	$2,736	3,652	$17,733
Stanton Dwellings	169	$927	44	$347	351	$894	0	$132	123	$705	16	$200	10	$163	-56	-$190	77	$408	0	$35	0	$36	139	$671	873	$4,328
Sursum Corda	292	$1,403	274	$1,331	265	$1,288	265	$1,288	292	$1,415	265	$1,288	265	$1,288	293	$1,420	0	$40	436	$2,094	284	$1,378	283	$1,373	3,214	$15,606
Wade Apartments	1,023	$4,844	913	$4,385	749	$3,601	900	$4,322	676	$3,265	573	$2,777	765	$3,682	603	$2,919	536	$2,603	874	$4,247	796	$3,830	757	$3,624	9,165	$44,098
T206 1936 Montana	53	$250	50	$238	48	$228	48	$228	53	$252	48	$228	48	$228	53	$252	52	$247	59	$280	64	$304	353	$1,665	929	$4,402
DCHA TOTAL	135,208	$631,552	109,127	$519,859	112,907	$536,734	111,582	$531,467	106,511	$507,118	101,016	$481,246	96,644	$470,205	102,546	$486,944	97,322	$459,822	112,700	$533,900	119,042	$563,050	120,484	$570,157	1,327,089	$6,292,854

Figure 10: FY03 Water

Water FY04	10/1/2003		11/1/2003		12/1/2003		1/1/2004		2/1/2004		3/1/2004		4/1/2004		5/1/2004		6/1/2004		7/1/2004		8/1/2004		9/1/2004		FY04	
Development	CCF	Cost	CCF	Cost	CCF	Cost	CCF	Cost	CCF	Cost	CCF	Cost	CCF	Cost	CCF	Cost	CCF	Cost	CCF	Cost	CCF	Cost	CCF	Cost	CCF	Cost
Benning Terrace	5,666	$27,351	4,897	$23,967	5,702	$27,847	3,947	$19,388	5,242	$25,630	8,405	$40,876	5,576	$27,240	1,669	$8,410	3,188	$15,732	3,875	$19,040	5,764	$28,149	4,726	$23,145	58,657	$286,774
Carroll Apartments	145	$761	219	$1,127	276	$1,402	196	$1,016	173	$905	250	$1,276	217	$1,118	125	$674	148	$785	178	$930	233	$1,195	219	$1,127	2,379	$12,317
Claridge Towers	2,807	$13,034	4,104	$19,626	3,451	$16,512	5,061	$24,197	2,784	$13,360	3,990	$19,087	2,675	$12,731	3,447	$16,564	3,021	$14,125	4,226	$19,834	3,771	$17,740	0	$139	39,337	$186,949
Colorado	0	$4	219	$1,054	148	$717	183	$886	149	$722	155	$751	183	$886	151	$731	158	$765	183	$886	216	$1,045	216	$1,045	1,961	$9,490
Columbia Road	200	$992	200	$1,004	200	$1,004	200	$1,004	200	$1,004	200	$1,004	200	$1,004	200	$1,004	200	$1,004	200	$1,004	200	$1,004	200	$1,004	2,400	$12,036
Fort Dupont	830	$4,163	919	$4,632	872	$4,406	868	$4,386	740	$3,769	788	$4,001	1,442	$7,153	433	$2,290	931	$4,691	642	$3,298	1,370	$6,807	1,217	$6,069	11,052	$55,665
Fort Lincoln	760	$3,619	613	$2,952	601	$2,882	2,868	$13,806	813	$3,925	1,022	$4,914	1,138	$5,469	925	$4,362	671	$3,194	1,689	$7,965	1,374	$6,496	1,438	$6,811	13,912	$66,386
Garfield Terrace Family	46	$229	75	$373	30	$152	86	$421	38	$193	59	$291	62	$307	0	$7	113	$548	66	$322	88	$424	72	$352	734	$3,620
Garfield Terrace Senior	1,196	$5,946	1,961	$9,710	769	$3,955	2,225	$10,958	984	$5,023	1,522	$7,574	1,611	$7,993	0	$179	2,949	$14,270	1,704	$8,390	2,288	$11,027	1,884	$9,169	19,094	$94,194
Greenleaf Senior	1,579	$7,588	1,974	$9,584	2,070	$10,049	2,298	$11,155	1,462	$7,121	451	$2,198	4,543	$22,026	1,594	$7,753	1,637	$7,956	1,696	$8,240	2,296	$11,134	1,942	$9,429	23,543	$114,233
Harvard Towers	1,197	$5,579	1,995	$9,571	1,940	$9,322	2,683	$12,861	1,997	$9,646	1,670	$8,043	1,715	$8,185	1,655	$7,998	1,775	$8,335	2,590	$12,291	2,350	$11,107	2,870	$13,551	24,437	$116,400
Highland Dwelling & Addition	5,872	$28,170	7,251	$35,173	5,787	$28,112	7,194	$34,898	4,752	$23,127	7,005	$33,987	6,850	$33,240	4,935	$24,009	5,860	$28,468	9,984	$48,342	6,879	$33,379	6,059	$29,427	78,428	$380,332
Horizon House	948	$4,130	1,235	$5,729	917	$4,230	1,407	$6,517	892	$4,172	1,330	$6,197	976	$4,474	0	$0	3,634	$16,575	4,119	$19,251	2,437	$11,183	1,503	$6,701	19,398	$89,160
James Apartments	1,101	$5,305	1,306	$6,366	981	$4,800	1,406	$6,848	1,082	$5,287	623	$3,074	960	$4,699	1,156	$5,643	1,255	$6,121	988	$4,834	1,585	$7,711	1,359	$6,622	13,802	$67,309
James Creek	5,506	$26,783	4,690	$23,084	4,573	$22,521	5,003	$24,608	3,897	$19,265	3,919	$19,371	4,142	$20,446	3,269	$16,238	3,727	$18,446	4,045	$19,978	4,806	$23,716	3,908	$19,318	51,485	$253,775
Judiciary House	1,690	$7,838	2,605	$12,474	2,260	$10,837	3,090	$14,781	1,940	$9,341	1,755	$8,385	1,495	$7,119	2,180	$10,505	1,875	$8,745	2,590	$12,117	2,490	$11,710	2,995	$14,069	26,965	$127,921
Kelly Miller	1,962	$9,420	2,308	$11,200	2,291	$11,114	2,888	$13,995	2,484	$12,048	2,651	$12,853	2,685	$13,017	2,027	$9,845	2,044	$9,927	1,887	$9,170	2,630	$12,752	3,016	$14,612	28,873	$139,953
Kenilworth Courts	6,376	$30,565	5,867	$28,451	5,083	$24,668	6,440	$31,212	4,532	$22,016	4,845	$23,521	5,406	$26,225	4,434	$21,544	4,341	$21,095	4,330	$21,042	5,767	$27,969	5,175	$25,115	62,596	$303,422
Kennedy Courts	669	$3,272	655	$3,232	650	$3,208	712	$3,507	73	$427	77	$447	93	$524	79	$456	111	$610	4,699	$22,725	951	$4,660	881	$4,322	9,650	$47,391
Knox Hill	633	$2,949	1,574	$7,532	1,516	$7,236	957	$4,535	375	$1,751	1,757	$8,412	1,216	$5,777	0	$40	3,350	$15,759	2,054	$9,711	2,131	$10,058	2,071	$9,777	17,634	$83,537
Langston Terrace	5,291	$25,499	6,447	$31,287	4,858	$23,624	5,477	$26,657	6,918	$33,602	4,401	$21,470	5,136	$25,013	4,645	$22,647	4,920	$23,973	5,149	$25,077	7,534	$36,573	6,630	$32,216	67,406	$327,638
Le Droit Apartments	715	$3,482	1,131	$5,530	1,212	$5,921	1,189	$5,810	731	$3,602	1,026	$5,024	874	$4,292	1,167	$5,704	1,121	$5,482	1,056	$5,169	2,104	$10,221	1,609	$7,835	13,935	$68,072
Lincoln Road	114	$546	0	$2	19	$94	9	$46	14	$70	22	$108	67	$325	23	$113	7	$36	8	$41	6	$31	10	$51	299	$1,464
Park Morton	3,052	$14,601	2,859	$13,813	2,570	$12,434	2,487	$12,034	1,787	$8,660	1,852	$8,970	2,285	$11,061	2,115	$10,241	1,976	$9,785	2,297	$11,119	2,894	$13,996	3,298	$15,943	29,472	$142,659
Regency House	629	$2,852	858	$4,091	753	$3,606	1,251	$5,959	712	$3,447	934	$4,463	641	$3,040	960	$4,648	1,075	$4,961	824	$3,776	1,264	$5,723	932	$4,247	10,833	$50,814
Richardson Dwellings	3,110	$14,919	2,901	$14,061	2,806	$13,600	3,193	$15,468	2,423	$11,757	2,329	$11,304	4,187	$20,259	2,726	$13,217	2,656	$12,880	3,188	$15,444	3,377	$16,355	3,563	$17,251	36,459	$176,514
Sibley Plaza	2,325	$11,013	3,402	$16,419	2,681	$12,957	3,563	$17,179	1,936	$9,392	2,830	$13,666	2,137	$10,319	1,424	$6,955	4,074	$19,445	3,190	$15,287	3,561	$17,052	3,276	$15,686	34,399	$165,370
Stoddert Terrace	2,611	$12,585	2,907	$14,132	3,097	$15,046	3,953	$19,177	2,911	$14,154	3,019	$14,675	3,202	$15,557	2,653	$12,911	2,829	$13,760	2,552	$12,424	3,238	$15,731	3,259	$15,832	36,231	$175,984
Syphax Gardens	2,385	$11,487	2,774	$13,464	2,443	$11,879	2,194	$10,679	1,575	$7,696	1,775	$8,660	1,945	$9,479	1,689	$8,245	1,962	$9,561	1,663	$8,120	2,322	$11,296	4,984	$24,091	27,711	$134,657
Villager	137	$657	139	$672	269	$1,299	151	$730	216	$1,043	125	$605	160	$774	316	$1,525	364	$1,757	243	$1,174	499	$2,408	297	$1,434	2,916	$14,078
Woodland Terrace	3,449	$16,569	3,282	$15,914	4,208	$20,374	5,080	$24,580	3,886	$18,825	3,886	$18,825	3,472	$16,790	3,035	$14,723	2,798	$13,581	3,286	$15,933	4,909	$23,756	3,896	$18,873	45,187	$218,734
ECIP TOTAL	63,001	$301,897	71,367	$346,229	65,033	$315,808	78,259	$379,301	57,718	$280,983	64,673	$314,031	67,291	$326,531	49,032	$239,184	64,770	$312,372	75,201	$362,842	81,334	$392,406	73,505	$355,266	811,185	$3,926,849
Arthur Capper Senior	7,321	$34,722	2,435	$11,646	6,564	$31,386	6,616	$31,666	2,516	$11,972	5,963	$28,586	4,702	$22,408	2,182	$10,461	4,296	$19,894	4,797	$22,539	5,745	$27,079	6,088	$28,531	59,225	$280,889
Barry Farms	8,486	$40,638	7,564	$36,588	8,854	$42,791	9,330	$45,098	6,658	$32,217	6,714	$32,491	6,977	$33,751	5,612	$27,179	5,478	$26,533	7,468	$36,121	10,035	$48,498	8,087	$39,109	91,263	$441,015
Capitol View	3,481	$16,821	3,046	$14,868	3,372	$16,439	3,699	$18,016	3,046	$14,868	3,045	$14,863	3,973	$19,336	5,271	$25,593	4,588	$22,301	2,625	$12,839	5,383	$26,132	4,069	$19,799	45,598	$221,875
Carrolsburg	5,265	$25,612	4,629	$22,829	5,260	$25,821	1,925	$9,725	1,988	$10,028	2,460	$12,303	1,678	$8,534	964	$5,021	3,130	$15,462	1,677	$8,419	2,104	$10,365	1,190	$5,960	32,270	$160,078
East Capitol	1,018	$4,981	941	$4,592	116	$656	58	$354	15	$243	272	$1,364	779	$3,844	9	$45	25	$125	4	$21	4	$21	1,163	$5,608	4,404	$21,854
Eastgate Gardens	5	$64	6	$69	6	$69	5	$64	5	$64	4	$59	6	$69	0	$40	0	$40	96	$503	22	$147	7	$74	162	$1,262
Edgewood Terrace	0	$0	0	$0	0	$0	0	$0	0	$0	0	$0	0	$0	0	$0	0	$0	0	$0	0	$0	0	$0	0	$0
Elvans Road	422	$2,057	370	$1,823	409	$2,011	449	$2,204	249	$1,240	465	$2,281	598	$2,922	224	$1,120	0	$40	449	$2,205	387	$1,906	280	$1,390	4,302	$21,200
Greenleaf Addition	505	$2,420	748	$3,613	425	$2,056	242	$1,174	205	$996	246	$1,193	396	$1,916	347	$1,680	361	$1,748	356	$1,723	447	$2,162	369	$1,786	4,647	$22,467
Greenleaf Extension	113	$541	88	$428	86	$418	97	$471	59	$288	76	$370	99	$481	93	$452	108	$524	86	$418	92	$447	103	$500	1,100	$5,338
Greenleaf Gardens	3,754	$18,040	4,852	$23,557	4,423	$21,472	4,631	$22,480	3,237	$15,767	4,031	$19,642	3,946	$19,132	4,121	$20,035	4,230	$20,561	4,382	$21,294	5,934	$28,774	5,020	$24,366	52,560	$255,118
Henson Ridge	12	$62	107	$520	97	$474	49	$243	63	$310	121	$590	330	$2,849	531	$3,402	255	$1,572	483	$2,500	464	$2,343	449	$2,270	2,961	$17,136
Homeownership	0	$2	1	$7	0	$2	0	$3	0	$0	0	$0	0	$0	0	$0	0	$0	0	$0	0	$0	0	$0	1	$15
Hopkins Apartment	1,584	$7,621	1,669	$8,098	2,009	$9,737	2,313	$11,202	1,451	$7,047	1,496	$7,264	1,574	$7,640	495	$2,439	1,401	$6,806	1,593	$7,732	1,790	$8,681	1,487	$7,221	18,862	$91,487
Leasing Units	5	$26	3	$17	3	$17	4	$22	4	$22	6	$31	6	$31	4	$22	4	$22	6	$31	4	$22	3	$17	52	$279
Lincoln Heights	5,675	$27,977	5,671	$28,164	5,690	$28,295	6,444	$31,935	5,331	$26,569	6,805	$33,383	6,567	$32,602	5,828	$28,956	6,157	$30,557	6,520	$32,315	8,904	$43,796	7,285	$35,990	76,877	$380,538
Montana Terrace	1,478	$7,105	784	$3,827	977	$4,757	971	$4,728	1,416	$6,873	1,045	$5,085	1,201	$5,837	625	$3,060	2,819	$13,635	1,082	$5,263	984	$4,791	1,252	$6,083	14,634	$71,043
Office	179	$895	227	$1,134	155	$787	150	$763	131	$671	92	$483	229	$1,144	151	$768	184	$831	296	$1,467	246	$1,226	341	$1,684	2,361	$11,856
Ontario	55	$265	76	$370	90	$437	44	$216	85	$413	81	$394	102	$495	81	$394	81	$394	90	$437	107	$519	103	$500	995	$4,835
Parkside Addition	379	$1,824	943	$4,530	469	$2,276	515	$2,498	485	$2,353	479	$2,324	691	$3,346	567	$2,748	644	$3,119	583	$2,825	753	$3,645	775	$3,751	7,283	$35,240
Potomac Gardens	4,952	$23,816	5,017	$24,377	4,973	$24,165	4,652	$22,618	3,503	$17,080	5,398	$26,214	5,775	$28,031	2,824	$13,808	2,670	$13,066	5,039	$24,485	4,258	$20,721	8,018	$38,844	57,079	$277,227
Project 60	531	$2,602	511	$2,529	505	$2,496	603	$2,970	545	$2,691	527	$2,654	671	$3,361	430	$2,142	554	$2,739	503	$2,493	637	$3,191	640	$3,155	6,657	$33,023
Rehabilitation	15	$74	9	$45	20	$98	10	$50	10	$50	51	$248	75	$364	30	$147	0	$2	0	$2	0	$2	0	$2	220	$1,084
Scattered Sites	471	$2,286	395	$1,947	401	$1,970	575	$2,808	351	$1,729	445	$2,182	579	$2,828	322	$1,587	172	$866	376	$1,898	406	$1,994	415	$2,037	4,908	$24,130
Stanton Dwellings	0	$4	-57	-$236	0	$0	0	$0	0	$0	0	$0	0	$0	0	$0	0	$0	0	$0	0	$0	0	$0	-57	-$232
Sursum Corda	291	$1,431	256	$1,274	0	$0	0	$40	0	$0	1,087	$5,279	338	$1,669	238	$1,187	275	$1,366	242	$1,206	376	$1,852	283	$1,404	3,386	$16,709
Wade Apartments	538	$2,646	591	$2,906	497	$2,472	646	$3,189	762	$3,745	999	$4,888	613	$3,027	670	$3,300	777	$3,815	577	$2,851	640	$3,151	596	$2,937	7,906	$38,928
T206 1936 Montana	53	$256	47	$229	51	$248	56	$272	46	$224	46	$224	60	$292	43	$210	50	$243	41	$200	85	$412	353	$1,704	931	$4,514
DCHA TOTAL	109,589	$526,682	112,296	$545,979	110,485	$537,160	122,343	$594,110	89,879	$438,444	106,627	$518,427	109,256	$532,439	80,694	$394,979	103,009	$498,634	114,572	$554,631	131,141	$634,284	121,881	$589,987	1,311,772	$6,363,756

Figure 11: FY04 Water

3-YEAR ROLLING BASE CONSUMPTION

In preparation for the ECIP program, a thorough reconciliation of the DCHA utility consumption data was required beyond what was reported on the HUD Form 52722-A (01/24/01). Using the criteria for establishing an energy baseline as detailed in the *International Performance Measurement & Verification Protocol: Concept and Options for Determining Energy and Water Savings*, DCHA reconciled every individual utility account utilizing the M&V protocol procedures as detailed later in this documentation for FY02-FY03. This reconciliation accounted for missing utility bills, erroneous meter readings and other adjustments associated with a utility account audit. The results of this reconciliation are provided in Figure 12, and DCHA has verified this data set as accurate based on the receipt and reconciliation of all historical utility bills received.

From the reconciled consumption data, all potential ECM savings are estimated according to the protocols established as part of this program.

Property	Units	Electricity				Gas				Water			
		FY02	FY03	FY04	Average	FY02	FY03	FY04	Average	FY02	FY03	FY04	Average
Benning Terrace	274	2,143,206	2,035,858	2,233,394	**2,137,486**	201,594	259,515	239,111	**233,406**	57,322	57,666	58,657	**57,882**
Carroll Apts	60	574,200	545,850	561,600	**560,550**	37,018	36,290	32,728	**35,345**	3,033	2,861	2,379	**2,758**
Claridge Towers	343	1,947,600	1,876,048	1,907,550	**1,910,399**	147,846	162,533	145,145	**151,841**	38,450	34,894	39,337	**37,560**
Colorado Apts	21	270,030	295,810	289,660	**285,167**	0	0	0	**0**	1,775	1,595	1,961	**1,777**
Columbia Road	23	201,394	182,492	228,358	**204,081**	11,955	13,150	16,596	**13,900**	1,870	2,372	2,400	**2,214**
Ft. Dupont	104	958,000	1,249,347	814,583	**1,007,310**	37,861	58,963	54,176	**50,333**	9,901	10,334	11,052	**10,429**
Ft. Lincoln	120	857,400	873,900	834,300	**855,200**	51,654	58,988	55,363	**55,335**	8,711	8,458	13,912	**10,360**
Garfield Terrace Family	51	73,700	83,290	75,977	**77,656**	11,261	13,943	8,020	**11,075**	1,487	687	734	**969**
Garfield Terrace Senior	278	1,841,400	2,307,600	2,104,993	**2,084,664**	221,354	277,735	159,742	**219,610**	24,184	17,875	19,094	**20,384**
Greenleaf Senior	215	2,915,075	2,879,275	3,201,098	**2,998,483**	195,164	239,852	250,379	**228,465**	18,554	21,289	23,543	**21,129**
Harvard Towers	193	1,138,800	1,160,100	1,292,700	**1,197,200**	95,521	116,413	111,268	**107,734**	22,041	21,303	24,437	**22,594**
Highland Dwellings & Addition	454	3,052,589	2,932,220	3,059,748	**3,014,852**	184,560	325,014	320,922	**276,832**	66,553	77,116	78,428	**74,032**
Horizon House	105	1,150,830	1,151,776	1,151,520	**1,151,375**	63,198	72,747	74,401	**70,115**	13,106	15,378	19,398	**15,961**
James Apartments	141	1,393,220	1,372,050	1,488,510	**1,417,927**	61,358	66,390	78,259	**68,669**	13,411	14,457	13,802	**13,890**
James Creek	239	1,875,676	1,896,155	2,018,399	**1,930,077**	168,515	201,165	179,830	**183,170**	59,149	56,653	51,485	**55,762**
Judiciary House	271	1,642,950	1,582,650	1,606,950	**1,610,850**	106,094	137,061	132,237	**125,131**	20,416	20,250	26,965	**22,544**
Kelly Miller	169	1,063,800	951,698	898,918	**971,472**	185,225	168,659	168,209	**174,031**	23,353	21,550	28,873	**24,592**
Kenilworth Courts	290	3,032,145	2,954,040	3,206,352	**3,064,179**	225,142	243,339	214,630	**227,704**	60,295	61,179	62,596	**61,357**
Kentucky Courts	163	795,472	795,480	1,167,360	**919,437**	74,059	80,847	78,846	**77,917**	8,044	7,564	9,650	**8,419**
Knox Hill	122	1,108,290	1,142,420	1,179,670	**1,143,460**	18,502	26,137	23,434	**22,691**	8,323	11,508	17,634	**12,488**
Langston Terrace	308	280,420	299,820	325,130	**301,790**	238,542	265,492	251,422	**251,818**	64,553	65,488	67,406	**65,816**
Ledroit	124	925,200	908,580	883,980	**905,920**	106,283	100,949	94,941	**100,724**	13,490	10,972	13,935	**12,799**
Lincoln Road	20	179,672	173,983	206,590	**186,748**	12,534	14,125	14,033	**13,564**	238	529	299	**355**
Park Morton	174	1,135,408	1,077,777	1,240,760	**1,151,315**	144,994	158,548	162,400	**155,314**	28,768	35,643	29,472	**31,294**
Regency House	160	1,012,500	952,200	956,700	**973,800**	76,668	86,636	81,323	**81,542**	13,915	10,713	10,833	**11,820**
Richardson Dwell	190	1,462,023	1,511,804	1,725,224	**1,566,350**	215,475	274,259	254,908	**248,214**	36,410	38,502	36,459	**37,123**
Sibley Plaza	246	2,089,260	2,160,873	2,232,960	**2,161,031**	179,766	169,489	160,714	**169,989**	29,610	35,124	34,399	**33,044**
Stoddert Terrace	158	1,053,345	1,407,795	1,402,273	**1,287,804**	118,843	163,028	141,342	**141,071**	29,643	37,620	36,231	**34,498**
Syphax Gardens	174	1,279,325	1,279,860	1,396,140	**1,318,442**	131,466	154,357	141,862	**142,562**	23,366	25,318	27,711	**25,465**
Villager	20	141,960	196,920	173,660	**170,847**	15,584	20,835	21,012	**19,144**	2,970	2,963	2,916	**2,950**
Woodland Terrace	234	2,346,900	2,269,350	2,464,950	**2,360,400**	361,433	392,273	423,288	**392,331**	39,546	40,909	45,187	**41,881**
TOTALS	**5,444**	**39,941,790**	**40,507,021**	**42,330,007**	**40,926,273**	**3,699,468**	**4,358,733**	**4,090,537**	**4,049,579**	**742,484**	**768,769**	**811,185**	**774,146**

Figure 12: ECIP Property reconciled annual consumption data

ESCALATED RATE DOCUMENTATION

Utility rates for FY05 and projections for FY 06 are described below. Escalation factors beyond FY06 are provided as generic estimates in energy pricing rates for electricity and natural gas through the Department of Energy's Energy Information Administration's (EIA) *2005 Energy Outlook*.

ELECTRICITY - PEPCO

FY05 pricing is based on the Customer base ($2.81) = Distribution service charge minimum ($0.90) + Transmission service charge minimum ($0.11) + Generation service charge minimum ($1.80).

Usage ($0.09251 KWH) = Average of distribution kilowatt-hour charge (1.36 cents) + transmission kilowatt-hour charge (0.35 cents) + average of generation kilowatt-hour charge (6.651 cents), Taxes and other charges (0.890 cents per kilowatt-hour).

For year-to-date FY05, the average rate for electricity usage for DCHA is projected to be $0.082 per KWH. In FY06 the rate is projected to be $0.0925, an increase of 13%, a direct result of deregulation. This is reflected in the approved tariff structure effective FEB 2005 and the Energy Information Administration projection that prices will remain steady in 2006 for electricity. The FY05 price is already increased by 8% over FY04 for a combined increase of 21% since FY04 which was expected as a result of the change in rate structure announced in 2004 to take effect in FEB 2005.

The EIA outlook suggests average U.S. electricity prices, in real 2003 dollars, are expected to decline by 11 percent, from 7.4 cents per kilowatt hour in 2003 to 6.6 cents in 2011, then rise to 7.3 cents per kilowatt-hour in 2025. This suggests a 1.4% annual decrease through 2011 and a 0.7% annual rate increase from 2011 to 2025. Given the fact that the generation assets serving DCHA are primarily coal and natural gas driven, rate decreases are not expected between 2003 and 2011. Rather for the ECIP program period (FY06-FY18) the escalation rate above FY06 rates is expected to average 1%.

NATURAL GAS - WASHINGTON GAS:

FY05 pricing is based on a Customer base ($7.85) = amount as set by WGL (DCHA has 2,680 accounts so averages approximately $21,000 per month in base charges or roughly 4.4¢ per Therm.

FY 05 YTD average Therm cost ($1.43) = Distribution ($0.3809) + PGC AVG YTD ($0.90) + Balancing cost ($0.0189) + other charges ($0.126) which include late fees, and other miscellaneous charges (taxes, hook up fees, fuel funds, etc.).

The DOE predicts a rise in FY06 heating season costs to 89¢ a therm. Adding the average spread of 23¢ between wholesale gas price predictions and the PGC or purchased gas cost, the projected average PGC gas costs will be $1.12 per therm a 22¢ per therm or 24% increase over FY05. This will bring the FY06 average therm cost to **$1.65** a 15% rise over FY05.

In 2005 Annual Energy Outlook, the DOE predicts the wellhead price of natural gas to decline 3.5% annually from 2003 to 2011 and increase at an annual rate of 2.5% from 2011 to 2018. Given the recent price hikes associated with natural gas, there is little confidence in these projections. At best the outlook is stability in pricing, and to be conservative, the escalation rate for natural gas is projected to be 1%.

WATER - WASA:

Finally, FY 05 water charges are calculated as follows:

- CCF (Hundred Cubic Feet) = 748 gallons
- Allowance formula is based on 1000 gallons = 1.3369 hundred cubic feet
- Water cost $1.83 CCF X 1.3369 = $2.4465 per 1000 gallons
- Sewer cost $2.76 CCF X 1.3369 = $3.6898 per 1000 gallons
- Right of Way cost $0.36 CCF X 1.3369 = $0.4813 per 1000 gallons
- DC Stormwater Fee 2%($1.83+$2.76) X 1.3369 = $0.1227 per 1000 gallons

Total per 1000 gallons = $6.74 ; the total per CCF is calculated as $5.05

The monthly meter fee is $6.05 (average over 1100 meters most are $2.71)

WASA is requesting a 6% increase in rates in FY06 therefore the new rate is expected to be:

- Water cost $1943 CCF X 1.3369 = $2.593 per 1000 gallons
- Sewer cost $2.76 CCF X 1.3369 = $3.911 per 1000 gallons
- Right of Way cost $0.36 CCF X 1.3369 = $0.4813 per 1000 gallons
- DC Stormwater Fee 2%($1.83+$2.76) X 1.3369 = $0.1227 per 1000 gallons

The FY06 total per 1000 gallons = $7.11 (a 5% increase) Note – there is an expected right of way cost increase projected as well however, the amount is not yet determined.

Water pricing is not projected to decrease during the ECIP project period, on the contrary, rates are expected to increase by a modest 1% annually.

In summary FY06 projected rates are as follows:

Table 16: FY06 Projected utility rates

	Base [$/account]	**Usage**	**Increase over FY05**	**Annual Escalation**
Electricity	$2.81	$0.093 / kWh	13%	1%
Gas	$7.85	$1.65/therm	15%	1%
Water	$6.05	$7.11 / CCF	5%	1%

ECIP SAVINGS ESTIMATION METHODOLOGY

The initial selection of ECMs is based upon professional engineer's recommendations, with the input from DCHA facility engineers and management. In order to predict a conservative level of consumption savings, a series of M&V Methods and Protocols developed under the auspices of the *M&V Guidelines: Measurement and Verification for Federal Energy Projects Version 2.2* and the *International Performance Measurement & Verification Protocol* were created to calculate the savings associated with each ECM For each protocol, any estimation of baseload and peak load consumption was taken from the property profile curves (Appendix A) and from the rolling base audited consumption data.

ECM SAVINGS ESTIMATE METHODS AND PROTOCOL

Each savings estimate method is unique to the ECM it represents. (The ECM savings method identifier can be located in ECM Factors column.) Only the savings associated with each ECM applicable to a property is calculated. If an ECM is not represented in the property, the savings associated with the M&V method returns a 0 consumption savings. The savings calculations for each property are represented in the interactive spreadsheet model under the *M&V Protocol* tab. Examples from the *Judiciary House* property spreadsheet model are used here to illustrate the savings estimate methods.

All of the methods list data requirements, stipulated data variables, data collection methods, metering methods *(if applicable)*, simulation methods *(if applicable)*, regression models, savings calculation equations, and estimated savings from the rolling base data set. *Note: Although Regression Analysis was attempted on the data set, it was found that multivariate regression analysis was not effective in providing good correlation of data against various variables. As a result, other methods were primarily used as described below.*

CHILLER SYSTEM – CH-D-01

The chiller systems savings estimates were all modeled using a calibrated computer simulation analysis. (Figure 13). The simulation software used was the Carrier Hourly Analysis Program (HAP). Since the HAP uses many variables, modeling efforts were extensive for eight of the DCHA properties. Model runs revealed a 20% gain in the chiller efficiency. Since the HAP model also calculated the expected kWh used for the old chiller, and that estimation correlated well with the total cooling load demonstrated by the individual property's electric profile (i.e. load above the baseload during the summer months), the reduction in kWh consumed as estimated in the HAP model were used as the consumption savings estimates.

BOILER SYSTEM – B-A-01

Similar to the chiller system, boiler systems were also modeled using an *annual fuel utilization efficiency* (AFUE) rating as the means of calculating efficiency improvements. (See Figure 14) The AFUE rating of the old system was estimated from the estimated space heating load of the old boiler with respect to the actual therms consumed.

Space heating loads were estimated by taking the total therms consumed and subtracting out a cooking load and domestic hot water (DHW) load. If the natural gas profile demonstrates a consistent summertime baseload, those therms (between JUN-AUG) were averaged and used as the monthly baseload for cooking and DHW. Multiplying by 12 provides a baseload for cooking and DHW for the year. Any remaining load was assumed to be the space heating load. If a summertime baseload is not consistent (as would be the case with a laundry facility or some other discrepancy in natural usage patterns, it was assumed that DHW consumed 15% of the load and cooking consumed 10% of the load. Once the estimated AFUE rating of the old boiler was established, a new boiler AFUE was estimated from manufacturer data. Generally the new AFUE was found to be 0.8. The consumption savings in therms were then calculated by taking the estimated space heating load and multiplying by the ratio of $AFUE_{Base}$ / $AFUE_{Post}$.

DCHA FY04 Energy Capital Improvement Program

M&V Plan - M&V Methods and Protocol

Judiciary House

Analysis Method **CH-D-01** **Calibrated Computer Simulation Analysis for a Chiller**

Data Requirements	Variable	Definition	Units
	kW_{Base}	Baseline chiller efficiency rating	kW/ton
	kW_{post}	Post retrofit chiller efficiency rating	kW/ton
	kWh_{Base}	Baseline kWh cooling usage	kWh
	kWh_{post}	Post retrofit kWh cooling usage	kWh
	CL_i	Cooling Load	tons
	t_i	Operating Hours/year at load CL	hrs
	CDD	Cooling-Degree Days	DD
	Q_{dmeand}	Demand charge rate - electric	$/kW
	$Q_{electric}$	Energy Charge rate - electric	$/kWh

Stipulated Values	Variable	Definition	Units	Source
	kW_{Base}	Baseline chiller efficiency rating	kW/ton	MFD
	kW_{post}	Post retrofit chiller efficiency rating	kW/ton	MFD
	CL_i	Cooling Load	tons	HAP
	t_i	Operating Hours/year at load CL	hrs	HAP
	Q_{dmeand}	Demand charge - electric	$/kW	Utility
	$Q_{electric}$	Energy Charge - electric	$/kWh	Utility

Data Collection Methods	Collection Protocol	Collection Schedule	Source			
$kW_{Building}$	Utility data	Monthly	Utility			
$kWh_{Building}$	Utility data	Monthly	Utility			
CL_i	Model run	Monthly	HAP			
t_i	Model run	Monthly	HAP			
CDD	Ind. Variable	Monthly	NWS			
Q_{dmeand}	Utility data	Monthly	Utility			
$Q_{electric}$	Utility data	Monthly	Utility			

Metering and Monitoring	Metering Protocols	Metering Equipment	Metering Points	Sampling	Metering Duration	Metering Interval
$Energy_{in}$						
CL_{out}						

Simulation Model	kW_{Base}	kW_{Base}	$kW_{Savings}$			
Cooling	1	0.8	20%			
Non-HVAC Electric						

Savings Calculations equations Following calculations and results are provided in two separate runs of the HAP model - with

Energy Savings $kWh_{Savings} = (kW_{Base} - kW_{Post})$ *? $(CL_i * t_i)$

Maximum Demand savings $kW_{Savings\text{-}max} = (kW_{Base} - kW_{Post})/CL_{max}$

Savings Calculations Estimates from Baseyear

Energy Savings- Electric	kW_{Base}	kW_{post}	kWh_{Base}	kWh_{post}	$kWh_{Savings}$	% kWh
	1	0.8	455,625	364,500	91,125	6%

Figure 13: M&V Method CH-D-01

Analysis Method **B-A-01** **Calibrated Computer Simulation Analysis for a Boiler**

Data Requirements	Variable	Definition	Units
	$AFUE_{Base}$	Baseline boiler AFUE rating	
	$AFUE_{post}$	Post retrofit boiler AFUE rating	
	$Therms_{Base}$	Baseline boiler fuel usage	Therms
	$Therms_{post}$	Post retrofit boiler fuel usage	Therms
	HDD	Heating-Degree Days	DD
	t_i	Billing Days	days
	Q_{gas}	Average periodic energy charge rate - gas	$/therm
	$Therms_{Cook\text{-}Base}$	Gas usage for Cooking application in baseyear	Therms
	$Therms_{DHW\text{-}Base}$	Gas usage for DHW application in baseyear	Therms

Stipulated Values	Variable	Definition	Units	Source
	$AFUE_{Base}$	Baseline boiler AFUE rating		Meter
	$AFUE_{post}$	Post retrofit boiler AFUE rating		MFD
	$Therms_{DHW\text{-}Base}$	Gas usage for DHW application in baseyear	Therms	Estimate
	$Therms_{Cook\text{-}Base}$	Gas usage for Cooking application in baseyear	Therms	Estimate

Data Collection Methods	Collection Protocol	Collection Schedule	Source			
$Therms_{Base}$	Utility data	Monthly	Utility			
$Therms_{post}$	Utility data	Monthly	Utility			
HDD	Ind. Variable	Monthly	NWS			
t_i	Utility data	Monthly	Utility			
Q_{gas}	Utility data	Monthly	Utility			
$Therms_{DHW\text{-}Base}$	Estimation	Point	Energy Star			
$Therms_{Cook\text{-}Base}$	Estimation	Point	Energy Star			
Metering and Monitoring	**Metering**	**Metering**	**Metering**	**Sampling**	**Metering**	**Metering**
$AFUE_{Base}$						
Simulation Model Output	$Therms_{Base}$	$Therms_{Post}$	$Therms_{Savings}$			
Heating			-			
Other			-			
Regression Model(s)	**Ind. Variable(s)**	**Coefficient**	**R^2**	**t**	**P**	**Season**
$Therms_{DHW + Cook\ Post}$	t_i					
$Therms_{post}$	HDD					
? $Therms_{Post}$	HDD					

Savings Calculations equations

Baseyear usage for heating

Since the gas usage will be normalized to baseyear condition, the only factor influencing the total

$Therms_{Heat\ Base} = Therms_{Base} - Therms_{DHW\text{-}Base} - Therms_{Cook\ Base}$

$Therms_{DHW\text{-}Base} = Therms_{Base} * 15\%$

$Therms_{Cook\text{-}Base} = Therms_{Base} * 10\%$

$Therms_{Heat\ Post} = Therms_{Heat\ Base} * (AFUE_{Base} / AFUE_{Post}) + C$

C = adjustment term in main Equation 1

Energy Savings

$Therms_{Savings} = Therms_{Heat\ Base} - Therms_{Heat\ Post} + C$

Savings Calculations Estimates from Baseyear

Energy Savings- Gas	$AFUE_{Base}$	$AFUE_{Post}$	$Therms_{Heat\ Base}$	$Therms_{Heat\ Post}$	$Therms_{Savings}$	% Therms
	0.56	0.80	92,127	65,036	27,091	20%

Figure 14: M&V Method B-A-01

DOMESTIC HOT WATER – HW-A-01

Similar to the boiler system method, the DHW systems savings were estimated based upon an improvement on the improvement in the AFUE rating of the DHW boiler. Annual DHW baseload consumption was estimated by taking the average summertime baseload, those therms between JUN-AUG as the monthly baseload for cooking and DHW. If gas ranges and stovetops are in the property (very rare) then c a 10% total therm cooking load was subtracted. The remainder was multiplied by 12 to provide a baseload for DHW for the year.

The old base boiler system was estimated to have a AFUE rating of 0.65 while a new system has a rating of 0.80. The savings calculation was estimated by multiplying the DHW therms consumed by the ratio $AFUE_{Base}$ / $AFUE_{Post}$. (See Figure 15.)

DOMESTIC HOT WATER – HW-A-02

If the DCHA candidate property selected a DHW Heat Pump Package as a potential ECM, then a second savings estimate was used to determine the savings associated with the heat pump unit. The summertime consumption of gas for DHW applications was reduced by 87%. This assumes that there would be sufficient cooling-degree-days during the summer to activate the chiller which in turn activates the DHW heat pump package. 87% was used as a conservative figure to allow for some natural gas consumption during the summer as a back up to the heat pump system. (See Figure 16)

Analysis Method **HW-A-01** **Hot Water Continuous-Post Installation Metering**

Data Requirements	Variable	Definition	Units
	$AFUE_{Base}$	Baseline DHW boiler AFUE rating	
	$AFUE_{post}$	Post retrofit DHW boiler AFUE rating	
	$Therms_{Base}$	Baseline gas usage	Therms
	$Therms_{post}$	Post retrofit gas usage	Therms
	$Therms_{DHW\text{-}Base}$	Baseline DHW boiler fuel usage	Therms
	$Therms_{DHW\text{-}Post}$	Post retrofit boiler fuel usage	Therms
	t_i	Billing Days	days
	Q_{gas}	Average periodic energy charge rate - gas	$/therm

Stipulated Values	Variable	Definition	Units	Source
	$AFUE_{Base}$	Baseline boiler AFUE rating		Meter
	$AFUE_{post}$	Post retrofit boiler AFUE rating		MFD
	$Therms_{DHW\text{-}Base}$	Baseline DHW boiler fuel usage	Therms	Estimation

Data Collection Methods	Collection Protocol	Collection Schedule	Source			
$Therms_{Base}$	Utility data	Monthly	Utility			
$Therms_{post}$	Utility data	Monthly	Utility			
t_i	Utility data	Monthly	Utility			
Q_{gas}	Utility data	Monthly	Utility			

Metering and Monitoring	Metering Protocols	Metering Equipment	Metering Points	Sampling	Metering Duration	Metering Interval
$AFUE_{Base}$						

Regression Model(s)	Ind. Variable(s)	Coefficient	R^2	t	P	Season
$Therms_{DHW + Cook\ Post}$	t_i					

Savings Calculations equations *Estimated usage of gas for DHW to be average of summer usage.*

$Therms_{DHW\text{-}Base}$

$Therms_{DHW\ Post} = Therms_{DHW\ Base} * (AFUE_{Base} / AFUE_{Post}) + C$

C = adjustment term in main Equation 1

Energy Savings $Therms_{Savings} = Therms_{DHW\ Base} - Therms_{DHW\ Post} + C$

Energy Savings- Gas	$AFUE_{Base}$	$AFUE_{Post}$	$Therms_{DHW\ Base}$	$Therms_{DHW\ Post}$	$Therms_{Savings}$	% Therms
	0.65	0.80	30,836	25,055	5,782	4%

Figure 15: M&V Method HW-A-01

Analysis Method **HW-A-02** **DHW Heat Pump Package Continuous-Post Installation Metering**

Data Requirements	Variable	Definition	Units
	$Therms_{DHW\ Base}$	Baseline DHW boiler fuel usage	Therms
	$Therms_{DHW\ Post}$	Post retrofit boiler fuel usage	Therms
	t_i	Billing Days	days
	Q_{gas}	Average periodic energy charge rate - gas	$/therm

Stipulated Values	Variable	Definition	Units	Source
	$Therms_{DHW\ Base\ Summer}$	Baseline DHW boiler fuel usage JUN-AUG	Therms	Meter
	$Therms_{DHW\ Post\ Summer}$	Post retrofit boiler fuel usage JUN -AUG	Therms	Meter
	$Therms^{i}_{Savings\ DHW}$	Therms savings calculated as part of HW-A-01	Therms	Calculation
	$AFUE_{Base}$	Baseline boiler AFUE rating		Meter
	$AFUE_{post}$	Post retrofit boiler AFUE rating		MFD

Data Collection Methods	Collection Protocol	Collection Schedule	Source			
$Therms_{Base}$	Utility data	Monthly	Utility			
$Therms_{post}$	Utility data	Monthly	Utility			
t_i	Utility data	Monthly	Utility			
Q_{gas}	Utility data	Monthly	Utility			
Metering and Monitoring	**Metering Protocols**	**Metering Equipment**	**Metering Points**	**Sampling**	**Metering Duration**	**Metering Interval**

Regression Model(s)	Ind. Variable(s)	Coefficient	R^2	t	P	Season

Savings Calculations equations *Estimated usage of gas for DHW to be average of summer usage.*

$Therms_{DHW\ Base\ Summer} = Therms_{DHW\ Therms\ Base} / 4$

$Therms_{DHW\ Post\ Summer} = Therms_{DHW\ Base\ Summer} * (AFUE_{Base} / AFUE_{Post}) + C$

C = adjustment term in main Equation 1

Energy Savings $Therms_{Savings} = Therms_{DHW\ Base\ Summer} - Therms_{DHW\ Post\ Summer} - (Therms^{i}_{Savings\ DHW} / 4) + C$

Energy Savings- Gas	$AFUE_{Base}$	$AFUE_{Post}$	$Therms_{DHW\ Base}$	$Therms_{DHW\ Post}$	$Therms_{Savings}$	% Therms
	0.65	5.20	7,709	964	5,300	4%

Figure 16: M&V Method HW-A-02

Analysis Method **E-C-02** **Whole Building Utility Bill Analysis for Electrical Systems**

Data Requirements	Variable	Definition	Units
	kWh_{Base}	Baseyear electrical usage	kWh
	kW_{post}	Post retrofit electrical usage	kWh
	t_i	Billing Days	
	N_i	Number of fixtures	
	$kWh_{Base\ Load}$	Baseyear electrical usage not for HVAC	kWh

Stipulated Values	Variable	Definition	Units	Source
	$kWh_{Base\ Load}$	Baseyear electrical usage not for HVAC	kWh	Estimated
	$kWh_{Base\ Lighting}$	Percent $kWh_{Base\ Load}$ used for lighting	%	EPA
	$kWh_{Appliances}$	Percent $kWh_{Base\ Load}$ used for refrigerators	%	EPA
	kWh_{Others}	Percent $kWh_{Base\ Load}$ used for other	%	EPA
	$N_{Incandescent}$	Rate of lighting available as incandescent	%	
	$kWh_{Reductions}$	kWh reduction rate for replacement light fixtures	%	MFD

Data Collection Methods	Collection Protocol	Collection Schedule	Source			
kWh_{Base}	Utility Data	Monthly	Utility			
kW_{post}	Utility Data	Monthly	Utility			
t_i	Utility Data	Monthly	Utility			
N_i	Ind. Variable	Monthly	DCHA			

Savings Calculations equations				
	Utility bill comparison on base kWh consumption using a 3-year monthly average graph to determine the average			
Usage breakdown	$kWh_{Base\ lighting}$ =	24%	$kWh_{Reductions}$ =	50%
	$kWh_{Appliances}$ =	20%	$N_{Incandescent}$ =	30%
	kWh_{Other} =	56%		
Baseload estimation	Estimation made on 3-year historical average of FEB-APR kWh monthly consumption.			
	$kWh_{Base\ Load}$ =	1,081,650		
Energy Savings	$kWh_{Savings} = kWh_{Baseload} - kWh_{Post\ Load}$			
Maximum Energy Savings - Lighting	$kWh_{Post\ Load} = kWh_{Baseload} * (1 - (kWh_{Base\ Lighting} * kWh_{reduction} * N_{Incandescent}))$			

Savings Calculations Estimates from Baseyear

Energy Savings- Electricity	kWh_{Base}	kWh_{post}	$kWh_{savings}$	% kWh
	1,081,650	1,042,711	38,939	2%

Figure 18: M&V Method E-C-02

ENERGY MANAGEMENT SYSTEM E-C-03

According to the EPA's December 2004 EnergyStar™ Building Upgrade Manual, the main savings associated with building controls result from reductions in charges for heating and cooling energy (and possibly demand). Because savings are heavily dependent on the existing condition of the controls, it is difficult to estimate the actual savings that will result from a tune-up. Savings will depend on many factors related to the building including heating and cooling system types; construction; geographical location; and internal heating, cooling, and electrical loads. Typical savings can range up to 30 percent of annual heating and cooling costs.

For DCHA, the savings associated with whole building automation controls will only affect the HVAC systems. So in order to calculate the savings, it is assumed that 15% of the energy use associated with heating and cooling for the target buildings in which automation controls will be installed will be affected.

The calculation of the savings is provided in Figure 19.

Analysis Method **E-C-03** **Whole Building Utility Bill Analysis for Energy Management Systems**

Data Requirements	Variable	Definition	Units	
	$kWh_{Base\ HVAC}$	Baseline kWh cooling usage	kWh	Estimated
	$kWh_{post\ HVAC}$	Post retrofit kWh cooling usage	kWh	Estimated
	$Therms_{Base\ HVAC}$	Baseline boiler fuel usage	Therms	Estimated
	$Therms_{post\ HVAC}$	Post retrofit boiler fuel usage	Therms	Estimated

Stipulated Values	Variable	Definition	Units	Source
	$kWh_{Base\ Load}$	Baseyear electrical usage	kWh	Data
	$\%kWh_{EMS}$	% $kWh_{Base\ HVAC}$ reduction for EMS	%	DOE
	$\%Therms_{EMS}$	% $Therms_{Base\ HVAC}$ reduction for EMS	%	DOE

Data Collection Methods	Collection Protocol	Collection Schedule	Source			
kWh_{Base}	Utility Data	Monthly	Utility			
kW_{post}	Utility Data	Monthly	Utility			
$Therms_{Base}$	Utility Data	Monthly	Utility			
$Therms_{post}$	Utility Data	Monthly	Utility			
t_i	Utility Data	Monthly	Utility			
N_i	Ind. Variable	Monthly	DCHA			

Savings Calculations equations *Utility bill comparison on base kWh consumption using a 3-year monthly average graph to determine the average*

Usage breakdown

$\%kWh_{EMS}$ = **15%**

$\%Therms_{EMS}$ = 15%

Baseload estimation

Estimation made on 3-year historical average of FEB-APR kWh monthly consumption.

$kWh_{Base\ HVAC}$ = 279,298

$Therms_{Base\ HVAC}$ = 120,177

Energy Savings

$kWh_{Savings} = kWh_{Base\ HVAC} - kWh_{Post\ HVAC}$

$Therms_{Savings} = Therms_{Base\ HVAC} - Therms_{Post\ HVAC}$

Savings Calculations Estimates from Baseyear

Energy Savings- Electricity	kWh_{Base}	kWh_{post}	$kWh_{savings}$	% kWh
	279,298	237,403	41,895	2%
Energy Savings- Gas	$Therms_{Base}$	$Therms_{Post}$	$Therms_{Savings}$	% Therms
	120,177	102,151	18,027	11%

Figure 19:M&V Method E-C-03

FAN COIL UNITS – E-C-04

Fan coil units are a critical part of the heat exchange system for most HVAC systems. Although these units are simple in design and some efficiency can be gained from motor fan improvements, the repair or tune-up of malfunctioning units provides more efficiency gains since it is the fan coil unit which makes the heat exchange system operate properly. Repairing and replacing these units not only save energy, they also dramatically improve the comfort level of the building or space occupants.

According to the EPA's December 2004 EnergyStar™ Building Upgrade Manual, The savings you will see from a tune-up of your heat exchange equipment are highly dependent upon the existing conditions of the equipment. In general, the more you can improve the heat transfer of surfaces, the more you will save. Additionally, cleaning coils and filters may reduce the pressure drop across the coil and reduce fan or pump energy consumption.

Savings will differ depending on many factors related to the building, including heating and cooling system types; construction; geographical location; and internal heating, cooling, and electrical loads. Typical heating and cooling system cost savings can range up to 10 percent.

For DCHA, the savings associated with whole building automation controls will only affect the HVAC systems. So in order to calculate the savings, it is assumed that 5% of the energy use associated with heating and cooling for the target buildings in which automation controls will be installed will be affected.

The calculation of the savings is provided in Figure 20.

Analysis Method **E-C-04** **Whole Building Utility Bill Analysis for Fan Coil Units**

Data Requirements	Variable	Definition	Units	
	$kWh_{Base\ HVAC}$	Baseline kWh cooling usage	kWh	Estimated
	$kWh_{post\ HVAC}$	Post retrofit kWh cooling usage	kWh	Estimated
	$Therms_{Base\ HVAC}$	Baseline boiler fuel usage	Therms	Estimated
	$Therms_{post\ HVAC}$	Post retrofit boiler fuel usage	Therms	Estimated

Stipulated Values	Variable	Definition	Units	Source
	$kWh_{Base\ Load}$	Baseyear electrical usage	kWh	Data
	$\%kWh_{EMS}$	% $kWh_{Base\ HVAC}$ reduction for EMS	%	DOE
	$\%Therms_{EMS}$	% $Therms_{Base\ HVAC}$ reduction for EMS	%	DOE

Data Collection Methods	Collection Protocol	Collection Schedule	Source			
kWh_{Base}	Utility Data	Monthly	Utility			
kW_{post}	Utility Data	Monthly	Utility			
$Therms_{Base}$	Utility Data	Monthly	Utility			
$Therms_{post}$	Utility Data	Monthly	Utility			
t_i	Utility Data	Monthly	Utility			
N_i	Ind. Variable	Monthly	DCHA			

Savings Calculations equations *Utility bill comparison on base kWh consumption using a 3-year monthly average graph to determine the average*

Usage breakdown

$\%kWh_{EMS}$ = 5%

$\%Therms_{EMS}$ = 5%

Baseload estimation

Estimation made on 3-year historical average of FEB-APR kWh monthly consumption.

$kWh_{Base\ HVAC}$ = 279,298

$Therms_{Base\ HVAC}$ = 120,177

Energy Savings

$kWh_{Savings} = kWh_{Base\ HVAC} - kWh_{Post\ HVAC}$

$Therms_{Savings} = Therms_{Base\ HVAC} - Therms_{Post\ HVAC}$

Savings Calculations Estimates from Baseyear

Energy Savings- Electricity	kWh_{Base}	kWh_{post}	$kWh_{savings}$	% kWh
	279,298	265,333	13,965	1%
Energy Savings- Gas	$Therms_{Base}$	$Therms_{Post}$	$Therms_{Savings}$	% Therms
	120,177	114,169	6,009	4%

Figure 20: M&V Analysis Method E-C-04

APPLIANCES AP-A-01

In order to calculate the savings from appliances, actual rated annual consumption figures for old and new appliances are used to base the savings on. If an appliance is replaced and it's original consumption rating is higher than an Energy Star® compliant replacement, then the savings is the differential between the two. Since it is not directly known what the consumption rating of each DCHA appliance, it is assumed that the average appliance was purchased and installed prior to FY90.

The Department of Energy Office of Energy Efficiency and Renewable Energy (EERE) reports on the energy efficiency standards of residential appliances prior to 1/1/93 and post 7/1/01. For a 20.6 cubic foot automatic defrost refrigerator freezer, DOE estimates annual consumption per refrigerator is (16.0 * 20.6 + 355) = 685kWh. For similar size refrigerators, the maximum annual consumption allowed to be manufactured is (9.8*20.6+276) = 478 kWh per refrigerator. An Energy Star® compliant refrigerator has a rating of 432 kWh. The DOE Buildings Energy Databook lists similar refrigerators put in service prior to 1990 as having an annual electricity consumption of 955 kWh. Unit savings are calculated by taking the difference between the pre-1990 unit and the Energy Star® compliant unit for a total of 523 kWh per unit.

Similarly consumption savings estimates were found for washers and dryers. Since DCHA does NOT own the laundry equipment, however does pay the utilities associated with the laundry facilities, it is important for DCHA to consider replacing the commercial units currently in operation with more efficient systems. According to Energy Star® , a pre-1994 washer commercial clothes washer (2.86 cu. Ft. volume) has an energy factor of 1.18.

To convert the energy factor to kWh per year you divide 392*2.86/ 1.18 = 950 kWh a year. This assumes 8 washes per week or 392 a year. This is assumed to be the normal washing load for every 4 residents in the building. So to calculate the annual consumption, the number of units * number of residents per unit /4 is the total number of washers that would service the property. Then the annual kWh per washer is multiplied by the number of washers to determine the annual base load.

An Energy Star® compliant unit[3] has an annual kWh per year rating of 564 kWh for a savings of 386 kWh per washer. Total annual savings are calculated by multiplying the number of washers X the annual unit savings. In addition to kWh savings, a washer also provides water savings. The American Water Works Association Residential End Use of Water Report states that on average clothes washers consume 15 gallons per capita day (gpcd) of water. Assuming a 30% reduction in water consumption as detailed in the Energy Star® criteria, the reduction in water use per capita day per machine is 4.5gpcd. Total water savings is calculated by taking 4.5 gpcd * number of residents * number of machines.

Similarly, gas and electric clothes dryers have associated savings. Pre-1994, dryers are detailed in the DOE Buildings Energy Data Book to consume 1,000 kWh per year (electric) and 44 therms per year (gas). New standards reduce those loads to 835 kWh and 32 therms annually per machine. It is assumed that the number of machines is the same as the number of washers.

Total savings per utility are reported for all appliances if appliance replacement is selected by DCHA for that property. If a laundry facility does not exists, no laundry savings are assumed. (See Figure 21)

[3] Used Maytag Model MAH20PD

Analysis Method **AP-A-01** **Stipulated consumption levels for appliances**

Data Requirements	Variable	Definition	Units
	kWh_{Base}	Baseline appliance annual electricity use	kWh / year
	kWh_{post}	Post retrofit appliance annual electricity use	kWh / year
	$Therms_{Base}$	Baseline appliance annual electricity use	Therms/yr
	$Therms_{post}$	Post retrofit appliance annual electricity use	Therms/yr
	N_i	Number of appliances	
	$Q_{electric}$	Energy Charge rate - electric	$/kWh
	Q_{gas}	Average periodic energy charge rate - gas	$/therm

Stipulated Values	Variable	Definition	Units	Source
	kWh_{Base}	Baseline appliance annual electricity use	kWh / year	DOE
	kWh_{post}	Post retrofit appliance annual electricity use	kWh / year	DOE
	$Therms_{Base}$	Baseline appliance annual electricity use	Therms/yr	DOE
	$Therms_{post}$	Post retrofit appliance annual electricity use	Therms/yr	DOE
	N_i	Number of new appliances on-line during a month		DCHA

Data Collection Methods	Collection Protocol	Collection Schedule	Source			
N_i	Ind. Variable	Monthly	DCHA			
$Q_{electric}$	Utility data	Monthly	Utility			
Q_{gas}	Utility data	Monthly	Utility			

Savings Calculations equations

Energy Savings

$kWh_{Savings} = \{(kWh_{Base} - kWh_{Post})/12\} * N_i$

$Therms_{Savings} = \{(Therms_{Base} - Therms_{Post})/12\} * N_i$

Appliance	N_i	kWh_{Base}	kWh_{post}	$kWh_{savings}$ per	Savings kWh/month	Savings kWh/yr
Refrigerator 20.5 cu. Ft.	271	955	432	523	11,811	141,733
Range Electric	0					
Clothes Dryer Electric	0	1057	835	222	-	-
Water Heater - Electric	0	3456	3380	76	-	-
Clothes Washer	0	950	564	386	-	-
	Ni	PC	GPCDBase	GPCDpost	CCF Savings	
	0	2	15.1	10.6	-	
Appliance	N_i	$Therms_{Base}$	$Therms_{post}$	$Therms_{savings}$ pe	Therms/mo.	Therms/yr
Range-Gas	0					
Clothes Dryer - Gas	0	44.8	32	12.8	-	-
Water Heater - Gas	0					

Savings Calculations Estimates from Baseyear

Energy Savings- Electricity	kWh_{Base}	kWh_{post}	$kWh_{savings}$	% kWh
	258,805	117,072	141,733	9%
Energy Savings- Gas	$Therms_{Base}$	$Therms_{Post}$	$Therms_{Savings}$	% Therms
	-	-	-	0%
Energy Savings- Water	$GPCD_{Base}$	$GPCD_{post}$	$CCF_{Savings}$	% CCF
	-	-	-	0%

Figure 21: M&V Method AP-A-01

PLUMBING FIXTURES – WCM-A-01

In the American Water Works Association (AWWA) Residential End Uses of Water Report, consumption for plumbing devices for households not utilizing water efficient fixtures and households using water efficient fixtures are reported. This is based on a national survey and provides an expected consumption level on a per capita basis.

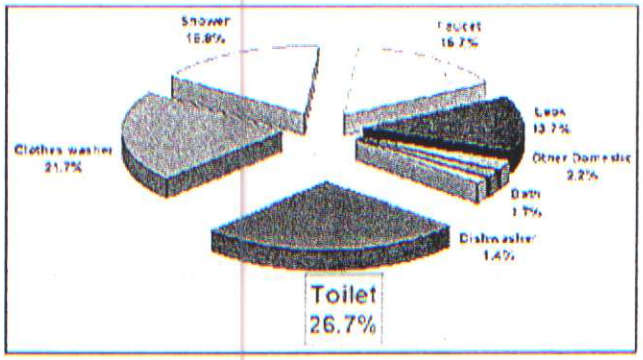

Figure 22: AWWA Indoor Water Use by Fixture

Given that the water consumption profile of the "average" DCHA resident is unknown, a different usage pattern was sought which would more closely tie to the actual water consumption patterns evident in the DCHA water utility baseline data. The AWWA conducted a residential water use survey and determined the percentage of indoor water use associated with each class of fixture. (See Figure 22) In order to calculate the consumption of each water saving device, the 3-year average water consumption for each property was multiplied by the percentages associated with each fixture type and recorded as a baseline consumption for that fixture.

In the AWWA report, water consumption savings were also reported by fixture for households using water saving devices versus households using inefficient devices. The difference in the gallons per capita day (gpcd) consumed is the estimated savings per fixture. Since the DCHA resident profile is not an "average" a rate of savings (expressed as a percentage) was calculated and applied to each fixture class and this rate of savings was multiplied by the annual consumption to determine the proposed savings.

Table 17: AWWA Fixture Savings Rate

	AWWA gpcd base	AWWA gpcd post	Rate of savings
Toilet	20.1	9.6	52%
Faucet	11.1	6.7	40%
Shower Head	12.6	10	20%
Leaks	10	6.5	35%

According to the Harvard GSD report, which references the AWWA report, leaks account for 13.8% of all water used and a leak averages 10 gpcd. After conservation efforts are installed the consumption associated with leaks drops to 6.5 gpcd. It is assumed that every unit has a leak associated with the fixtures and that if replaced the associated leak will be reduced. (See Figure 23)

Analysis Method **WCM-A-01** **Stipulated consumption levels for plumbing devices**

Data Requirements	Variable	Definition	Units
	$GPCD_{Base}$	Baseline consumption per device	gpcd
	$GPCD_{post}$	Post retrofit consumption per device	gpcd
	Q_{water}	Water Charge rate	$/CCF
	N_i	Number of appliances	
	PC	per capita unit	

Stipulated Values	Variable	Definition	Units	Source
	$GPCD_{Base}$	Baseline consumption per device	gpcd	AWWA
	$GPCD_{post}$	Post retrofit consumption per device	gpcd	AWWA
	N_i	Number of appliances		DCHA
	PC	per capita unit		

Data Collection Methods	Collection	Collection	Source			
N_i	Ind. Variable	Monthly	DCHA			
Q_{water}	Utility Data	Monthly	Utility			

Savings Calculations equations

Energy Savings $CCF_{Savings} = (GPCD_{Base} - GPCD_{Post}) * N_i * PC / 748$ [gal per CCF] * 365 days

Plumbing Device	N_i	PC	$GPCD_{Base}$	$GPCD_{post}$	$CCF_{Savings}$	
Toilet	271	2	25	11.9	3,399	
Faucet	271	2	13	7.9	1,401	
Shower Head	271	2	16	12.7	840	
Leaks	271	2	16	10.3	1,471	

Savings Calculations Estimates from Baseyear

	$GPCD_{Base}$	$GPCD_{post}$	$CCF_{Savings}$	% CCF
Energy Savings	37,790	23,219	7,110	30%

Figure 23: M&V Method WCM-A-01

SUMMARY SAVINGS ESTIMATE

All of the above methods were used to calculate the savings associated with each class of ECM employed in a given property. The Property's ECIP model spreadsheet summarizes the savings associated with each ECM in the Planned ECM's worksheet. Within each property's worksheet, a summary page provides the total consumption savings by ECM class. (See sample Figure 24) DCHA has the ability to select and deselect an individual ECM from this summary page which automatically calculates the consumption savings associated with the selection. All of candidate properties summary data are then collected into a program summary page which provides a combined total estimated savings for the program.

Baseyear Period	**OCT 2002 to SEP 2003**			
Baseyear conditions			**Energy Consumption**	**Unit Rate**
Number of units occupied	271	Electric [kWh]	1,582,650	$0.060
Estimated area per unit	1,000	Gas [Therm]	137,061	$1.160
Per capita occupancy	2	Water [CCF]	20,250	$4.740

Energy Use Intensity	*70*	**kBtu/sq. ft.**
Water Use Intensity	*77*	**gpcd**

Project Savings and Costs

		Savings Consumption			Savings Energy Cost		
ECM		**Electric**	**Gas**	**Water**	**Electric**	**Gas**	**Water**
Chiller	1	91,125			$ 5,468	$ -	$ -
Boiler	1		27,091		$ -	$ 31,426	$ -
DHW	1		11,082	0	$ -	$ 12,855	$ -
Automation		0	0	0	$ -	$ -	$ -
Lighting	1	38,939			$ 2,336	$ -	$ -
Appliances	1	141,733	0	0	$ 8,504	$ -	$ -
Plumbing Devices	1			4,866	$ -	$ -	$ 23,067
Other Capital Projects	0			0	$ -	$ -	$ -
TOTAL		271,797	38,173	4,866	$ 16,308	$ 44,280	$ 23,067
Reduction rate		17%	28%	24%	$ 83,655		

ECM	**COST**	**Annual M&V Cost**	**LC Cost**	**LC Savings**	**Benefit : Cost**	**Payback**
Chiller	$76,000	$547	$82,561	$65,610	0.8	13.9
Boiler	$210,000	$3,143	$247,711	$377,107	1.5	6.7
DHW	$65,000	$1,285	$80,426	$154,259	1.9	5.1
Automation	$0	$0	$0	$0	0.0	0.0
Lighting	$8,130	$234	$10,934	$28,036	2.6	3.5
Appliances	$149,050	$850	$159,255	$102,048	0.6	17.5
Plumbing Devices	$92,682	$2,307	$120,362	$276,801	2.3	4.0
Other Capital Projects	$0	$0	$0	$0	0.0	0.0
TOTAL	**$600,862**	**$8,366**	**$701,248**	**$1,003,861**	1.4	7.2

Figure 24: Sample Property Summary Sheet for Judiciary

Selection of an ECM for inclusion in the program was made by quickly assessing the payback. If the overall summary payback was less than 10 years then the program was acceptable for financing. It is imperative to bring as many longer payback items into the program as possible to take advantage of the Energy Incentive Financing Mechanism. The program summary savings is provided as Figure 25: ECIP Property Savings Summary.

	Average Consumption			Savings Consumption			Percentage Reduction		
Property	kWh	Therms	CCF	kWh	Therms	CCF	kWh	Therms	CCF
Claridge Towers	1,910,399	151,841	37,560	348,591	31,977	11,441	18%	21%	30%
Colorado Apts	285,167	0	1,777	45,769	0	541	16%	0%	30%
Columbia Road	204,081	13,900	2,214	27,826	3,174	674	14%	23%	30%
Ft. Lincoln	855,200	55,335	10,360	179,970	26,794	3,156	21%	48%	30%
Garfield Terrace Family	77,656	11,075	969	28,915	0	295	37%	0%	30%
Garfield Terrace Senior	2,084,664	219,610	20,384	412,841	124,721	6,209	20%	57%	30%
Grrenleaf Senior	2,998,483	228,465	21,129	297,882	92,786	6,436	10%	41%	30%
Harvard Towers	1,197,200	107,734	22,594	265,607	38,147	6,882	22%	35%	30%
Horizon House	1,151,375	70,115	15,961	204,951	10,619	4,862	18%	15%	30%
James Apartments	1,417,927	68,669	13,890	229,198	30,140	4,231	16%	44%	30%
James Creek	1,930,077	183,170	55,762	178,737	0	16,985	9%	0%	30%
Judiciary House	1,610,850	125,131	22,544	249,016	51,992	6,867	15%	42%	30%
Kelly Miller	971,472	174,031	24,592	154,742	54,493	7,491	16%	31%	30%
Langston Terrace	301,790	251,818	65,816	81,660	71,532	20,047	27%	28%	30%
Ledroit	905,920	100,724	12,799	115,690	34,635	3,899	13%	34%	30%
Lincoln Road	186,748	13,564	355	21,987	879	108	12%	6%	30%
Park Morton	1,151,315	155,314	31,294	122,836	44,735	9,532	11%	29%	30%
Regency House	973,800	81,542	11,820	149,177	31,987	3,600	15%	39%	30%
Sibley Plaza	2,161,031	169,989	33,044	276,699	63,509	10,065	13%	37%	30%
Syphax Gardens	1,318,442	142,562	25,465	166,606	55,717	7,757	13%	39%	30%
SUBTOTALS	**23,693,597**	**2,324,590**	**430,330**	**3,558,701**	**767,836**	**131,078**	**15%**	**33%**	**30%**
	Average Consumption			Savings Consumption			Percentage Reduction		
Property	kWh	Therms	CCF	kWh	Therms	CCF	kWh	Therms	CCF
Benning Terrace	2,137,486	233,406	57,882	204,364	64,828	17,631	10%	28%	30%
Carroll Apts	560,550	35,345	2,758	76,076	4,397	840	14%	12%	30%
Ft. Dupont	1,007,310	50,333	10,429	87,999	0	3,177	9%	0%	30%
Highland Dwellings & Addition	3,014,852	276,832	74,032	322,426	0	22,550	11%	0%	30%
Kenilworth	3,064,179	227,704	61,357	310,278	59,360	18,601	10%	26%	30%
Kentucky Courts	919,437	77,917	8,419	131,900	21,131	2,565	14%	27%	30%
Knox Hill	1,143,460	22,691	12,488	142,256	9,372	3,804	12%	41%	30%
Richardson Dwell	1,566,350	248,214	37,123	191,929	94,987	11,308	12%	38%	30%
Stoddert Terrace	1,287,804	141,071	34,498	196,211	15,368	10,508	15%	11%	30%
Villager	170,847	19,144	2,950	28,895	6,286	898	17%	33%	30%
Woodland Terrace	2,360,400	392,331	41,881	254,199	149,679	12,757	11%	38%	30%
SUBTOTALS	**17,232,676**	**1,724,989**	**343,816**	**1,946,534**	**425,407**	**104,638**	**11%**	**25%**	**30%**
ECIP TOTAL	**40,926,273**	**4,049,579**	**774,146**	**5,505,235**	**1,193,243**	**235,716**	**13%**	**29%**	**30%**
FY05 Rates & Savings	**$ 0.07**	**$ 1.33**	**$ 4.85**	**$ 401,882**	**$ 1,587,013**	**$ 1,143,223**			

Figure 25: ECIP Property Savings Summary

ECIP FINANCIAL ANALYSIS

Over the past three years, DMA has developed the ECIP program, estimating the level of savings expected, and proposing a scope of work that encompasses a variety of energy and water conservation measures, while keeping in step with the DCHA long-term outlook and vision for the future. Table 18 provides a summary overview of the ECIP program as it relates to financing the program.

Table 18: ECIP Financial Summary

Capital Cost	**$26,024,925**
DCHA Required Funding	$0
Construction Financing	**$26,024,925**
Annual Savings – 12 Yr. Avg	**$3,278,495**
Debt Service (12yrs; 6% rate)	**($3,104,176)**
Net Annual Savings to DCHA	**$174,319**

CAPITAL COST is the total program cost as illustrated in Figure 26. The capital cost includes cost estimates for all of the energy conservation measures which will be included in the ECIP construction scope of work. (Totals $24,182,202). The scope of work was developed as a result of a comprehensive energy audit performed in FY04 by an experienced energy engineer, and internal DMA engineers and facility managers which understand the individual properties' capital improvement requirements. DMA project engineers and energy consultants provided cost estimates for the six energy conservation measure subcategories.

In addition the capital cost includes the project "soft costs" associated with developing, financing and implementing the ECIP program. The soft costs were estimated based upon HUD/Industry documentation and DMA/CSA internal costing estimates. In a presentation entitled "Negotiating an Energy and Water Audit Agreement", David Birr of Synchronous Energy Solutions and Catherine Muller of the National Center for Appropriate Technology provide "reasonable project cost estimates for an energy performance contract project" for HUD. Within the report, seven program phases are identified and the "reasonable" percentage of project construction costs given. These HUD/Industry percentages are provided in Figure 26.

The unique aspect of this program is the fact that DMA and CSA can provide many of the same services identified in the Birr/Muller report. DMA/CSA provided reasonable cost estimates for each phase of the program as well. These DMA/CSA percentages are also provided in Figure 26. **The end result is a $11 million reduction in project soft costs!** This development, implementation and administration cost savings allows DCHA to maximize the number of capital projects in the scope of work. By reducing the overall project soft costs, DCHA is allowed to add an additional $11 million in capital construction costs. As a result, the scope of work includes projects that have a longer payback, that otherwise would need to come from other capital sources such as the recently completed DCHA bond financing.

DCHA REQUIRED FINANCING is a capital contribution required by DCHA in order to "buy down" the cost of the program lowering the debt payment below the estimated annual savings. By including this capital contribution, the energy savings associated with longer payback items (such as appliances which are generally over 10 years) can be included in the project so that the energy savings associated with those projects can be leveraged. If DCHA decides not to contribute the capital and the construction cost is reduced, the associated savings will also be reduced further pressuring the program to cut out additional capital projects. It is recommended that a capital contribution be made so that energy savings financial leverage is maximized.

CONSTRUCTION FINANCING is the difference from the Capital Cost and DCHA Required Financing.

ANNUAL SAVINGS is the estimated savings associated with each energy conservation measure as calculated by the DCHA ECIP Measurement & Verification (M&V) Protocol. The M&V protocol was created from international standards for measuring energy savings and is widely used by the Federal Government. This protocol calculates the utility consumption savings for each ECM and then dollar savings are calculated by multiplying the consumption savings times the current FY05 reported utility rate. A utility rate escalation factor was estimated (1% for electricity, gas, and water) so that increases in rates will result in further savings to DCHA. The 12-year average was calculated and reported here. Utility consumption by property resulted from a 3 year comprehensive consumption baseline study which was created from the DMA Utility Billing Administration database. The database maintains accurate consumption and cost data for every DCHA utility account starting in FY01.

DEBT SERVICE is the estimated annual payments due for principal in the amount of the construction financing at a rate of 6% and a given 12-year term. 12-years is the maximum allowed term associated with HUD utility conservation incentives.

NET ANNUAL SAVINGS TO DCHA is the net result of subtracting the debt service from the average annual savings. Depending upon the incentive chosen, this savings could be retained by DCHA and used for additional services and projects associated with the energy program.

ECIP Capital Expenditures	Estimated Cost (Equipment & Installation)
HVAC Mechanical Systems	$12,592,250
Controls and other Mechanical	$1,440,000
Fan Coils and Other Projects	$1,862,000
Lighting	$163,290
Appliances	$2,993,650
Water Fixtures and Systems	$2,068,340
Sub- total program asset costs	**$21,119,530**

PHASE	ECIP Development Costs Program Elements	(% asset cost) Industry/ HUD	(% asset cost) DMA Estimate	DMA Est. Cost	Est. Savings
I *FY05*	Energy and Water Use Audit	3.0%	0.6%	$126,270	$507,316
II *Incentive* *FY05*	Program Development / Management	5.0%	2.8%	$600,000	$455,977
III *Incentive* *FY05*	Finance Fees and Interest	6.4%	5.0%	$1,055,977	$295,673
Reserve	**Guarantee (HUD est. 7%)**	**0.0%**	**0.0%**	**$0**	**$0**
IV *FY05*	Design and Specification	5.0%	3.8%	$800,000	$255,977
V *FY05-06*	Construction / Project Admin	10.0%	5.0%	$1,055,977	$1,055,977
VI *FY06-07*	Commissioning and Training	9.0%	5.0%	$1,055,977	$844,781
VII *FY07*	M&V First Year	3.0%	1.0%	$211,195	$422,391
Avoided	**Overhead and Profit**	**35.0%**	**0.0%**	**$0**	**$7,391,836**
	Subtotal Program Elements	**76%**	**23%**	**$4,905,395**	**$11,229,926**
	Total Program Cost Estimate	**$26,024,925**			
	Estimated Initial Capital Requirement	**$0**			
	Estimated Annual Debt Service	**($3,104,176)**			
	Estimated 12-yr averaget Annual Savings	**$3,278,495**			
	12-yr average net aditional proceeds to DCHA	**$174,320**			

Figure 26: ECIP Project Summary

AMORTIZATION SCHEDULE AND CASH FLOW ANALYSIS

Generally infrastructure projects are funded by HUD through *modernization* funds. There are other initiatives, such as low-income weatherization assistance program, that also provide HUD funds. Unfortunately, DCHA requires modernization funds for larger capital projects such as roofs, windows, risers and other longer payback items that cannot provide high returns in energy savings. Although it is possible to seek private funds- bank loans or public bonds to finance conservation measures, these financing tools do not provide any additional incentive to conserve energy and are used for longer payback modernization projects as well.

In order to encourage conservation projects, Congress passed within the Housing and Community Development Act of 1987 additional financial incentives for housing authorities to decrease their utility costs and allowed them to borrow non-HUD sources to fund the resource conservation retrofits. Two main incentives are the **frozen base** incentive and the **additional subsidy** (or add-on) incentive. These incentives allow the Authority to *supplement* the standard performance funding system (PFS) method for funding conservation projects and allocating savings.

FROZEN BASE INCENTIVE

The Frozen Base Incentive is an option that primarily uses performance contracts to leverage non-HUD funding for conservation projects. In a performance contract, a third-party develops, designs, constructs and finances the conservation projects and gets repaid through the savings generated. Although an acceptable method for leveraging savings, in practice the high costs of engaging an Energy Services Company (ESCO) in an Energy Savings Performance Contract (ESPC) does not result in the best value to the Authority. The risk premium for a "guarantee" of the savings generally results in fewer capital projects undertaken at a much higher soft cost.

Performance contracting is a separate concept from the frozen base incentive. It is simply *one* method of procuring energy management services and for obtaining a guarantee of the savings. The end result is the Authority pays a premium for the guarantee and does not get the full leverage on the energy savings. The Authority can enter into a Frozen Base Incentive *without* a ESCO. The guarantee risk remains with the Authority and given the level of detail and conservatism in generating the savings estimates, the Authority has minimized the savings guarantee risk. Elements of the Frozen Base Initiative are:

- Project must use non-HUD funding
- At least 50% of the savings must be used to pay the project's debt service. Any remaining savings may be used by the Authority to manage the program or pay other eligible costs
- The payment of the debt service *must* be dependent upon the realized savings – thus the requirement for the capital contribution mentioned earlier. The "guarantee" could be in the form of an escrow reserve which will be returned to the Authority upon completion of the program.
- The maximum term is 12 years.

In practice, the Frozen Base Initiative *freezes* the consumption level (not cost so there is a rate risk) of the Authority based upon an average of the three previous fiscal year consumption. The three year average is used to account for fluctuations in weather patterns so that the Authority nor HUD is penalized based on one unusual weather year. The three year average (or rolling base) is taken from the three fiscal years prior to the year of implementation – in this case FY02, FY03, FY04. Note the current year is NOT used in calculating the rolling base.

The Frozen Base consumption and estimated consumption savings are multiplied by the current year utility rates. A sample of the cash flow analysis is provided below:

Project Size	$26,024,925	**Current Rates**	
Est Savings	$3,143,583	Electricity	$0.073
Est Debt Service	($3,104,176)	Gas	$1.33
		Water	$4.85

Frozen Base	**Savings**	**Debt Service**	**Net DCHA**
FY06	$3,163,587	($3,104,176)	$59,411
FY07	$3,183,790	($3,104,176)	$79,614
FY08	$3,204,196	($3,104,176)	$100,020
FY09	$3,224,806	($3,104,176)	$120,630
FY10	$3,245,621	($3,104,176)	$141,446
FY11	$3,266,645	($3,104,176)	$162,470
FY12	$3,287,880	($3,104,176)	$183,704
FY13	$3,309,326	($3,104,176)	$205,150
FY14	$3,330,987	($3,104,176)	$226,811
FY15	$3,352,865	($3,104,176)	$248,689
FY16	$3,374,961	($3,104,176)	$270,786
FY17	$3,397,279	($3,104,176)	$293,103
FY18	$1,139,940	$0	$1,139,940
FY19	$573,764	$0	$573,764
FY20	$0	$0	$0
FY21	$0	$0	$0
			$3,805,538
		Total to DCHA	**$41,055,647**
		less capital	$0
		Net to DCHA	**$41,055,647**

This model assumes instantaneous savings in FY06 for simplicity. During the frozen base term (12 years) the full savings are accounted for. For the two years following the frozen base period, the additional consumption savings are provided to the Authority based on standard PFS savings allocations. (50% of savings kept by the Authority.) The net proceeds to DCHA is calculated by summing all of the savings DCHA is allowed to retain and adding in the debt service payments made since DCHA received the private funding to implement the project less the capital contributed by DCHA.

For the Frozen Base incentive, the net proceeds to DCHA are estimated to be $40,902,246.

To illustrate HUD's method of evaluating the ECIP Program, Figure 28 provides samples of the forms used by HUD to summarize the impact to HUD and the Authority of the proposed project. (The Frozen Base incentive is the top chart.)

Summary of Impact of Freezing Rolling Base

Name of PHA: DC Housing Authority

Project Name: DCHA FY05 ECIP

Year After Contract	1	2	3	4	5	6	7	8	9	10	11	12	Total
1. Total Utility Savings	$ 3,163,587	$ 3,183,790	$ 3,204,196	$ 3,224,806	$ 3,245,621	$ 3,266,645	$ 3,287,880	$ 3,309,326	$ 3,330,987	$ 3,352,865	$ 3,374,961	$ 3,397,279	$ 39,341,943
2. Payments to Contractor	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
3. Payments to Financier	$3,104,176	$ 3,104,176	$ 3,104,176	$ 3,104,176	$ 3,104,176	$ 3,104,176	$ 3,104,176	$ 3,104,176	$ 3,104,176	$ 3,104,176	$ 3,104,176	$ 3,104,176	$ 37,250,109
4. Net Savings to PHA	$59,411	$79,614	$100,020	$120,630	$141,446	$162,470	$183,704	$205,150	$226,811	$248,689	$270,786	$293,103	$ 2,091,834

Length of Contract: 12 Years

Summary Impact of Additional Operating Subsidy

Name of PHA: DC Housing Authority

Project Name: DCHA FY05 ECIP

Year After Contract	1	2	3	4	5	6	7	8	9	10	11	12	Total
PFS Utility Adjustment	$ 3,508,455	$ 2,349,020	$ 1,181,846	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ 7,039,321
Savings to PHA (1/2 adj.)	$ 1,754,228	$ 1,174,510	$ 590,923	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ 3,519,661
Savings to HUD (1/2 adj.)	$ 1,754,228	$ 1,174,510	$ 590,923	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ 3,519,661
Savings to HUD in PFS Rolling	$ 1,047,861	$ 2,095,722	$ 3,143,583	$ 3,143,583	$ 3,143,583	$ 3,143,583	$ 3,143,583	$ 3,143,583	$ 3,143,583	$ 3,143,583	$ 3,143,583	$ 3,143,583	$ 34,579,412
Total Savings to HUD	$ 2,802,089	$ 3,270,232	$ 3,734,506	$ 3,143,583	$ 3,143,583	$ 3,143,583	$ 3,143,583	$ 3,143,583	$ 3,143,583	$ 3,143,583	$ 3,143,583	$ 3,143,583	$ 38,099,073
Less Add-On	$ 3,104,176	$ 3,104,176	$ 3,104,176	$ 3,104,176	$ 3,104,176	$ 3,104,176	$ 3,104,176	$ 3,104,176	$ 3,104,176	$ 3,104,176	$ 3,104,176	$ 3,104,176	$ 37,250,109
Net Savings to HUD	($302,087)	$166,056	$630,330	$39,407	$39,407	$39,407	$39,407	$39,407	$39,407	$39,407	$39,407	$39,407	$ 848,964

Length of Contract: 12 Years

Total Loan Amount $ 26,024,925

Estimated annual savings from improvements $ 3,143,583

Figure 28: HUD Incentive Evaluation Forms

THE ADD-ON INCENTIVE

The Additional Subsidy Incentive or Add-On Incentive is basically an alteration of the cash flow between HUD and DCHA. This reimbursement methodology allows DCHA to seek non-HUD funding for conservation projects and HUD increases the Authority's operating subsidy by the amount needed to amortize the loan for the length of the financing contract. Although a savings guarantee is *not* required, it must be shown to HUD that the savings generated will cover the debt service requested. The additional subsidy is subject to maximum equal to the amount of savings for that year. If the savings do not materialize, the Authority's following year operating subsidy is reduced by the shortfall. So the Authority bears all of the risk in this incentive. It is important to note that the Authority also bears all of the risk in the Frozen Base Incentive – either by paying a risk premium to the ESCO *or*, as is the case with DCHA, in implementing the program themselves. Elements of the Add-on Initiative are:

- Project must use non-HUD funding
- The savings are in practice used to pay the project's debt service. Any additional savings which result from the standard PFS savings allocation may be used by the Authority in any manner.
- The payment of the debt service *must* be dependent upon the realized savings – thus the requirement for the capital contribution mentioned earlier.
- The maximum term is 12 years.

Add On	Savings	Subsidy
FY06	$1,754,228	$3,104,176
FY07	$1,174,510	$3,104,176
FY08	$590,923	$3,104,176
FY09	$0	$3,104,176
FY10	$0	$3,104,176
FY11	$0	$3,104,176
FY12	$0	$3,104,176
FY13	$0	$3,104,176
FY14	$0	$3,104,176
FY15	$0	$3,104,176
FY16	$0	$3,104,176
FY17	$0	$3,104,176
FY18	$0	
FY19	$0	
FY20	$0	
FY21	$0	
	$3,519,661	
	Total to DCHA	**$40,769,769**
	less capital	($302,087)
	Net to DCHA	**$40,467,682**

Figure 29: Add-on Proceeds Calculation

A sample proceeds calculation to DCHA is provided below.

Since the consumption is not frozen, the general PFS savings are provided to the Authority, phased out over the first three years of the program after the savings materialize. (Again for simplicity, assume all savings in FY06).

The net proceeds to DCHA include the savings generated as well as the sum total of the add-on subsidy to the Authority less the capital contribution.

In Figure 28, bottom chart, the add-on subsidy HUD summary impact calculation is provided. As you can see the net savings to HUD should be positive. However, since the PFS savings from the rolling base does not take full effect until year three and as a result the first year is negative.

In order to make this positive the Housing Authority will need to absorb the $302K in its first year operating subsidy else increase its capital contribution by $750,000. (Not recommended.)

CASH FLOW ANALYSIS

The previous charts were used to determine the best course of action for the Housing Authority. In order to assist HUD engineers in evaluating this program, a detailed cash flow analysis is provided which shows the cumulative net cash flow from the project itself.

In the cash flow analysis, the following assumptions are made:

- The total cost of the project includes the capital cost for equipment and all other indirect or soft costs associated with the project. *Please note – the savings associated with DCHA acting as its own ESCO are NOT reflected in the savings column for the project.*
- The finance period is the standard 12 years, the all in interest rate is estimated to be 6%. Payments are assumed to be made monthly with interest only payments during the construction period.
- The construction interest has not been capitalized. Construction interest are calculated as interest only payments on the cumulative annual principal drawn for construction. This assumes all principal is drawn at the beginning of the year and payments are made monthly on that total principal amount.
- The installation period is expected to last 3 years from FY06-FY09. Savings are expected to lag by 1 year so construction period savings are 1/3 the savings rate of year 1 during the 2nd year of construction and 2/3 of the year 1 savings is assumed to occur in the third-year of construction.
- Labor and maintenance savings are estimated to be $600K per year based on an energy operations savings audit conducted in FY04 as part of the ECIP development process.
- Capital renewal savings assumes a 15 year equal division of capital renewal requests for the entire project value which assumes the work would have been split evenly over the 15 year (3 year construction, 12 year finance) period.
- On-going technical costs are assumed to equal 1% of the over-all project cost and escalates at an annual inflation rate of 1%.

A detailed cash flow analysis is provided as Figure 30.

DISTRICT OF COLUMBIA HOUSING AUTHORITY (energy)
ENERGY CAPITAL IMPROVEMENT PROGRAM (Self-ESPC)
PROFORMA 12 - YEAR CASHFLOW

	ASSETS					LIABILITIES				
Year	Annual Energy Savings	Labor & Maintenance Savings	Capital Renewal	DCHA Capital Contribution	Total Savings	Annualized Lease Payments	On-going Technical Costs	Total Annual Costs	Annual Net Cashflow	Cummulative Cashflow
Construction	$0	$0	$1,734,995	$0	$1,734,995	$520,498	$0	$520,498	$1,214,496	$1,214,496
-1	$949,076	$180,000	$1,734,995	$0	$2,864,071	$1,040,997	$0	$1,040,997	$1,823,074	$3,037,570
0	$2,109,058	$400,000	$1,734,995	$0	$4,244,053	$1,561,495	$0	$1,561,495	$2,682,557	$5,720,128
1	$3,163,587	$600,000	$1,734,995	$0	$5,498,582	$3,104,176	$260,249	$3,364,425	$2,134,157	$7,854,284
2	$3,183,790	$600,000	$1,734,995	$0	$5,518,785	$3,104,176	$260,249	$3,364,425	$2,154,360	$10,008,644
3	$3,204,196	$600,000	$1,734,995	$0	$5,539,191	$3,104,176	$260,249	$3,364,425	$2,174,766	$12,183,410
4	$3,224,806	$600,000	$1,734,995	$0	$5,559,801	$3,104,176	$260,249	$3,364,425	$2,195,376	$14,378,786
5	$3,245,621	$600,000	$1,734,995	$0	$5,580,616	$3,104,176	$260,249	$3,364,425	$2,216,191	$16,594,977
6	$3,266,645	$600,000	$1,734,995	$0	$5,601,640	$3,104,176	$260,249	$3,364,425	$2,237,215	$18,832,193
7	$3,287,880	$600,000	$1,734,995	$0	$5,622,875	$3,104,176	$260,249	$3,364,425	$2,258,450	$21,090,642
8	$3,309,326	$600,000	$1,734,995	$0	$5,644,321	$3,104,176	$260,249	$3,364,425	$2,279,896	$23,370,539
9	$3,330,987	$600,000	$1,734,995	$0	$5,665,982	$3,104,176	$260,249	$3,364,425	$2,301,557	$25,672,096
10	$3,352,865	$600,000	$1,734,995	$0	$5,687,860	$3,104,176	$260,249	$3,364,425	$2,323,435	$27,995,531
11	$3,374,961	$600,000	$1,734,995	$0	$5,709,956	$3,104,176	$260,249	$3,364,425	$2,345,531	$30,341,062
12	$3,397,279	$600,000	$1,734,995	$0	$5,732,274	$3,104,176	$260,249	$3,364,425	$2,367,849	$32,708,911
Total	**$42,400,076**	**$7,780,000**	**$26,024,925**	**$0**	**$76,205,001**	**$40,373,100**	**$3,122,991**	**$43,496,091**	**$32,708,911**	

ASSUMPTIONS

Total Cost:	$26,024,925	
Finance Period:	12 Years	
Payment Frequency:	Monthly	
Estimated Base Rate:	6.00%	
Monthly Payment	($258,681)	
Installation Period:	10/05 - 9/08	
Est. First Payment Date:	1/1/2006	
Service Inflation Rate	1.00%	
Energy Inflation Rate:	1.00%	
Cummulative Net Cashflow:		**$32,708,911**

Loan Amortization Schedule

Year	Principal (Start of year)	Monthly PMT	Monthly PPMT	Annualized PMT
-2	$8,674,975	($43,375)		($520,498)
-1	$17,349,950	($86,750)		($1,040,997)
0	$26,024,925	($130,125)		($1,561,495)
1	$26,024,925	($258,681)	($123,840)	($3,104,176)
2	$24,538,849	($258,681)	($131,478)	($3,104,176)
3	$22,961,115	($258,681)	($139,587)	($3,104,176)
4	$21,286,070	($258,681)	($148,197)	($3,104,176)
5	$19,507,712	($258,681)	($157,337)	($3,104,176)
6	$17,619,669	($258,681)	($167,041)	($3,104,176)
7	$15,615,175	($258,681)	($177,344)	($3,104,176)
8	$13,487,048	($258,681)	($188,282)	($3,104,176)
9	$11,227,664	($258,681)	($199,895)	($3,104,176)
10	$8,828,925	($258,681)	($212,224)	($3,104,176)
11	$6,282,237	($258,681)	($225,313)	($3,104,176)
12	$3,578,476	($258,681)	($239,210)	($3,104,176)

Figure 30: Detailed ECIP Cash Flow Analysis

ESCALATED RATE DOCUMENTATION

Escalated rate documentation is provided starting on page 26. The summary table is repeated here.

	Base [$/account]	Usage	Increase over FY05	Annual Escalation
Electricity	$2.81	$0.093 / kWh	13%	1%
Gas	$7.85	$1.65/therm	15%	1%
Water	$6.05	$7.11 / CCF	5%	1%

PHA CONTRIBUTING COSTS

PHA contributing costs if the add-on incentive is selected will be to cover the $301,598 shortfall in year one of the program. This shortfall will be covered by a program reserve established from the recently received bond funding. This operational shortfall has been reviewed and is in compliance with 24CFR990 requirements.

ECIP - RESIDENT PAID UTILITIES - N/A

DCHA is responsible for all utility bills and does not maintain any resident paid utilities.

ECIP VERIFICATION METHODOLOGY-

The most significant element of the M&V Plan is the methodology used to collect and validate all post-retrofit utility data as part of the DCHA Utility Billing Administration and Analysis Program. The collection and validation of utility consumption data, as well as ensuring alignment of data start and end dates are important elements of this billing analysis. DCHA specific data types and data analysis protocols are discussed below.

BASIC APPROACH

Energy savings are determined by comparing measured energy use or demand prior to and post-implementation of this ECIP energy savings program. The initial formula for measuring the savings is given as:

Energy Savings = Baseyear Energy Use – Post-Retrofit Energy Use ± Adjustments

Equation 1

DCHA developed regression models to assist in measuring and verifying Equation 1 and to describe the pre-installation and post-installation energy use for each affected DCHA property. DCHA will employ a multivariate regression model utilizing whole-building billing data as the primary data input to calibrate the model for the baseyear period and post-installation energy use.

Baseyear energy usage is determined from existing, whole-building, *monthly energy billing data.* DCHA receives monthly energy billing data from three utility resources on 8,827 accounts. (See Figure 31.) There are typically two types of monthly energy billing data; **total energy usage** for the month, or energy usage aggregated by time-of-use periods (also known as interval demand data).

Figure 31 DCHA Monthly Utility Billing Data

Utility	# of Accounts
Electric	4,921
Gas	2,733
Water	1,173
TOTAL	**8,827**

While either type of data can be used with the DCHA regression model, total energy usage for the month is used since it does not require the added expense of additional metering equipment to measure time-of-use periods (usually in 15 minute increments). Although time-of-use is more preferable as it provides more insight into usage patterns, it remains cost prohibitive at this stage for the ECIP program. For this M&V Plan, DCHA will utilize monthly energy billing data, total energy usage for the month, for baseyear period and post-retrofit energy use measurements.

The "adjustments" term in Equation 1 is used to bring energy usage in the two separate time periods to the same, normalized set of conditions. Conditions commonly affecting energy use include weather, occupancy, and equipment operating conditions required for the prescribed period. Adjustments may be negative or positive depending upon the specific condition.

All adjustments are derived from identifiable facts. Adjustment data that will be incorporated in the DCHA multivariate regression model including weather parameters recorded as heating-degree-days and cooling-degree-days, building occupancy recorded as the number of units occupied, and facility square footage if necessary. Adjustments will be made as per the prescribed protocol below on a routine basis, such as for weather data, or as necessary, as for changes in occupancy or equipment operating conditions. These data are used to help define the independent variables necessary to calibrate the model for the baseyear period and that explain energy consumption or change associated with equipment other than the equipment installed as part of the ECIP program.

DATA COLLECTION PROTOCOLS

DCHA has selected the *Whole Facility*[4] M&V protocol as the International Performance Measurement & Verification Protocol for the ECIP M&V Plan. The DCHA Development and Modernization Administration has collected verifiable, relevant whole facility monthly energy billing data for electricity, natural gas and water on a per meter basis since October 2001 through the present. A Microsoft Access Database was constructed to house the utility billing data. This information is readily available for independent analysis upon request to the Development and Modernization Administration Office.

MONTHLY ENERGY BILLING DATA MATRIX

Table 12 through Table 15 (page 14) provide the data points available in the DCHA Utility Database.

DATA COLLECTION

Data collection of metered data, will be done through the existing DCHA Utility Billing and Administration Program. The program consists of the collection, data input, reconciliation, database management and reporting of metered and invoiced monthly utility data. Electricity and water bills are provided to DCHA in electronic format. Natural gas data is currently entered manually, however, a batch scanning program is being investigated which will reduce the time, and increase the detail level of data input into the DCHA database. A series of ECIP Reconciliation Data Tables will be maintained so as not to disturb the original utility data set.

The types of data collected for the ECIP program and particularly this M&V Plan and associated collection protocols include:

Utility Data - Energy quantities in Equation 1 will be measured by utility invoices and meter readings. It is assumed that all historical and future meter readings are accurate and calibrated. Energy and water flow into each individual DCHA property is measured separately by the individual utility through a individual meters. DCHA properties have both centralized meters, primarily for the high-rise buildings, and in some cases individually metered units. Several meters may be used to measure the energy flow into an individual property. All meters will be included in this *whole building* savings determination protocol. All meters will be analyzed separately as each meter has a unique billing period associated with it. The results of individual meter analysis will be aggregated into the whole on for a defined measurement period, here defined as a year.

Smaller meters which do not contain load data will be individually analyzed and then aggregated into the whole for reporting on each individual property. Larger meters, which often contain demand data, will be analyzed separately and aggregated into the whole building, however, demand data and associated load factor information will remain as a separate reporting element for each associated property.

The source of the energy and water data will be the utility invoices provided to DCHA through the DCHA Utility Billing and Administration Program. All individual metered data will be assigned a specific *billing date* which is a time identifier (Month and Year) which will associate that specific consumption and cost to a specific month in the DCHA fiscal year. Most often the month and year identifier of the invoice billing date will correspond to the billing date for the consumption record. If consumption overlaps two calendar months, the consumption will be assigned to the calendar month with the predominant number of billing days. If the number is evenly split than the default will be the billing date which would not produce a missing data element.

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[4] International Performance Measurement & Verification Protocol Committee, "International Performance Measurement & Verification Protocol: Concept and Options for Determining Energy and Water Savings", Volume 1, DOE/GO-102002-1554, March 2002 p. 22. (www.ipmvp.org) Listed as Option C in Table1.

It is understood that the respective utility's need for accuracy in its metered data may not correspond to the higher level of accuracy required for this M&V Protocol. Many utility bills, primarily the smaller bills, contain estimated readings which may go unreported. Also, the consumption data for a specific meter may not be reported, especially if there is a situation in which no charge is levied on the account. As a result, there may be errors associated with missing or estimated data from utility invoices. The following protocol will be used to reconcile such data discrepancies.

Missing, Estimated, or Erroneous Meter Data - Any estimated readings will be identified and adjustments made based upon the number of billing days between the previous and current *actual* reading dates. Missing data will be treated as an estimated reading if sufficient evidence exists that the missed consumption can be calculated from the next available actual read date or invoice. If metered data is **missing** for a given period during the post-retrofit period (or an **estimated reading** is provided), an *estimation* of the consumption will be made according to the following procedure:

1. The account and billing period affected will be identified as an estimate reading in the DCHA Utility Billing and Administration database.

2. Upon receipt of the next actual meter reading calculate the total actual consumption

3. Calculate the number of billing days between the previous actual reading *end date* and the current actual reading *end date.*

4. Divide the total consumption by the number of billing days to get *consumption per day.*

5. Identify the normal billing period associated with the subject account and missing billing period(s). This can usually be done by finding an account with a similar start or end date. If this cannot be done assume a 28 day billing period per month.

6. Assign the missing billing period(s) bill date(s) which identify the month(s) and year(s) of the missing billing period(s), assumed to be months. Again this should be done by finding an account with similar billing characteristics as the estimated account.

7. Calculate the month's consumption by multiplying the consumption per day by the number of billing days in the month and record. Repeat for all associated estimated or missing periods until the total consumption is accounted for and all missing billing periods are populated with consumption estimations. This will be classified as *levelized data estimations.* The administrator will reduce the current billing period's consumption as well as to avoid double accounting of consumption data.

8. If actual reading data is **missing**, and the utility cannot provide an actual invoice, then a similar approach will be taken except the total consumption will be calculated by taking actual meter end reading (if available) from the most recent invoice and subtracting the actual meter end reading from the last available actual invoice. Any adjustment factors will need to be made to the consumption as per normal utility procedures. *More than likely the utility will forward any missing data to DCHA.*

9. The levelized data estimations will be adjusted according to the prescribed regression analysis for *routine adjustments* as described below and recorded in the consumption record. At no time with the summation of the missing or estimated period consumption records vary from the actual total consumption calculated earlier. The routine adjustments will properly distribute the consumption over the missing billing periods as per a prescribed protocol. If no significant correlation between any

independent variables and the levelized data estimations exists, the levelized data estimations themselves will remain as the consumption record.

Outliers- Outliers are data beyond the expected range of values (e.g., a data point more than two standard deviations away from the average of the data). Any elimination of outliers will be fully explained, noting that it is not sufficient to eliminate a data point because it is beyond the expected range of values. Any outliers identified will be noted in the DCHA Utility Billing Administration ECIP Database under a table entitled Journal. Here any additional information with respect to billing, consumption, or performance abnormalities will be maintained. If there is reason to believe that the data point is abnormal because of specific mitigating factors, then it can and may be eliminated from the analysis. *All outliers in the baseyear analysis are defined in the facility specific savings boundaries report.* If a reason for the unexpected data point cannot be found, the data point will be included in the analysis. Outliers are defined based on "common sense" as well as common statistical practice and are defined in terms of consumption changes and actual consumption levels.

Operation and Independent variables- Characteristics of the operations of a DCHA property, mainly the number of units occupied, and the environment which govern energy consumption are the two primary operation and independent variables which concern this M&V Plan. Both units occupied and weather data will be recorded in the DCHA Utility Billing and Administration Database on a monthly basis. Independent variables play a role in the creation and ensuing utilization of all mathematical, or regression analysis models created as part of this M&V Plan.

Weather data will be recorded on a monthly basis and will be correlated to all utility metered data's associated billing date (month and year). Government published degree-day data will be treated as the solitary source of weather information. The National Weather Service – Climate Prediction Center's Degree Day statistical database – Monthly Degree Days Cities Listing - Washington, DC station data will serve as the degree-day information resource. [5] All monthly summaries will be recorded in the DCHA Utility Billing and Administration Database (see Table 19 for a description of available data elements). Weekly data is also available, however, the processing of weekly data is cost prohibitive.

"DEGREE DAY is a quantitative index demonstrated to reflect demand for energy to heat or cool houses and businesses. This index is derived from daily temperature observations at nearly 200 major weather stations in the contiguous United States. The "heating year" during which heating degree days are accumulated extends from July 1st to June 30th and the "cooling year" during which cooling degree data are accumulated extends from January 1st to December 31st. A mean daily temperature (average of the daily maximum and minimum temperatures) of 65°F is the base for both heating and cooling degree day computations. Heating degree days are summations of negative differences between the mean daily temperature and the 65°F base; cooling degree days are summations of positive differences from the same base. For example, cooling degree days for a station with daily mean temperatures during a seven-day period of 67,65,70,74,78,65 and 68, are 2,0,5,9,13,0,and 3, for a total for the week of 32 cooling degree days."[6]

Table 19 Degree Day data descriptions.

MONTH TOTAL	Summation of the daily values for the given period.
MONTH DEV FROM NORM	The difference of the period total from the normal (1971-2000) period total. Negative values indicate less degree days than normal.
MONTH DEV FROM L YR	The difference of the period total from the same period previous year.
CUMULATIVE TOTAL	The accumulated degree days from the beginning of the season.
CUMULATIVE DEV FROM NORM	The difference of the accumulated total from the normal accumulated total.
CUMULATIVE DEV FROM L YR	The difference of the accumulated total from the accumulated total of the same period the previous year.

[5] http://www.cpc.ncep.noaa.gov/products/analysis_monitoring/cdus/degree_days/
[6] Ibid.

SUMMARY OF DATA COLLECTION

Table 20 provides a summary of the data elements to be collected and analyzed *monthly* to provide the performance, operations, and independent variable inputs into the DCHA energy use regression analysis to determine all energy savings.

Table 20: Monthly Data Collection Elements Summary

Performance Elements	Operation and Independent Elements
▪ Account / meter data	▪ Units occupied per building
▪ Consumption Total	▪ Heating-Degree-Day Statistics
▪ Billing period	▪ Cooling-Degree-Day statistics
▪ Bill Date	
▪ Journal of outliers	

POST-RETROFIT CONDITIONS ADJUSTMENTS PROTOCOLS

The adjustments term in Equation 1 can be of two different types – **routine** adjustments which are changes in parameters that can be expected to happen throughout the post-retrofit period such as degree-day changes and changes in occupancy rates. Routine adjustments are needed to bring the rolling base AUCL to the same conditions of the post-retrofit period.

Non-routine adjustments are adjustments for changes in parameters which cannot be predicted and for which a significant impact on energy demand is expected. These are commonly known as baseline adjustments and will be discussed later.

HEATING-DEGREE-DAY ADJUSTMENTS

Adjustments to the utility consumption level for heating-degree-days will be completed upon approval from HUD as per §990.110. The adjustment, to be determined by HUD, may consist of a percentage change in HDD from the average HDD recorded for the rolling base period. The rolling baseyear period averages 3,990 HDD. Adjustments to space heating consumption will be made on a percentage basis monthly for both electricity and natural gas during the *heating season* defined as OCT-MAY. The heating season averages 3,975 HDD during the rolling base period. (See Figure 32)

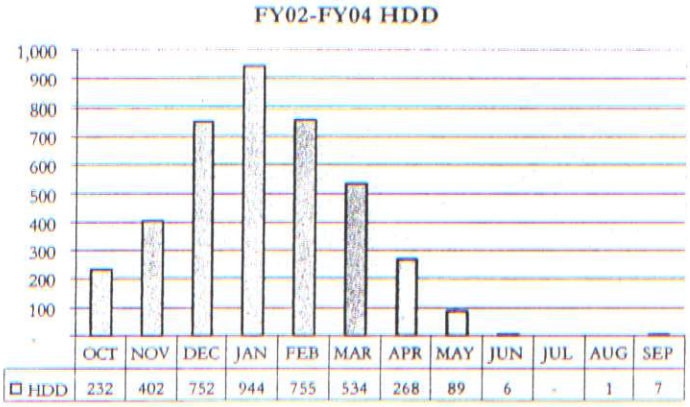

Figure 32: Rolling Base Average HDD

Occupancy data will be provided by the DCHA Development and Modernization Administration and changes from the baseline will be noted in an occupancy data table. Total energy consumption will be divided by the number of units occupied to determine the Monthly Utility Consumption Level by unit. This in effect will adjust consumption changes on a percentage basis due to the occupancy rate change.

As an example. assume for Year 1 of the freezing of the rolling base incentive period there were an additional 100 units in an ECIP property brought on-line and the number of HDD for that period totaled 4,589 (as it did during FY03). The adjustments to all of the utilities would be calculated as follows:

Table 21: Example Adjustments to Utilities for HDD

Utility	AUCL	Current Year HDD	Rolling Base HDD	Ratio Current /Rolling	HDD Adjusted AUCL [AUCL X Ratio]
Electricity (kWh)	7,142	4,589	3,975	1.154	8,245
Natural Gas (Therms)	727	4,589	3,975	1.154	839
Water (CCF)	142	NOT ADJUSTED			142

Table 22: Example Adjustments to Utilities for Occupancy

Utility	Current Year Units	Rolling Base Units	Ratio Current /Rolling	HDD Adjusted AUCL	Fully Adjusted AUCL
Electricity (kWh)	7,073	6,973	1.014	8,245	8,360
Natural Gas (Therms)	7,052	6,952	1.014	839	851
Water (CCF)	7,470	7,370	1.014	142	144

Any savings calculations would now be made against these adjusted AUCL consumption figures.

POST-RETROFIT ENERGY USE DATA COLLECTION PROTOCOLS

Post-retrofit energy use for Equation 1 is taken directly from the utility bills as detailed in the data collection protocols and monthly data summarized per development and presented, without adjustment.

REPORTING ENERGY SAVINGS

The following whole building multiple ECM project savings calculation platform will serve to demonstrate the methodology used to calculate energy savings from the ECIP program. The platform consists of a series of worksheets which demonstrate the data and calculations used to generate savings figures. These worksheets will be completed on a periodic basis to monitor the savings generated and will make up the bulk of the documentation for all summary savings reports.

Table 23: Routine Adjustment Worksheet

	Development ID			Utility		Account(s)			FY__	
	Rolling Base Data			Post-Retrofit Conditions		Rolling Base Projected to Post-Retrofit Conditions			Post-Retrofit Data	
	AUCL[a]	HDD[b]	Units[c]	HDD[d]	Units[e]	HDD Ratio[f]	Units Ratio[g]	Adjusted AUCL[h]	Current Consumption[i]	AUCL Savings[j]
OCT										
NOV										
DEC										
JAN										
FEB										
MAR										
APR										
MAY										
JUN										
JUL										
AUG										
SEP										
TOTAL										

Notes to Table 23:

a. Facts from the rolling base energy data
b. Facts from the rolling base energy data
c. Facts from the rolling base operations profile
d. Facts from the post-retrofit utility metering data
e. Facts from the post-retrofit operations profile
f. Calculation (d)/(b)
g. Calculation (e) /(c)
h. Calculation (a) * (f) * (g)
i. Facts from the post-retrofit utility metering data
j. Calculation (h) - (i)

NON-ROUTINE ADJUSTMENT PROTOCOLS

The scope of this M&V plan requires extensive documentation or savings boundaries for optimum savings determination. The analysis of the baseyear utility data required considerable additional audits and assessments of baseyear operating conditions to explain discrepancies in expected model baseyear calibration

and performance. Site specific data in Appendix A provides documentation for the facility's *baseyear operating conditions*, along with the *baseyear energy data*. A comprehensive audit was conducted to determine the following data elements for every candidate DCHA property.

- Energy consumption and electricity demand profiles
- Building type and number of units available
- Conditioned space square footage
- Occupancy in number of units
- Occupied space environmental conditions (set points for temperature and humidity) optimum and estimated actual conditions
- Equipment inventory including: nameplate data, location and condition
- Facility operating practices including set points, temperatures, pressures
- Significant equipment problems and outages, including periods of non-performance
- Identification of any significant *planned* changes to conditions of the facility
- Identification of the planned post-retrofit period for scheduled ECMs

Site specific data provides documentation for the facility's *baseyear operating conditions*, along with the *baseyear energy data*. The comprehensive audit details all subject DCHA facility baseyear conditions (see sample Figure 33) and information relevant to this M&V protocol. Special emphasis was required to assess several buildings specific set of conditions that the prescribed building operated under during the baseyear assessment period. Site data provide the information necessary to account for either changes in or usage of energy consumption that is **not** associated with the retrofit equipment.

Savings boundaries (see sample, Figure 34) define all meters and utility accounts associated with each candidate DCHA property. The savings boundaries in conjunction with the baseyear analysis define the savings calculations per ECM as defined earlier.

If there is a significant change in the post-retrofit period that results in a dramatic rise or decrease in energy and water consumption, the impact of this change will be recorded as a rolling base AUCL adjustment. Examples of a significant change include but are not limited to:

- Repair or installation of a significant piece of equipment such as an air handling unit, fan, boiler, or chiller system which was not operational, or minimally operational during the rolling base period.
- The addition or removal of a unit or number of units that would increase or decrease occupancy rate.
- A significant water, steam, gas, or power outage or leak which would reduce or increase consumption abnormal to the rolling base conditions.
- The addition of sources of energy consumption – such as personal PC's or other electronics, space heaters, etc. that are not accounted for in the savings calculations.

ADJUSTMENT PROTOCOL

Generally, non-routine adjustments are *not* necessary of the savings calculations account for the adjustments in the mathematical calculation.

DCHA FY04 Energy Capital Improvement Program

M&V Plan - Baseyear Conditions

Judiciary House

Facility Variables

Units Available	271	*Type*	Senior High-rise	*Weather*	
Units Occupied	271	*Age (years)*	38		Record HDD and CDD from
Occupation Rate	100%	*Floors*	10		National Weather Service Monthly
Occupancy Schedule	24-7	*Buildings*	1		Degree Day Cities Listing Statistics
Per capita occupancy	2	*Area per unit*	1000		

Other factors

Equipment Variables	Set Points					Average Monthly Operating Hours			
	Fall	Winter	Spring	Summer		Fall	Winter	Spring	Summer
Chiller									
Boiler									
DHW									
LAQ									
RH									

Equipment Inventory

Equipment Name	Description & Identification	Condition	Age	Load	Performance	Service Quality	Annual On hours or use
Mechanical Systems							
Chiller and auxiliaries							
Boiler and auxiliaries							
DHW and auxiliaries							
Electrical Systems							
Lighting							
Interior							
Exterior							
Appliances							
Refrigerators							
Ranges- electric							
Ranges- gas							
Water systems							
Toilets				3.5			14,673
Faucets							8,103
Showers/ Baths							9,928
Plumbing risers							7,300
Washing machines							11,023

Planned Adjustments

Changes in conditioned space
- Working ADA 2 floors unoccupied.
-

Changes in equipmentand auxiliary systems
-
-

Changes in occupancy
-
-

Changes in schedule
-
-

Notes

Changes in conditioned space
-
-

Changes in equipmentand auxiliary systems
-
-

Changes in occupancy
-
-

Changes in schedule
-
-

Figure 33: Sample Baseyear Condition Form

DCHA FY04 Energy Capital Improvement Program

M&V Plan - Utility Savings Boundaries

Judiciary House

Utility Accounts	Account Number	Meter	Serving	
Electric				
includes demand	252422001		461 H ST NW	
Gas	0054.824909	J76935	461 H ST NW	*Boiler*
	0407.034024	N94224	461 H ST NW	
Water	31496	SE01200710	461 H ST NW	

Baseyear Period **OCT 2002 to SEP 2003**

Baseyear conditions

Number of units occupied	**271**
Estimated area per unit	**1,000**
Per capita occupancy	**2**

Baseyear Energy Consumption		Annual
	Summary Electric [kWh]	1,582,650
	Summary Gas [Therm]	137,061
	Summary Water [CCF]	20,250

Meter Data

Electric		kWh	kW Max	kW Min
includes demand	252422001	1,582,650	378	167
Gas		Therms		
Boiler	0054.824909	122,963		
Other	0407.034024	14,098		
Water	31496	20,250		

Per unit Data		Annual	Monthly
	Electric [kWh]	5,840	487
	Gas [Therms]	506	42
	Water [CCF]	75	6.23

Consumption Categories		Annual Consumption		
		Summary	per unit	
Electric [kWh]	Plug Load	1,081,650	3,991	
	Heating	45,375	167	
	Cooling	455,625	1,681	
Gas [Therms]	Laundry	14,098	52	
	DHW/Cooking	30,836	114	
	Heating	92,127	340	
Water [CCF]	Household	20,250	75	gpcd
	Toilets	*5,670*	*21*	*21*
	Clothes Washers	*4,253*	*16*	*16*
	Showers	*3,645*	*13*	*14*
	Faucets	*3,038*	*11*	*11*
	Leaks and Other	*3,645*	*13*	*14*

Energy Use Intensity	*70*	**kBtu/sq. ft.**
Gas Use Intensity	*51*	**kBtu/sq. ft.**
Water Use Intensity	*77*	**gpcd**

Figure 34: Savings Boundaries

The AUCL adjustment takes into consideration heating degree-days and occupancy but do not take into account increased cooling-degree-day data or changes to equipment or operational conditions. Since sub-metering is cost prohibitive, non-routine changes will be identified first by backing out the expected change in consumption from the savings as calculated in ECIP Savings Estimation Methodology starting on page 28. If whole facility consumption, as adjusted by degree-day and occupancy data, is different then expected for a given property, an investigation will need to be run through the facility manager to determine the potential cause of the consumption difference. Commissioning will determine that installed equipment is operating within the parameters and savings estimates as established thus documenting the ECM consumption and allowing the ECM source of the consumption change to be backed out. If a non-routine adjustment is required, the non-routine change in consumption will be made within the rolling base period as well so that it is accounted for on a "level playing field" basis.

All adjustments must be documented in a baseline adjustment log and maintained by DCHA throughout the ECIP program. Annual reports will be generated for HUD documenting any adjustments made, with supporting measurements, calculations, and commissioning reports to validate the adjustment.

DATA QUALITY ASSURANCE, TRANSPARENCY AND RECORDKEEPING

The prescribed method for data collection is of average degree of difficulty compared to other data collection methods. The amount of erroneous or missing data is expected to be low, however, errors in measurement are bound to happen.

EXPECTED ACCURACY OF MEASUREMENTS

DCHA expects a 99% accuracy rate in data collection and reporting. Given on average, over 115,000 utility bills with over one million annual data points, a 1% error or missing rate equates to just over 1,150 missing bills, and just over 10,000 incorrect data points either through the utility, the data collection system, or the analytical evaluation. This error rate should never account for more than 1% fluctuation in consumption. The missing data protocols will be used as described earlier to account for the missing data. All adjustments will be kept in the ECIP data log and reported annually.

TRANSPARENCY OF DATA

All utility bills, ECIP logs and data sets, utility billing and administration data and worksheets will be archived and kept throughout the ECIP 12 year program term. All data will be made available to HUD or any other prescribed inspector to determine the accuracy and integrity of the consumption and cost data. Physical utility bills will be kept for a period of three years due to physical storage constraints unless HUD directs DCHA otherwise.

Access to the data set will be controlled by the DCHA Development and Modernization Administration and will be limited to a predetermined number of individuals. Archival copies will be kept independent of the original data set with restricted access to eliminate the potential for data tampering. Once a year the data set will be reconciled for the past fiscal year and the books closed so that no adjustments to those files may be made once the books are sealed. If an adjustment is necessary, it will be done in a subsequent year with documentation justifying the adjustment in the current fiscal year's records.

REPORTING AND DOCUMENTATION PROTOCOL

Monthly analysis of the consumption data will occur, however, only annual reports will be generated detailing savings to HUD, adjustments made, and any other issues with respect to the implementation of the ECIP program.

Of course if there are issues which flag concern on the potential consumption savings, those will be immediately reported and investigated to prevent the loss of potential savings to DCHA and HUD.

M&V PROJECT BUDGET

The cost of determining savings depends on many factors including:

- The M&V method selected – for DCHA whole building analysis is selected.
- The number of ECMs implemented and the interaction between the ECMs.
- Energy flow across the savings boundaries as defined in the M&V protocol. In a whole building analysis this is significant.
- The level of detail in the baseline creation and subsequent accuracy of measurements
- The amount and complexity of measurement equipment – could escalate since Energy Management Systems will be involved.
- The amount of engineering required to stipulate the savings estimates provided
- The number and complexity of independent variables which need to be monitored, measured and reported on a periodic basis
- The duration and frequency of measuring and detail of reporting activities – here monthly/annually

It is difficult to generalize costs for a specific M&V program until the program is implemented. However, given the experience of the DCHA Utility Billing and Administration program, it can be anticipated that the annual ECIP M&V costs will be approximately 1-3% of the $26 million project capital cost, well below HUD industry estimates.

APPENDIX A – ECIP PROPERTY DATA AND CALCULATIONS