Copy

HONEYWELL
AGREEMENT

Customer Name:	Housing Authority of the City of Pittsburgh
Date of Submission:	July 29, 2008
Validity Period:	July 31, 2008

ENERGY SERVICES AGREEMENT

This Energy Services Agreement (the "Agreement") is made and entered into as of this 30TH day of July 2008, by and between, Honeywell International Inc. ("Honeywell") having its principal offices at 101 Columbia Road, Morristown, New Jersey 07962-1057, and the Housing Authority of the City of Pittsburgh, ("HACP") with a principal offices at 200 Ross Street, 9th Floor, Pittsburgh, PA 15219 (collectively the "Parties") for the purpose of installing certain energy saving equipment (the "Equipment"), described in Schedule A (the "Work"), and providing other services designed to save energy for the HACP's property and buildings as specifically identified herein and generally referred to as the "Premises" or the "Buildings."

WITNESSETH

WHEREAS, HACP owns and operates the Premises, and is in need of energy saving equipment and service designed to save energy and associated energy costs at said Premises; and

WHEREAS, Honeywell has developed or become knowledgeable about certain procedures for controlling energy consumption through the use of engineering analyses and devices installed and maintained on the premises of HACP; and

WHEREAS, Honeywell has made an assessment of the energy consumption characteristics of the Premises;

WHEREAS, HACP desires to retain Honeywell to install and service certain energy efficiency equipment of the type or class described in Schedule A , attached hereto and made part hereof, and to provide other services for the purpose of achieving energy cost reductions within Premises, as more fully set forth herein; and

WHEREAS, HACP desires to compensate Honeywell for its services based upon the value of energy savings that are obtained; and

WHEREAS, HACP is authorized under the Constitution and the laws of the Commonwealth of Pennsylvania to enter into this Agreement for the purposes set forth herein.

NOW, THEREFORE, in consideration of the mutual promises and covenants contained herein, and intending to be legally bound hereby, HACP and Honeywell hereto covenant and agree as follows:

SECTION 1. <u>ENERGY MANAGEMENT PLAN</u>

Section 1.1 Plan Details. Honeywell has prepared a complete energy use audit dated May 8, 2008 which has been approved and accepted by HACP. The audit includes all energy conservation measures (the "ECMs") agreed upon by the parties, including but not limited to, all ECMs set forth in Schedule A.

Section 1.2 Schedules. Honeywell has prepared and HACP has approved and accepted the schedules A-J and Exhibit A-1 set forth below, copies of which are attached hereto and incorporated herein.

SECTION 2. ENERGY USAGE RECORDS AND DATA

HACP has furnished or shall furnish (or cause its energy suppliers to furnish) to Honeywell, upon Honeywell's request, all of HACP's records and complete data concerning energy usage for the Premises, including the following data, for the thirty-six (36) month period required by HUD regulation; utility records; occupancy information; descriptions of any changes in the building structure or its heating, cooling, lighting or other systems or energy requirements; descriptions of all energy consuming or saving equipment used in the Premises; and description of energy management procedures presently utilized. If requested, HACP shall also provide any prior energy audits of the Premises, and copies of HACP's financial statements and records related to energy usage for said thirty-six (36) month period at said Premises, and shall make agents and employees familiar with such records available for consultations and discussions with Honeywell.

SECTION 3. COMMENCEMENT DATE AND TERMS; INTERIM PERIOD

Section 3.1 Commencement Date. Honeywell shall commence installation and implementation of the Work set forth in Schedule A immediately upon contract execution by both parties, which shall be concurrent with closing on the financing by HACP. The Commencement Date of the Energy Guarantee shall be the first day of the month after the month in which Honeywell delivers a Notice to HACP that it has installed and commenced operating all of the Equipment specified in Schedule A, and HACP has inspected and accepted said installation and operation. Compensation payments due to Honeywell for service under this Agreement shall be made as set forth in Schedule C, Honeywell's Compensation, and Schedule H, Support Services.

Section 3.2 Term of Agreement; Interim Period. Subject to the following sentence, the term of this Agreement shall be twelve (12) years, measured beginning with the Commencement Date. Nonetheless, the Agreement shall be effective and binding upon the parties immediately upon its execution, and the period from contract execution until the Commencement Date shall be known as the "Interim Period". All energy savings achieved during the Interim Period will belong exclusively to the HACP.

Section 3.3 Honeywell's proposal shall be valid through July 31,, 2008.

SECTION 4. PAYMENTS TO HONEYWELL

Section 4.1 Energy Savings Guarantee. Honeywell has formulated and guaranteed the level of energy savings that will be achieved as a result of the installation and operation of the Equipment and provision of services provided for in this Agreement. The "Energy Savings Guarantee" is set forth in Schedule B.

Section 4.2 Fees. Honeywell has structured the energy savings guarantee referred to in Section 4.1 above so as to be sufficient to include any and all payments required to be made by HACP in connection with financing the Equipment to be installed by Honeywell under this Agreement. Actual energy savings achieved by Honeywell shall and must also be sufficient to cover any and all fees to be paid by HACP with respect to Support Service to be provided by Honeywell pursuant to Schedule H. The price for the Work is Twenty Five Million One Hundred Ten Thousand Eight Hundred One Dollars and No Cents ($25,110,801.00), which amount is agreed by the Parties to include Two Hundred Thousand Dollars and No Cents ($200,000.00) for additional ECMs to be mutually agreed upon in writing by the Parties and installed by Honeywell pursuant to the terms and conditions of this Agreement, and an amount not to exceed Fifty Thousand Dollars and No Cents ($50,000.00) to be used prior to Final Acceptance for patching of roofs at the Bedford site. The Parties agree that the $50,000.00 will be exhausted for patching of roofs prior to accessing the $200,000.00 for that purpose. The first year Service price is Seventy Two Thousand Three Hundred Forty Two Dollars and No Cents ($72,342.00). Payments for Support Services shall be invoiced in accordance with Schedules C and H.

Section 4.2.1 Funding Contingency. HACP intends to obtain financing in order to fund the Work under this Agreement. After receipt of Performance and Payment bonds, which shall be no later than two days after contract execution, and finance funding, HACP will promptly notify Honeywell in writing and authorize Honeywell to begin construction via a Notice to Proceed. Honeywell shall not commence construction until financing has been secured, Performance and Payment bonds have been received by HACP and the Notice to Proceed has been issued. HACP can cancel this Agreement by written notice to Honeywell in the event HACP's financing does not materialize for any reason. Honeywell's price is based upon HACP securing financing and issuing a Notice to Proceed prior to July 31, 2008. In the event HACP's financing is delayed and the Notice to Proceed cannot be issued by July 31, 2008 the parties will terminate the Agreement by mutual agreement. In the event Honeywell exercises any option to terminate due to HACP's failure to obtain financing, it shall not be entitled to damages of any kind or payment for Work completed prior to the termination date.

Section 4.2.2 Schedule of Values. Within ten (10) days of contract execution, the Parties will develop a mutually agreeable schedule of values and Schedule J allocated to the various portions of the Work, The scheduled of values shall be used as the basis for reviewing Honeywell's invoices for payment.

Section 4.3 Billing Information Procedure. Payments due Honeywell under this Section 4 shall be calculated pursuant to Schedule C and Schedule H. Consistent with the requirements of HUD 5370 §27, Honeywell shall prepare and send to HACP a monthly invoice which shall set forth

the percent of the Work complete as of that date in accordance with Schedule C. The invoice will set forth the total payment due from HACP based upon the items of work completed.

Section 4.4 Payment. Except to the extent HACP provides written notice of its reasonable dispute of amounts invoiced, HACP shall pay Honeywell within thirty (30) days of receipt of Honeywell's acceptable invoice, including all documents required by HUD 5370 §27 and certified payroll.

Section 4.5 Annual Review and Reimbursement. In accordance with Schedules B and D, within ninety (90) days of the receipt of final utility data at the end of each guarantee year, Honeywell and HACP shall review the guaranteed and actual energy savings and any payments made by HACP, and shall determine the annual net savings and/or payment figures. In the event that the annual guaranteed amount exceeds actual savings, Honeywell shall reimburse HACP for said shortfall according to the terms of Schedule B.

SECTION 5. CONSTRUCTION SCHEDULE AND EQUIPMENT INSTALLATION APPROVAL

Construction and Equipment installation shall proceed in accordance with the construction schedule, a general example of which is attached hereto as Schedule F but which will be subject to revisions, on a monthly or more frequent basis, by mutual agreement of the Parties. Throughout construction of the Work, Honeywell shall provide Notice of Substantial Completion along with Delivery and Acceptance certificates to HACP, general examples of which are attached hereto as Schedule J, but which will be subject to revision by mutual agreement of the parties. Within five (5) business days of its receipt of the Notice of Substantial Completion, HACP will schedule a walk-through of the Work performed and provide a written punch list documenting deficiencies in the Work that are to be corrected for acceptance, which punch list items will be rectified by Honeywell within two (2) weeks of its receipt of the punch list The Parties shall execute a Delivery and Acceptance Certificate that the Work is installed and operating as required by the terms of this Agreement. Execution by HACP of the final Delivery and Acceptance Certificate shall constitute final acceptance of the Work performed by Honeywell. Inspection and acceptance procedures will be consistent with HUD 5370 Section 5.

SECTION 6. EQUIPMENT WARRANTIES

Section 6.1 Honeywell covenants and agrees that all Equipment installed as part of this Agreement is new, in good and proper working condition, and protected by appropriate written warranties covering all parts and Equipment performance. Honeywell further agrees during the one-year Honeywell warranty period: to deliver, within the first two weeks of the one-year warranty period, to HACP for inspection and approval all such written warranties; to pursue rights and remedies against manufacturer and seller of the Equipment under the warranties in the event of Equipment malfunction or improper or defective function, and/or defects in parts, workmanship and performance; and to notify HACP in writing whenever defects in Equipment parts or performance occur that give rise to such rights and remedies and those rights and remedies have been exercised by Honeywell. Honeywell's liability under this warranty shall be to repair or replace promptly, at Honeywell's option and at Honeywell's sole expense, defective

Equipment or materials. Honeywell shall not be liable for repairs if the Equipment has been subjected by non-Honeywell personnel to misuse, or neglect. All warranties shall be transferable to HACP and by HACP and shall extend to HACP, but with regard to manufacturer's warranties shall be limited to the terms of the manufacturer's warranty. The warranties shall specify that only new, and not reconditioned parts, may be used and installed when repair is necessitated by malfunction.

Section 6.2 All warranties required hereunder shall be in force for a minimum of one year from the date of acceptance of that particular piece of equipment or portion of the Work.

Section 6.3 In addition to the warranty set forth above, Honeywell shall assign to HACP any and all manufacturers' or installers' warranties for Equipment or materials provided under this Agreement to the extent that such warranties extend beyond the warranty period set forth above.

Section 6.4 Upon installation and acceptance of each ECM, Honeywell shall provide to HACP three (3) copies of Equipment operation and maintenance documentation pertinent to the ECM and this Agreement. This includes maintenance and repair manuals, specification sheets for all products used throughout the project, as built drawings and warranty certificates. In addition, Honeywell will provide one hundred twenty (120) hours of "on site" training to HACP designated employees for review of the above listed information and instruction to support the proper operation and maintenance of the related Equipment. Said training is to be scheduled at a mutually agreeable time after acceptance but prior to seasonal use and will be conducted for trainees specified by HACP.

SECTION 7. PERMITS AND APPROVALS; COORDINATION

Section 7.1 Permits and Approvals. HACP shall use its best efforts to assist Honeywell in obtaining all necessary permits and approvals for installation of the Equipment. The installation of the Equipment and the operation of the Equipment by Honeywell shall at all times conform to local code requirements.

Section 7.2 Coordination during installation. HACP and Honeywell shall coordinate the activities of Honeywell's equipment installers with those of the HACP, its employees, and agents. HACP and Honeywell will coordinate notification and access to residential units. At no time shall Honeywell commit or permit any act that will interfere with the performance of business activities conducted by HACP or its employees or agents without prior written approval of HACP.

SECTION 8. PERFORMANCE BY HONEYWELL

Honeywell shall perform all tasks under the Agreement, including construction, and installation of the Equipment in such a manner so as not to harm the Premises or impair the structural integrity of the Buildings or their operating systems and so as to conform to the standards set forth in Schedules D and G and the construction schedule. Honeywell shall promptly repair and restore to its original condition any area of damage caused by Honeywell's actions. HACP reserves the right to review the work performed by Honeywell and to direct Honeywell to take

certain corrective action if, in the reasonable opinion of HACP, the structural integrity of the Premises or its operating system is or will be harmed.

SECTION 9. OWNERSHIP

Section 9.1 Ownership of Certain Proprietary Property Rights. HACP shall not, by virtue of this Agreement, acquire any interest in any formulas, patterns, devices, secret inventions or processes, copyrights, patents, other intellectual or proprietary rights, or similar items of property that are or may be used in connection with the Equipment.

Section 9.2 Ownership of Existing Equipment. Ownership of the equipment and materials presently existing at the Premises at the time of execution of this Agreement shall remain the property of the HACP even if the same is replaced or its operation made unnecessary by work performed by Honeywell pursuant to this Agreement. Honeywell bears the cost of disposal of windows and other items replaced as a part of the Work. HACP will direct Honeywell in writing with respect to which equipment and materials it wishes to retain and which equipment and materials HACP wants Honeywell to dispose of.

Section 9.3 Ownership of Installed Equipment. Ownership of Equipment installed pursuant to this Agreement shall pass to HACP at acceptance of the ECM or upon Honeywell's receipt of payment from HACP for that ECM, whichever is later.

Section 9.4 RESERVED.

Section 9.5 RESERVED.

SECTION 10. LOCATION AND ACCESS

HACPHACP shall provide access to the Premises for Honeywell to perform any function related to this Agreement during regular business hours, or such other reasonable hours as may be requested in writing by Honeywell and acceptable to the HACP. Honeywell shall be granted immediate access to make emergency repairs or corrections as the Parties determine are needed.

SECTION 11. EQUIPMENT SERVICE

Section 11.1 Actions by Honeywell. Other than warranty covered repairs which shall be provided by Honeywell, HACP is assuming responsibility for maintenance of the Equipment installed under this Agreement.

Section 11.2 Malfunctions and Emergencies. During the one-year warranty period, HACP shall notify Honeywell or its designee by telephone as soon as reasonably possible and at least within forty-eight (48) hours after it becomes aware of (i) any malfunction in the operation of the Equipment or any preexisting energy related equipment that might materially impact upon the guaranteed energy savings, (ii) any interruption or alteration to the energy supply to the Premises that HACP reasonably believes will materially impact upon the guaranteed energy savings, or (iii) any material alteration or modification to Honeywell-installed energy-related Equipment or

its operation that HACP reasonably believes will materially impact upon the guaranteed energy savings. Where HACP exercises diligence in attempting to assess malfunction, it shall not be deemed negligent or reckless in failing to correctly identify a malfunction as having a material impact upon guaranteed energy savings. Honeywell shall respond to any such notice within twenty-four (24) hours and shall promptly thereafter proceed with corrective measures. HACP shall notify Honeywell forthwith upon learning of any emergency condition affecting the Equipment. Honeywell shall respond to any such notice and correct the condition as soon as reasonably possible but not later than twenty-four (24) hours from receipt of such notice. In the event that the condition can not be fully corrected within twenty-four (24) hours, Honeywell shall provide a written plan for correction to HACP for approval within twenty-four (24) hours. Any telephonic notice shall be followed within three (3) business days by written notice from HACP. If HACP unreasonably delays in so notifying Honeywell of a malfunction or emergency, and the malfunction or emergency is not otherwise corrected or remedied, Honeywell may charge HACP for only its proven loss, due to the delay, of compensation which would otherwise be paid it under this Agreement for the particular time period, provided that Honeywell is able to prove in writing the direct causal connection between the delay and the loss. After expiration of the one year warranty period, HACP shall continue to notify Honeywell in writing of Equipment malfunctions within a reasonable period of time for purposes of determining impact to the Energy Guarantee.

Section 11.3 Actions by HACP. HACP shall not move, remove, modify, alter, or change in any way the Equipment or any part thereof without the prior written notification of Honeywell, except for maintaining the Equipment as specified in Schedules D, G and H. Notwithstanding the foregoing, HACP may take reasonable steps to protect the Equipment if, due to an emergency, it is not possible or reasonable to notify Honeywell before taking any such actions. In the event of such an emergency, HACP shall take reasonable steps to protect the Equipment from damage or injury and shall follow instructions for emergency action provided in advance by Honeywell. HACP agrees to maintain the Premises in good repair and to protect and preserve all portions thereof that may in any way affect the operation or maintenance of the Equipment.

Section 11.4 Effect of Equipment Malfunctions on Client. Prior to Final Acceptance of the Work, any equipment malfunction to due solely to nonperformance by Honeywell which results in the cancellation of scheduled activities due to the failure to meet the standards of service and comfort set forth in Schedule G shall result in an assessment against Honeywell in an amount to compensate HACP for revenues that it would have realized from the scheduled activities provided, however, that in no event will the total value of any and all such assessments against Company exceed Five Hundred Thousand Dollars and No Cents ($500,000.00).

SECTION 12. UPGRADING OR ALTERING THE EQUIPMENT

In the event of a Savings Shortfall as set forth in Schedule B, Section 3.1.5, Honeywell shall have the right, subject to HACP's prior written approval, which approval shall not be unreasonably withheld, to change the Equipment, revise any procedures for the operation of the Equipment or implement other energy saving actions related to the ECM in the Premises, provided that the standards of services set forth in Schedules D, G and H herein shall not be reduced. Subject to HACP's approval and acceptance, which shall not be unreasonably withheld,

all replacements, deletions, alterations, or additions of Equipment, or revisions to the procedures shall be described in a supplemental schedule or schedules to be provided in writing to HACP and to be attached to this Agreement and made part hereof. Honeywell is solely and completely responsible for any cost relative to replacements, deletions, alterations or additions of equipment or revisions to the procedures made or additional training needed pursuant to this section.

SECTION 13. STANDARDS OF COMFORT

Honeywell, during the one (1) year warranty period, and HACP will maintain and operate the Equipment in a manner that will provide the standards of heating, cooling, hot water, and lighting which are described in Schedules D and G.

SECTION 14. MATERIAL CHANGES

Section 14.1 Reported Material Changes. HACP shall deliver to Honeywell a written notice describing and explaining all actual or proposed Material Changes in the Premises or in the operations in the Premises and their anticipated effect on energy use. Said Notice must be delivered to Honeywell no less than seven (7) days before any actual or proposed Material Change occurs, if reasonably possible but it no event any later than the day the Material Change takes effect. For purposes of this provision, a Material Change is defined as any change in the following which reasonably could be expected to increase or decrease energy used at the Premises by more than five percent (5%):

(i) manner of use of the Premises by HACP;

(ii) hours of operation of any equipment or facilities or energy systems contained in the Premises;

(iii) occupancy of the Premises;

(iv) structure of the Premises;

(v) types of equipment used in the Premises; or

(vi) conditions affecting energy use in the Premises.

Section 14.2 Unreported Material Changes. In the absence of any Material Changes in the Premises or in their operations, energy consumption should not change from year to year. Therefore, if energy consumption for any month increases by three percent (3%) or more from the energy consumption for the same month of the preceding contract year, after adjustment for changes to climactic conditions, then such increase shall be documented in writing and provided to HACP for review and for approval to be treated as a Material Change, which approval shall

not be unreasonably withheld. The foregoing provision for Unreported Material Changes will not apply where such increase is due to equipment malfunction, faulty repair or other acts of negligence by Honeywell.

Section 14.3 Adjustments for Material Changes. In the event of any increase or decrease in energy consumption for any month resulting from either a reported or unreported Material Change, as defined in 14.1 and 14.2 respectively, or an equipment replacement per Schedule B, Section 3.51, the amount of that increase shall be subtracted from or that decrease shall be added to the total energy consumption for that month prior to the calculation of energy savings pursuant to Schedules B, D and E.

If a reported or unreported Material Change affected energy consumption in the same calendar month in the preceding year, the next preceding contract year where a Material Change has not occurred will be used to compute the energy savings for the current month.

SECTION 15. PROPERTY/CASUALTY INSURANCE/INDEMNIFICATION

Section 15.1 At all times during the term of this Agreement, Honeywell shall maintain in full force and effect, at its sole expense: (1) Workmen's Compensation Insurance sufficient to cover all of the employees of Honeywell working to fulfill this Agreement, and (2) Casualty and Liability Insurance on the Equipment and Liability Insurance for its employees and the possession, operation, and service of the Equipment. The limits of such insurance shall be not less than $10,000,000 for bodily injury, death or property damage in a single occurrence. Such policies shall name the HACP as an additional insured.

Prior to commencement of work under this Agreement, Honeywell is required to provide HACP with current certificates of insurance specified above. These certificates shall contain a provision that coverage afforded under the policies will not be canceled or changed until at least thirty (30) days' prior written notice has been given to HACP.

Section 15.2 Honeywell shall be responsible for (i) any damage to the Equipment or other property on the Premises and (ii) any personal injury where such damage or injury occurs as a result of Honeywell's negligent performance or willful misconduct under this Agreement. Risk of loss for the Equipment and materials provided under this Agreement shall transfer to the HACP upon installation to the HACP's Premises and acceptance.

Section 15.3 Honeywell shall save and hold harmless HACP and its officers, agents and employees or any of them from any and all claims, demands, actions or liability for bodily injury or property damage to the extent such claims result from or arise out of Honeywell, its agents or employees' negligent actions or willful misconduct under this Agreement.

Section 15.4 EXCEPT TO THE EXTENT SPECIFICALLY PROVIDED FOR IN SECTION 11.4 OF THIS AGREEMENT, IN NO EVENT SHALL EITHER PARTY BE LIABLE FOR ANY INDIRECT OR CONSEQUENTIAL DAMAGES ARISING FROM, CONNECTED WITH OR RELATING TO THE WORK, EQUIPMENT OR SERVICES PROVIDED HEREUNDER.

SECTION 16. CASUALTY OR CONDEMNATION OF PREMISES.

Any construction or restoration of the Premises following or necessitated by fire, flood, or other casualty, or any condemnation affecting any portion of the Premises, shall be deemed a Material Change, and the provisions of Section 14 shall be applicable. If the casualty or condemnation renders fifty percent or more of the Premises uninhabitable or unusable and, in the case of a casualty, the affected portion is not reconstructed or restored within one hundred and eighty (180) days from the date of such casualty, the parties shall either remove the affected portion of the Premises from the Scope of Work and revise the guarantee based upon the revised Scope of Work or terminate this Agreement.

SECTION 17. CONDITIONS BEYOND CONTROL OF THE PARTIES

Prior to Final Acceptance of the Work, if a party ("performing party") shall be unable to reasonably perform any of its obligations under this Agreement due to acts of God, insurrections or riots, or similar events beyond the party's reasonable control, this Agreement shall, by mutual agreement of the parties

(i) remain in effect but said performing party's obligations shall be suspended until the said events shall have ended or the time for the performing party's obligations shall be extended: or,

(ii) be terminated upon ten (10) days' notice to the performing party, in which event neither party shall have any further liability to the other, except to pay for work executed, accepted and properly invoiced prior to notice of termination. ; or

(iii) be renegotiated by the Parties as they deem reasonable.

SECTION 18. EVENTS OF DEFAULT

Section 18.1 Events of Default by HACP. Each of the following events or conditions shall constitute an "Event of Default" by HACP:

(i) any failure by HACP to pay Honeywell any sum due for a service and maintenance period of more than thirty (30) days after written notification by Honeywell that HACP is delinquent in making payment pursuant to an invoice that complies with HUD 5370;

(ii) any other material failure by HACP to perform or comply with the terms and conditions of this Agreement, including breach of any covenant contained herein, provided that such failure continue for thirty (30) days after notice to HACP demanding that such failures to perform be cured or if cure cannot be effected within such thirty (30) days, HACP shall be deemed to have cured default upon the commencement of a cure within such thirty (30) days and diligent subsequent completion thereof;

(iii) any representation or warranty furnished by HACP in this Agreement that was knowingly false or misleading in any material respect when made.

Section 18.2 Events of Default by Honeywell. Each of the following events or conditions shall constitute an "Event of Default" by Honeywell:

(i) During the term of the warranty, Honeywell fails to repair or adjust the Equipment and said failure continues for thirty (30) days after notice to Honeywell without good faith efforts by Honeywell to make or commence necessary repairs or adjustments;

(ii) any representation or warranty knowingly furnished by Honeywell in this Agreement that was false or misleading in any material respect when made;

(iii) failure to furnish and install the Equipment and make it ready for use within the time specified by this Agreement;

(iv) provided that the operation of the Premises is not adversely affected, any failure by Honeywell to perform or comply with the terms and conditions of this Agreement, including breach of any covenant contained herein, except that such failure, if corrected or cured within thirty (30) days after written notice to Honeywell demanding that such failure to perform be cured, shall be deemed cured for purposes of this Agreement;

(v) any lien or encumbrance upon the Equipment by any subcontractor, laborer or materialman of Honeywell:

(vi) the filing of a bankruptcy petition whether by Honeywell or its creditors against Honeywell which proceeding shall not have been dismissed within thirty (30) days of its filing, or an involuntary assignment for the benefit of all creditors or the liquidation of Honeywell.

SECTION 19. REMEDIES UPON DEFAULT

Section 19.1 Remedies upon Default. If an Event Default by either Party occurs, the other party may, without a waiver of other remedies which exist in law or equity, elect one of the following remedies:

exercise all remedies available at law or in equity or other appropriate proceedings, including bringing an action or actions from time to time for recovery of amounts due and unpaid by the other party and/or for damages, which shall include all costs and expenses reasonably incurred in exercise of its remedy;

SECTION 20. ASSIGNMENT

Section 20.1 Assignment by Honeywell

(i) Honeywell may, with notice to and consent of HACP, which consent shall not be unreasonably withheld, delegate its duties and its performance under this Agreement, and/or utilize contractors, provided that any assignee(s), delegee(s), or contractor(s) shall honor the terms of this Agreement and shall so bind itself.

(ii) Notwithstanding the provisions of paragraph (i) above of this Section 20.1, Honeywell shall remain jointly and severally liable with its assignee(s), or transferee(s) to HACP for all of its obligations under this Agreement.

(iii) Honeywell may hire subcontractors to perform work under this Agreement, provided Honeywell provides a written list of such subcontractors to HACP in advance. Honeywell shall not enter into any subcontract for work under this Agreement with any subcontractor who has been temporarily denied participation in a HUD program or who has been suspended or debarred from participating in contracting programs by any agency of the United States Government or the Commonwealth of Pennsylvania.

Section 20.2 Assignment by HACP. HACP may, with notice and consent of Honeywell, which consent shall not be unreasonably withheld, transfer or assign this Agreement and its rights and obligations herein to a successor or purchaser of the Premises, Buildings or an interest therein.

SECTION 21. ARBITRATION

Any dispute, controversy, or claim arising out of or in connection with, or relating to this agreement, or any breach or alleged breach hereof, shall, upon the request of any party involved (and without regard to whether or not any provision of this agreement expressly provides for arbitration), be submitted to and settled by arbitration in the Commonwealth of Pennsylvania, in conformance with the rules of the American Arbitration Association then in effect for commercial disputes (or at any other place or under any other form of arbitration mutually acceptable to the parties). Any award rendered thereon may be entered in the highest court of a forum, state or federal, having jurisdiction. The expenses of the arbitration shall be borne equally

by the parties to the arbitration.

SECTION 22. REPRESENTATIONS AND WARRANTIES

Each party warrants and represents to the other that:

(i) it has all requisite power, authority, licenses, permits, and franchises, corporate or otherwise, to execute and deliver this Agreement and perform its obligations hereunder;

(ii) its execution, delivery, and performance of this Agreement have been duly authorized by, or are in accordance with, its organic instruments, and this Agreement has been duly executed and delivered for it by the signatories so authorized, and it constitutes its legal, valid, and binding obligation;

(iii) its execution, delivery, and performance of this Agreement will not result in a breach or violation of, or constitute a default under, any agreement, lease or instrument to which it is a party or by which it or its properties may be bound or affected; or

(iv) it has not received any notice, nor to the best of its knowledge is there pending or threatened any notice, of any violation of any applicable laws, ordinances, regulations, rules, decrees, awards, permits or orders which would materially and adversely affect its ability to perform hereunder.

SECTION 23. ADDITIONAL REPRESENTATIONS OF THE PARTIES.
HACP hereby warrants, represents and promises that, to the best of the knowledge and belief of its Executive Director, and except as previously disclosed regarding Custom Energy,

(i) it has provided or shall provide timely to Honeywell, all records relating to energy usage of Premises requested by Honeywell and the information set forth therein is, and all information in other records to be subsequently provided pursuant to this Agreement will be, true and accurate in all material respects; and

(ii) it has not entered into any leases, contracts or agreements with other persons or entities regarding the leasing of energy efficiency equipment or the provision of energy management services for the Premises or with regard to servicing any of the energy related equipment located in the Premises. HACP shall provide Honeywell with copies of any successor or additional leases of energy efficiency equipment and contracts for management or servicing of preexisting equipment at Premises that may be executed from time to time hereafter within thirty (30) days after execution thereof.

Honeywell hereby warrants, represents and promises that, to the best of the knowledge and belief of its signatory hereto,

(i) before commencing performance of this Agreement:

(a) it shall have become licensed or otherwise permitted to do business in the Commonwealth of Pennsylvania and

(b) it shall have provided proof and documentation of liability insurance pursuant

to Section 15.1.

(ii) it shall make available, upon reasonable request, documents relating to its performance under this Agreement, including contracts and sub-contracts it shall enter into;

(iii) it shall use subcontractors and delegates who are qualified, licensed and bonded in this state to perform the work so subcontracted or delegated pursuant to the terms hereof.

SECTION 24. WAIVER OF LIENS

Honeywell will obtain and furnish to HACP upon request, partial Waiver of Liens from each subcontractor in consideration of HACP's payment of each invoice and a final lien waiver effective upon Honeywell's receipt of final payment from HACP.

SECTION 25. COMPLIANCE WITH LAW AND STANDARD PRACTICES

Honeywell shall perform its obligations hereunder in compliance with any and all applicable federal, state, and local laws, rules, and regulations, in accordance with sound engineering and safety practices, and in compliance with any and all reasonable rules of HACP relative to the Premises. Honeywell shall be responsible for obtaining all governmental permits, consents, and authorizations as may be required to perform its obligations hereunder.

SECTION 26. INDEPENDENT CAPACITY OF THE CONTRACTOR

The parties hereto agree that Honeywell, and any agents and employees of Honeywell, in the performance of this Agreement, shall act in an independent capacity and not as officers, employees, or agents of the HACP.

SECTION 27. NO WAIVER

The failure of Honeywell or HACP to insist upon the strict performance of the terms and conditions hereof shall not constitute or be construed as a waiver or relinquishment of either party's right to thereafter enforce the same in accordance with this Agreement in the event of a continuing or subsequent default on the part of Honeywell or HACP.

SECTION 28. SEVERABILITY

In the event that any clause or provision of this Agreement or any part thereof shall be declared invalid, void, or unenforceable by any court having jurisdiction, such invalidity shall not affect the validity or enforceability of the remaining portions of this Agreement unless the result would be manifestly inequitable or unconscionable.

SECTION 29. COMPLETE AGREEMENT

This Agreement, which includes the Energy Services Agreement together with all schedules,

exhibits and appendices attached hereto, when executed, shall constitute the entire Agreement between both parties and this Agreement may not be amended, modified, or terminated except by a written agreement signed by the parties hereto. To the extent that any of the provisions of the Energy Services Agreement and its schedules and exhibits are inconsistent with the appendices (and any amendments and clarifications thereto), the terms set forth in the Energy Services Agreement and its schedules and exhibits will govern.

This Agreement consists of this document and the following schedules, exhibits and appendices, which are attached hereto and incorporated herein by reference:

Schedule A: Scope of Work
Schedule B: Energy Savings Guarantee
Schedule C: Honeywell's Compensation
Schedule D: Projected Financial Performance and Measurement and Verification Plan
Schedule E: Savings Calculations
Schedule F: Installation Schedule
Schedule G: Standards of Comfort
Schedule H: Support Services
Schedule I: Baseline Energy Consumption
Schedule J: Project Acceptance
~~Exhibit A-1: Lighting Inventory~~ CAV 7/30/08 CAV 7/30/08
Appendix A: Housing Authority of the City of Pittsburgh Request for Proposal-Energy Performance Contracting, RFP No. 600-85-06
Appendix B: Honeywell Proposal in response to HACP RFP No. 600-85-06, incorporated by reference.
Appendix C: HUD Form 5370–General Conditions of the Contract for Construction

SECTION 30. FURTHER DOCUMENTS

The parties shall execute and deliver all documents and perform all further acts that may be reasonably necessary to effectuate the provisions of this Agreement.

SECTION 31. APPLICABLE LAW

This Agreement and the construction and enforceability thereof shall be interpreted under the laws of the Commonwealth of Pennsylvania.

SECTION 32. NOTICE

Any notice required or permitted hereunder shall be deemed sufficient if given in writing and delivered personally or sent by registered or certified mail, return receipt requested, postage prepaid, or delivered to a nationally recognized express mail service, charges prepaid, receipt obtained, to the address shown below or to such other persons or addresses as are specified by similar notice.

TO HONEYWELL:

Honeywell International Inc.
950 Keynote Circle
Brooklyn Heights, Ohio 44131

ATTENTION: Beau Mabrey, Director of Sales

TO HACP:

Housing Authority of the City of Pittsburgh
200 Ross Street
9th Floor
Pittsburgh, Pennsylvania 15219

ATTENTION: A. Fulton Meachem, Jr., Executive Director

AND

Housing Authority of the City of Pittsburgh
100 Ross Street
2nd Floor
Pittsburgh, Pennsylvania 15219

ATTENTION: Sunshine Eger, Contract Administrator and Jerry Okoko, Director of Development and Modernization

SECTION 33. HACP'S COMPLIANCE WITH GUARANTEE SPECIAL PROVISIONS
Section 33.1 The parties acknowledge and agree that Honeywell and HACP have entered into this Agreement in reliance upon the prospect of generating guaranteed energy savings in energy used at Premises, as set forth in Schedules B, D, G, H and I, attached hereto and made a part hereof.

Section 33.2 The parties further acknowledge and agree that the said guaranteed energy savings would not likely be obtained without proper installation by Honeywell of the Equipment set forth in Schedule A nor unless certain procedures and methods of operation designed for energy conservation shall be implemented and followed by HACP on a regular and continuous basis. The parties also acknowledges that the guarantee is dependent on Honeywell's accurate calculation of consumption reduction as set forth in Schedule E.

Section 33.3 HACP agrees that it shall adhere to, follow and implement the energy conservation procedures and methods of operation to be set forth on Schedules E and G, to be attached hereto and made a part hereof.

Section 33.4 HACP agrees that Honeywell shall have the right once a month, with prior notice as referenced in Section 32 above, to inspect Premises to determine if HACP is complying, and

shall have complied with its obligations as set forth above in Section 33.3. For the purpose of determining HACP's said compliance, HACP shall report to Honeywell as set forth in the Guarantee Special Provisions in Schedule H. HACP shall make the Premises reasonably available to Honeywell for and during each monthly inspection, and shall have the right to witness each inspection. Honeywell agrees that HACP the right to inspect and accept or reject installation of the Work per ESA, Section 5 and the right to accept or reject the Guarantee Reconciliation Report as per Schedule B, Section 3.2.1.

SECTION 34. HAZARDOUS SUBSTANCES, MOLD AND UNSAFE WORKING CONDITIONS

Section 34.1 "Hazardous substance" includes all of the following, whether naturally occurring or manufactured, in quantities, conditions or concentrations that have, are alleged to have, or are believed to have an adverse effect on human health, habitability of the work site, or the environment: (a) any dangerous, hazardous or toxic pollutant, contaminant, chemical, material or substance defined as hazardous or toxic or as a pollutant or contaminant under state or federal law, and (b) any petroleum product, nuclear fuel or material, carcinogen, asbestos, urea formaldehyde, foamed-in-place insulation, polychlorinated biphenyl (PCBs), and (c) any other chemical or biological material or organism, that has, is alleged to have, or is believed to have an adverse effect on human health, habitability of a work site, or the environment.

Section 34.2 "Mold" means any type or form of fungus or biological material or agent, including mold, mildew, moisture, yeast and mushrooms, and any mycotoxins, spores, scents, or by-products produced or released by any of the foregoing.

Section 34.3 "Equipment" means the equipment covered by the Services to be performed by Honeywell under this Agreement, and is limited to the equipment included in the respective work scope attachments.

Section 34.4 To the best of its knowledge with respect to the actual area in which the Work will be performed (the "Site"), HACP has not observed or received notice from any source (formal or informal) of (a) Hazardous Substances or Mold, either airborne or on or within the walls, floors, ceilings, heating, ventilation and air conditioning systems, plumbing systems, structure, and other components of the Site, or within furniture, fixtures, equipment, containers or pipelines in a Site; or (b) conditions that, to HACP's knowledge, might cause or promote accumulation, concentration, growth or dispersion of Hazardous Substances or Mold on or within such locations.

Section 34.5 Honeywell is not responsible for determining whether the Equipment or the temperature, humidity and ventilation settings used by HACP, are appropriate for HACP and the Site with respect to avoiding or minimizing the potential for accumulation, concentration, growth or dispersion of Hazardous Substances or Mold.

Section 34.6 If any such materials, situations or conditions, whether disclosed or not, are in fact discovered within the Site by Honeywell or others and Honeywell and HACP agree they provide an unsafe condition for the performance of the Work or Services, the discovery of the condition

shall constitute a cause beyond either HACP's or Honeywell's reasonable control and Honeywell may cease the Work or Services until the area has been made safe by HACP or HACP's representative, at HACP's expense. If the unsafe condition has not been fully remediated by HACP within sixty (60) days of its discovery, the Parties may, by mutual agreement, renegotiate the Agreement to remove the portion of the Work affected by the unsafe condition or negotiate an equitable adjustment to the installation schedule and/or contract price.

Section 34.7 **HACP AGREES THAT HONEYWELL WILL NOT BE RESPONSIBLE FOR ANY AND ALL CLAIMS AND COSTS OF WHATEVER NATURE, INCLUDING BUT NOT LIMITED TO, CONSULTANTS' AND ATTORNEYS' FEES, DAMAGES FOR BODILY INJURY AND PROPERTY DAMAGE, FINES, PENALTIES, CLEANUP COSTS AND COSTS ASSOCIATED WITH DELAY OR WORK STOPPAGE, THAT IN ANY WAY RESULT FROM OR ARISE UNDER THE BREACH OF THE REPRESENTATIONS AND WARRANTIES IN THIS SECTION, THE EXISTENCE OF MOLD OR A HAZARDOUS SUBSTANCE AT A SITE, OR THE OCCURRENCE OR EXISTENCE OF THE SITUATIONS OR CONDITIONS DESCRIBED IN THIS SECTION, WHETHER OR NOT HACP PROVIDES HONEYWELL ADVANCE NOTICE OF THE EXISTENCE OR OCCURRENCE AND REGARDLESS OF WHEN THE HAZARDOUS SUBSTANCE OR OCCURRENCE IS DISCOVERED OR OCCURS. THIS DISCLAIMER SHALL SURVIVE TERMINATION OF THIS AGREEMENT FOR WHATEVER REASON. NOTWITHSTANDING THE FOREGOING AND AS REGARDS HAZARDOUS SUBSTANCES AND/OR UNSAFE WORKING CONDITIONS, THIS LIMITATION SHALL NOT APPLY WHILE COMPANY IS ON SITE PERFORMING WORK AND IT IS JUDICIALLY DETERMINED THAT THE LOSSES ARISE DIRECTLY FROM COMPANY'S NEGLIGENT PERFORMANCE OF THE WORK. HONEYWELL SHALL INDEMNIFY AND HOLD HARMLESS HACP FROM CLAIMS AND COSTS DIRECTLY RESULTING FROM THE NEGLIGENT OR IMPROPER USE BY HONEYWELL OF ANY HAZARDOUS SUBSTANCE BROUGHT TO THE SITE BY HONEYWELL AND CLIENT ACKNOWLEDGES THAT COMPANY MAY BRING TO THE SITE LUBRICANTS OR OTHER MATERIALS THAT ARE ROUTINELY USED IN PERFORMNING MAINTENANCE AND THAT MAY BE CLASSIFIED AS HAZARDOUS. HONEYWELL.**

34.8 Notwithstanding anything to the contrary set forth in Section 34 or elsewhere in this Agreement, during the term of Honeywell's warranty set forth in Section 6, Honeywell will be responsible in an amount not to exceed One Million Five Hundred Thousand Dollars and No Cents ($1,500,000.00) for claims for bodily injury and property damage directly resulting from the presence of mold to the extent the presence of mold is caused by Honeywell's negligence in performing the water closet replacement, which specifically excludes the water closet retrofit both of which are set forth in Schedule A, Part I(F); provided however, Honeywell must receive written notice of the claim before the expiration of two (2) years from the issuance of the Certificate of Substantial Completion.

SECTION 35. <u>HEADINGS</u>

Headings and subtitles used throughout this Agreement are for the purpose of convenience only,

and no heading or subtitle shall modify or be used to interpret the text of any section.

SECTION 36. CONFIDENTIAL INFORMATION

The Parties mutually recognize and acknowledge that they may have access to facts, knowledge, information and proprietary business property related to the other Party's business or affairs and desire to protect themselves from improper disclosure of such information. The Parties agree that such information will be either (a) marked "CONFIDENTIAL" or "PROPRIETARY" at the time of disclosure or (b) unmarked (i.e., disclosed orally or visually) but treated as confidential at the time of disclosure and thereafter designated as confidential in a writing sent to the non-disclosing Party within thirty (30) days of disclosure, summarizing the confidential information sufficiently for identification.. The Parties hereby agree to review, examine, inspect, or obtain such information only for the purposes described in this Agreement, and to otherwise hold such information confidential pursuant to the terms of this Agreement.

37. MASTER KEYS

During the course of the installation, HACP will deliver to Honeywell master keys for the sites. Honeywell will be responsible for and will return the keys to HACP upon Final Acceptance of the Work for the site to which the keys pertain or within five (5) days of its receipt of written demand from HACP therefor, whichever occurs first. In the event Honeywell is unable to return to HACP all master keys accepted by Honeywell during installation, Honeywell will pay HACP's actual, reasonable cost of re-keying the locks affected by the loss of the key(s) and acknowledges that HACP will invoice Honeywell net thirty (30) days.

IN WITNESS WHEREOF, and intending to be legally bound, the parties hereto subscribe their names to this Agreement by their duly authorized officers on the date first above written.

ATTEST:

Housing Authority of the City of Pittsburgh

By: 7/29/08

A. Fulton Meachem Jr., Executive Director

Honeywell International Inc.

By: 7/30/08

Eugene A. Virostko, Project Manager

LaCortiglia, Marie A. (OH10)

From: Anson, Kent
Sent: Tuesday, July 29, 2008 4:43 PM
To: Chiodo, Julie E.; Virostko, Gene; LaCortiglia, Marie A. (OH10)
Cc: Sawicki, Richard; Hronek, Mark T; Omodt, Scott (MN10); Gaffny, Jack; Mabrey, Beau
Subject: Delegation of signing authority

I authorize my signing authority to Gene Virostko.
Kent Anson

SCHEDULE A
SCOPE OF WORK

PART 1 – PRODUCTS

A. Common Area Lighting

Addison Terrace
Bedford Dwellings
Arlington Heights
Allegheny Dwellings
Northview Heights
Northview High Rise
Hamilton-Larimer
Pennsylvania-Bidwell
Pressley Street
Homewood North
Murray Towers
Mazza Pavilion (Brookline)
Caliguiri Plaza (Allentown)
Finello Pavilion (South Oakland)
Morse Gardens
Carrick Regency
Gualtieri Manor

1) Scope shall include only those fixtures / quantities stated in **PART 3-LIGHTING SCOPE**, *infra.*

2) All retrofits shall maintain or increase existing lighting levels, i.e. measured foot candles.

3) Scope shall include only hard-wired fixtures permanently attached to wall or ceiling. Table lamps and floor lamps are not to be included.

4) Company will also properly dispose of all lamps and fixtures in accordance with EPA requirements and standards for "hazardous materials."

5) Company's cost does not cover replacing any missing, cracked, or yellowed lenses of the fixtures that are to be retrofitted with new bulbs and ballasts.

6) Replace existing incandescent bulbs (preferred where practical) with screw-in locking GU-24 base adaptors and GU-24 base compact fluorescent lamps.

7) Replace existing incandescent fixtures (where above retrofit is not feasible) with either compact fluorescent lamp fixtures and lamps, or T-8 fluorescent fixtures and lamps, whichever is more appropriate.

8) Retrofit existing T-12 fluorescent lighting fixtures with T-8 lamps and electronic ballasts.

9) Install LED exit signs in place of existing incandescent exit signs.

10) **Full Size Fluorescent Lamps:**
    a) Lamps shall be nominal 1" in diameter, T8 medium bi-pin (G13) base.
    b) Lamps shall have a rated life of 20,000 hours (based on 3 hour starts) or higher, initial lumens rated at 2700 or higher, and a rated CRI of 78 or higher.
    c) Four foot and less linear lamps shall be TCLP compliant.

d) Lamp shall have a minimum 1 year manufacturer warranty.
e) All electronic ballasts shall be Underwriters Laboratory (U.L.) 935 listed, class P and Type 1 Outdoor and CSA certified when applicable.
f) Ballast shall provide independent lamp operation such that remaining lamps continue to operate at full light output when one lamp fails.
g) The electronic ballast shall withstand input power line transients as defined in American National Standards Institute (ANSI) C62.41. The ballast shall tolerate a line voltage variation of +/- 10 percent.
h) Total harmonic distortion of the input current to the electronic ballast shall not exceed 20 percent of the input current.
i) The electronic ballast shall be Class "A" sound rated for 4 foot and smaller linear lamps.
j) The electronic ballast shall comply with FCC rules and regulations Part 18 concerning the generation of both EMI (electromagnetic interference) and RFI (radio frequency interference).
k) Ballast shall be high frequency and operate lamps at a frequency above 42 kHz.
l) Ballasts shall be high efficiency, low ballast factor.
m) The ballasts shall start and operate standard lamps at 50 degrees F and energy savings lamps at 60 degrees F.
n) Ballast shall have a 5 year manufacturer warranty.

11) **Compact Fluorescents:**
a) All CFLs shall be GU-24 base compact fluorescent lamps.
b) All screw-in incandescent lamp medium base sockets shall be adapted for CFLs using locking GU-24 base adaptors which once installed can not be removed.
c) All lamps shall be U.L. / C.U.L. listed.
d) All lamps shall have a rated life of 8,000 hours or greater, and a rated CRI of 78 or higher.
e) Ballast type shall be electronic.
f) Total harmonic distortion (THD) of the input current shall not exceed 150 percent of the fundamental 50/60 Hz current.
g) Lamps shall comply with FCC rules and regulations Part 18, concerning EMI and RFI.
h) The ballast shall be capable of starting the designated lamp at the minimum temperature established by the lamp manufacturer. Integral units shall state minimum starting temperature. CFLs shall have a 1 year manufacturer warranty.

SCHEDULE A
SCOPE OF WORK

B. Tenant Area Lighting

Addison Terrace	**Homewood North**
Bedford Dwellings	**Murray Towers**
Arlington Heights	**Glen Hazel Family**
Allegheny Dwellings	**Mazza Pavilion (Brookline)**
Northview Heights	**Caliguiri Plaza (Allentown)**
Northview High Rise	**Finello Pavilion (South Oakland)**
Hamilton-Larimer	**Morse Gardens**
Pennsylvania-Bidwell	**Carrick Regency**
Pressley Street	**Gualtieri Manor**

1) Scope shall include only those fixtures / quantities stated in **PART 3-LIGHTING SCOPE**, *infra.*

2) All retrofits shall maintain or increase existing lighting levels, i.e. measured foot candles.

3) Scope shall include only hard-wired fixtures permanently attached to wall or ceiling. Table lamps and floor lamps are not to be included.

4) Company will also properly dispose of all lamps and fixtures in accordance with EPA requirements and standards for "hazardous materials."

5) Company's cost does not cover replacing any missing, cracked, or yellowed lenses of the fixtures that are to be retrofitted with new bulbs and ballasts.

6) Replace existing incandescent bulbs (preferred where practical) with screw-in locking GU-24 base adaptors and GU-24 base compact fluorescent lamps.

7) Replace existing incandescent fixtures (where above retrofit is not feasible) with either compact fluorescent lamp fixtures and lamps, or T-8 fluorescent fixtures and lamps, whichever is more appropriate.

8) Retrofit existing T-12 fluorescent lighting fixtures with T-8 lamps and electronic ballasts.

1) **Full Size Fluorescent Lamps:**
   a) Lamps shall be nominal 1" in diameter, T8 medium bi-pin (G13) base.
   b) Lamps shall have a rated life of 20,000 hours (based on 3 hour starts) or higher, initial lumens rated at 2700 or higher, and a rated CRI of 78 or higher.
   c) Four foot and less linear lamps shall be TCLP compliant.
   d) Lamp shall have a minimum 1 year manufacturer warranty.
   e) All electronic ballasts shall be Underwriters Laboratory (U.L.) 935 listed, class P and Type 1 Outdoor and CSA certified when applicable.
   f) Ballast shall provide independent lamp operation such that remaining lamps continue to operate at full light output when one lamp fails.

g) The electronic ballast shall withstand input power line transients as defined in American National Standards Institute (ANSI) C62.41. The ballast shall tolerate a line voltage variation of +/- 10 percent.
h) Total harmonic distortion of the input current to the electronic ballast shall not exceed 20 percent of the input current.
i) The electronic ballast shall be Class "A" sound rated for 4 foot and smaller linear lamps.
j) The electronic ballast shall comply with FCC rules and regulations Part 18 concerning the generation of both EMI (electromagnetic interference) and RFI (radio frequency interference).
k) Ballast shall be high frequency and operate lamps at a frequency above 42 kHz.
l) Ballasts shall be high efficiency, low ballast factor.
m) The ballasts shall start and operate standard lamps at 50 degrees F and energy savings lamps at 60 degrees F.
n) Ballast shall have a 5 year manufacturer warranty.

2) **Compact Fluorescents:**
a) All CFLs shall be GU-24 base compact fluorescent lamps.
b) All screw-in incandescent lamp medium base sockets shall be adapted for CFLs using locking GU-24 base adaptors which once installed can not be removed.
c) All lamps shall be U.L. / C.U.L. listed.
d) All lamps shall have a rated life of 8,000 hours or greater, and a rated CRI of 78 or higher.
e) Ballast type shall be electronic.
f) Total harmonic distortion (THD) of the input current shall not exceed 150 percent of the fundamental 50/60 Hz current.
g) Lamps shall comply with FCC rules and regulations Part 18, concerning EMI and RFI.
h) The ballast shall be capable of starting the designated lamp at the minimum temperature established by the lamp manufacturer. Integral units shall state minimum starting temperature. Lamp shall have a 1 year manufacturer warranty.

C. Kitchen / Lavatory Faucet Aerators

Addison Terrace
Arlington Heights
Allegheny Dwellings
Northview Heights
Northview High Rise
Hamilton-Larimer
Pennsylvania-Bidwell
Pressley Street
Homewood North
Murray Towers
Glen Hazel Family
Mazza Pavilion
Caliguiri Plaza
Morse Gardens
Carrick Regency
Gualtieri Manor

1) Scope shall include only those aerators / quantities stated in **PART 4-PLUMBING SCOPE**, *infra.*

2) Replace aerators on kitchen faucets with new, tamper-proof, 1.5 gpm low flow type, as manufactured by Niagara, or equal.

3) Replace aerators on lavatory faucets with new, tamper-proof, 0.5 gpm devices as manufactured by Niagara, or equal.

D. Showerheads/Wands

Addison Terrace	**Homewood North**
Arlington Heights	**Murray Towers**
Allegheny Dwellings	**Glen Hazel Family**
Northview Heights	**Mazza Pavilion**
Northview High Rise	**Caliguiri Plaza**
Hamilton-Larimer	**Morse Gardens**
Pennsylvania-Bidwell	**Carrick Regency**
Pressley Street	**Gualtieri Manor**

1) Scope shall include only those devices / quantities stated in **PART 4-PLUMBING SCOPE**, *infra.*

2) Replace existing showerheads and hand-held shower wands in bathrooms that had these items installed before the walk-through (11/29/07) with new 1.50 gpm low-flow type, as manufactured by Niagara, or equal, which will be subject to HACP's final approval. In the event the showerheads are rejected, Honeywell will replace the 1.50 gpm low-flow type with 1.75 gpm low-flow type.

E. Water Closets - Retrofit

Addison Terrace	**Northview High Rise**
Allegheny Dwellings	**Homewood North**
Northview Heights	**Glen Hazel Family**

1) Scope shall include only those devices / quantities stated in **PART 4-PLUMBING SCOPE**, *infra.*

2) Remove existing 1.6 gpf pressure-assisted tank vessel, and flush valve.

3) Provide and install new Sloan Flushmate 1.28 gpf pressure vessel or equal into existing china tank. A new supply line, tank to bowl gasket and flush handle will also be installed.

4) Remove old pressure vessel from apartment for proper disposal off site.

F. Water Closets - New

Addison Terrace	**Homewood North**
Arlington Heights	**Murray Towers**
Allegheny Dwellings	**Glen Hazel Family**
Northview Heights	**Mazza Pavilion (Brookline)**
Northview High Rise	**Caliguiri Plaza (Allentown)**
Hamilton-Larimer	**Morse Gardens**
Pennsylvania-Bidwell	**Carrick Regency**
Pressley Street	**Gualtieri Manor**

1) Scope shall include only those devices / quantities stated in **PART 4-PLUMBING SCOPE**, *infra.*

2) Remove all gravity flush water closets and replace with Mansfield QuantumOne or equal, 1.0 gpf power assisted flush round bowl water closets.

3) Install round front bowls because of space and door swing restrictions.
   a) Install handicapped height wherever as directed by the Housing Authority, in accordance with the future UFAS work proposed.
   b) Install rear discharge units wherever they presently exist.

4) Furnish and install all new wax rings, and hold-down bolts for each new water closet.

5) Furnish and install flange repair kits wherever existing flange is found to be unsuitable.

6) Provide new supply valve and flex tubing if existing is found to be defective.

7) Remove old water closets from apartment for proper disposal off site.

G. Urinal - Retrofit

Addison Terrace	**Homewood North**
Northview High Rise	**Caliguiri Plaza (Allentown)**
Pennsylvania-Bidwell	**Carrick Regency**
Pressley Street	**Gualtieri Manor**

1) Scope shall include only those devices / quantities stated in **PART 4-PLUMBING SCOPE**, *infra.*

2) Retrofit existing 1.0 gpf pressure-assisted flush valve to 0.5 gpf.

3) Dispose of old parts off site.

SCHEDULE A
SCOPE OF WORK

H. Building Envelopes

Addison Terrace
Bedford Dwellings
Arlington Heights
Allegheny Dwellings
Northview High Rise
Pennsylvania-Bidwell
Pressley Street
Homewood North
Murray Towers
Mazza Pavilion (Brookline)
Caliguiri Plaza (Allentown)
Finello Pavilion (South Oakland)
Carrick Regency

1) Scope shall include only those doors, hatches, equipment, penetrations / quantities stated in **PART 5- BUILDING ENVELOPE SCOPE**, infra.

2) Supply and install weather strip for exterior doors, hatches, trash chutes, and panels as listed in the scope to mitigate infiltration.

3) Supply and apply appropriate caulk / sealant / materials to seal accessible cracks between walls, decks and soffits to mitigate infiltration.

4) Supply and apply appropriate caulk / sealant / materials to seal leaks in duct seams and around duct penetrations through walls to mitigate infiltration.

5) Supply and apply appropriate caulk / sealant / materials to seal leaks around roof penetrations, roof vents and roof ventilators to mitigate infiltration.

6) Supply and apply appropriate caulk / sealant / materials to seal leaks around trash chute lids an inside fire cabinets to mitigate infiltration.

7) Supply and apply appropriate caulk / sealant / materials to cover and seal obsolete furnace combustion air vents to mitigate infiltration.

8) Supply and apply appropriate weather stripping / caulk / sealant / materials to cover and seal any other point of infiltration listed in **PART 5- BUILDING ENVELOPE SCOPE**, infra. But not stated above.

I. Improve Roof System - Additional Roof Insulation

Arlington Heights
Northview Heights
Homewood North

1) Add additional fiberglass or cellulose-type blown in insulation to the 26 buildings with pitched roofs at Northview, 18 buildings at Homewood North and 7 buildings at Arlington to increase their insulation R-value to 38 to increase the overall thermal resistance of the roofing system.

2) The insulation shall be properly applied to maintain proper venting of the attic space.

SCHEDULE A
SCOPE OF WORK

J. New Roof System

Murray Towers

Apply new TPO roofing with increased insulation at Murray Tower to increase the overall thermal resistance and solar reflectivity of the roofing system.

K. Limiting Thermostats

Arlington Heights
Northview Heights
Hamilton-Larimer
Homewood North
Glen Hazel Family
Mazza Pavilion (Brookline)
Caliguiri Plaza (Allentown)
Finello Pavilion (South Oakland)
Morse Gardens
Carrick Regency
Gualtieri Manor

1) Scope shall include only those thermostat quantities stated in **PART 6-THERMOSTATS & VALVES SCOPE**, infra.

2) Replace the existing thermostats with Honeywell Focus Pro 5000 or approved equal limiting thermostats.

3) Common wires shall be utilized to eliminate the need for batteries. Honeywell will set the upper heating limit to 73 °F and the lower cooling limit to 75°F.

4) Dispose of old parts off site.

SCHEDULE A
SCOPE OF WORK

L. Radiator/Convector Control Valves

Pennsylvania-Bidwell **Murray Towers**

1) Scope shall include only those control valve quantities stated in **PART 6-THERMOSTATS & VALVES SCOPE**, infra.

2) Furnish and install a new, self-contained, automatic radiator control valve with high temperature limit as manufactured by Honeywell, V200LDSL15 valves with a T100B controller, or approved equal to replace each currently existing control valve.

3) Dispose of old parts off site.

M. Refrigerators

Addison Terrace
Bedford Dwellings
Allegheny Dwellings
Northview Heights
Hamilton-Larimer
Glen Hazel Family

1) Scope shall include only those refrigerator quantities and locations stated in **PART 7-REFRIGERATORS SCOPE**, *infra.*

2) Disconnect and remove 305 existing refrigerators, uncrate and install new Energy Star high efficiency refrigerators; model:
   a) Hotpoint 15.5 cubic foot ENERGY STAR refrigerator or equal

3) The Housing Authority has 24 hours to determine whether they want to retain the refrigerators to be removed for their own use. Refrigerators that are not tagged to remain will be removed from site on the day that the respective units are replaced. If the Housing Authority decides to keep some or all of the refrigerators, they must have a drop off point for the units selected on site and direct the contractor to that location. The rest will be properly disposed of off site.

N. New High Efficiency Boilers

Morse Gardens

Demolition:

1) Safely isolate and remove the existing boiler.
2) Leave undisturbed as much existing conduit, piping and flues in place as possible while still allowing sufficient space to safely set the new boilers.
3) The existing hot water circulating pumps shall remain in place and be re-used with the new boilers.
4) Properly dispose of old boilers / components / materials / parts off site.

5) Excluded – If in performance of the Work associated with this boiler retrofit, Company encounters any materials or substances classified as toxic or hazardous, including asbestos, such conditions will be governed by ESA Section 34.

New Boilers:

6) Heating load calculations shall be performed by the contractor to verify properly sized boilers for the building.
7) Two boilers shall be installed and will be set up to handle space heating.
8) Lochinvar, Bryant, Weil McLain (or approved equal) condensing, gas fired boilers shall be installed. Each boiler shall have an AFUE of 92% minimum, with at minimum of a 3 to 1 turndown ratio.
9) Boilers shall be UL & ULC listed, FM approved and ASME coded.
10) Provide FM or IRI gas trains as required by the Housing Authority's insurer.
11) Provide the manufacturer's custom sequencing packages for Efficiency Optimization and Run Time Equalization. Provide with indoor/outdoor hot water temperature reset.
12) Provide all power wiring and control wiring.
13) Furnish and install necessary piping, valves and specialties as required to complete a functional heating installation.
14) Insulate all new and existing uninsulated heating piping in the Boiler Room with 1" thick fiberglass insulation with All Service Jacket (ASJ). Finish insulation on elbows, other fittings and valve bodies with Zeston, or equal, PVC molded covers. Do not cover valve operators, thermometers or pressure gauges.
15) Provide startup and testing for all boilers.
16) Provide extended factory warranty with minimum 5 year warranty on the burners and minimum 10 year warranty on the heat exchangers.
17) Include Customer training on operation and maintenance of the unit.

O. Central Geothermal Heating and Air Conditioning System

Arlington Heights
Northview Heights
Homewood North

1) Install a complete turnkey new central heating/cooling system. It will consist of new, high efficiency water source heat pumps, fed by a condensing water loop connected to geothermal vertical ground loops. The water source heat pumps will be ARI certified under rating ARI 325 for ground water heat pumps, with backup electric resistance heating. The installation will utilize the existing electrical distribution panel(s) in each apartment to provide power to the new equipment. No upgrades to the electrical distribution system/panels or the existing electrical grid are included to bring this equipment up to code and/or to address any existing capacity problems.
2) Design and install vertical loop type ground loops with sufficient capacity to handle the load of the above water source heat pumps. All work associated with the geothermal system shall be in compliance with the current standards of the International Ground Source Heat Pump Association (IGSHPA).

3) Excluded – If in performance of the Work associated with this retrofit, Company encounters any materials or substances classified as toxic or hazardous, including asbestos, such conditions shall be governed by ESA, Section 34.
4) Include Customer training on operation and maintenance of the unit.

5) Desuperheaters will be installed at Northview and Homewood North, and water to water heat pumps will be installed at Arlington to augment the existing domestic hot water generation.

6) The following is the total count of units that will be included in this scope of work:
   Arlington Heights (143 total units)
   Northview Heights (465 total units)
   Homewood North (127 total units)

P. Replace Rooftop Ventilation Units

Murray Towers **Mazza Pavilion (Brookline)**

1) Remove the existing rooftop Makeup Air Units that provide conditioned ventilation air to the corridors of the building.
2) Replace the existing unit with a new unit that provides indirect natural gas fired heating of sufficient capacity to supply 100% outside air at design conditions.
3) Include DX 13 SEER cooling capacity and hot gas bypass on these new units.
4) The new MAU will be connected to the kitchen and bath exhaust air ducts through an air to air heat exchanger to precondition the incoming ventilation air.
5) Adjust the ventilation air volume flow rate to meet current ventilation code requirements including, but not limited to, ASHRAE standards.
6) Provide all necessary material, labor, engineering, electrical, mechanical and structural work as required to complete the installation, including insulation of new and existing ductwork as needed.
7) Furnish and install all required temperature controls with the unit.
8) Include startup, checkout and air balancing of the unit.
9) Include Customer training on operation and maintenance of the unit.
10) Rooftop ventilation replacement does not include bringing existing duct systems / distributions systems (fire dampers, smoke dampers, etc.) up to code.

N. Energy Awareness Program

Company will provide a basic Energy Awareness Program that will consist of the following:

1. Thirty one and a half (31.5) on-site training days during the first year of the contract to be conducted by an in-house Training Specialist;
2. An energy awareness audiovisual presentation for use at orientation sessions for new HACP residents, with 5000 copies; and
3. Twenty four (24) Energy Conservation Articles over the next four (4) years;

4. Housekeeping Booklet and two (2) days of training sessions for housing authority staffers during the first year of the contract on a date selected at the agency's discretion.
5. An EPC Kickoff Event, and an Energy Fair.

Company will further provide comprehensive administrative support (e.g. creation of all training-related letters and notices) as well as coordinate any necessary mailings and distributions to HACP residents and pay any associated postage costs. We will also provide transportation assistance, if and when needed, to facilitate resident attendance at energy awareness training sessions.

PART 2 – GENERAL

A. GENERAL CONDITIONS OF SCHEDULE A

1. Company is not responsible for bringing existing systems and structures up to code, unless specified to the contrary in Part 1 hereof.
2. A five (5) year ballast warranty will be provided by the ballast manufacturer and a one (1) year lamp warranty will be provided by the lamp manufacturer. The five (5) year warranty on the ballasts operates by the Customer sending the old ballasts back to the manufacturer and in return, a replacement ballast will be provided to be installed by the Customer's work force.
3. If Company encounters any materials, substances or conditions classified as toxic hazardous or unsafe in performance of the Work associated with the mechanical systems, including asbestos, such situations will be handled in accordance with ESA, Section 34.
4. Where demolition of certain areas of a building are required for removal and installation of equipment and that demolition is included in the scope of work defined herein, Company will make every effort to replace such areas with similar materials as available. If such materials are not available, materials of similar quality will be supplied and installed.
5. Electrical: Should a problem with the existing wiring system occur, Company will limit electrical wiring modifications (repairs) to within three feet (36 inches) of the device or the nearest wall or coiling penetrating, whichever is smaller.
6. Piping: Should a problem with the existing piping system occur, Company will notify the owner as to the problem. Unless specifically noted elsewhere, Company will not be responsible for existing piping problems including but not limited to, replacing system stop valves, system shut off valves, leaking valve stems or aerators that cannot be removed through normal workman-like procedures.
7. Routine Clean-up: Company shall at all times keep the work area free from accumulations of waste materials and leave the work area in a clean, neat, and orderly condition satisfactory to the Contracting Officer; routine clean up such as vacuuming, coil cleaning and filter change of air handling devices, etc. is the responsibility of the Customer, or as included in Schedule H.
8. Utility Meter: If new utility meters are required, provision and coordination of utility meters is the responsibility of the customer, unless otherwise specified to the contrary in Part 1 hereof.
10. Efficiency Values: Company will install equipment and lighting components (hereto referred as "equipment") under the scope described herein with specific energy and water efficiency values. The customer is required to replace any failed "equipment" no longer warranted by Company or a Company subcontractor, with "equipment" of equal or greater efficiency for the full contract guarantee term.
11. RESERVED.
12. Company will provide information necessary to apply for utility incentives. Actual dollar amount of incentive will be determined by the Utility and is not guaranteed by Company.

13. The following areas are specifically excluded from this proposal. Correction of problems in these areas, if required by Federal, State or local law or ordinance, will be considered additional work and will be chargeable (with approval) to the Owner.
    a. Any work not specifically stated and outlined in this scope of work.
    b. Painting and patching of areas beyond those areas directly related to work.
    c. Existing non-code conditions (examples: existing electrical wiring which requires correction or approval by appropriate inspectors, existing penetrations in need of fire stopping, etc).

B. RELATED WORK SPECIFIED ELSEWHERE

Provision of equipment, material, and labor to provide functional measurement and verification systems coordinated under Schedule B – Schedule of Savings.

PART 3 – LIGHTING

Addison Terrace

Room / Location Identification	Description	Existing Fixture	Existing Wattage	Proposed Fixture	Fixture Quantity	Lamp Quantity	Future Wattage per Fixture
ENTRY WAY / STAIRS / LANDING	1L60IN	12	60	1L13CFL	12	12	13
HALLWAY	1L60IN	671	60	1L13CFL	671	671	13
KITCHEN FIXTURE 1	2L60IN	801	120	2L13CFL	801	1602	26
KITCHEN HOOD	1L40IN	736	40	1L09CFL	736	736	9
DINING AREA	2L60IN	34	120	2L13CFL	34	68	26
BATHROOM FIXTURE 1	1L60IN	702	60	1L13CFL	702	702	13
BATHROOM FIXTURE 2	2L60IN	34	120	2L13CFL	34	68	26
BEDROOM FIXTURE 1	1L60IN	1095	60	1L13CFL	1095	1095	13
BEDROOM FIXTURE 2	2L60IN	272	120	2L13CFL	272	544	26
LIVING ROOM FIXTURE 1	1L60IN	702	60	1L13CFL	702	702	13
BASEMENT	1L60IN	36	60	1L13CFL	36	36	13

Room / Location Identification	Description	Existing Fixture	Existing Wattage	Proposed Fixture	Fixture Quantity	Lamp Quantity	Future Wattage per Fixture
EXTERIOR WALL PACK 1	1L400MH	180	458	4L2T5	180	360	105
COMMON ENTRYWAY 1	1L60IN	2	60	1L13CFL	2	2	13
GROUP COMMON ROOM 2	4L4T12	6	144	4L4T8LP	6	24	96

Bedford Dwellings

Room / Location Identification	Description	Existing Fixture	Existing Wattage	Proposed Fixture	Fixture Quantity	Lamp Quantity	Future Wattage per Fixture
HALLWAY	1L60IN	476	60	1L13CFL	476	476	13
CLOSET	1L60IN	14	60	1L13CFL	14	14	13
FRONT AND BACK PORCH	1L60IN	28	60	1L13CFL	28	28	13
KITCHEN FIXTURE 1	2L60IN	56	120	2L13CFL	56	112	26
KITCHEN FIXTURE 2	3L60IN	364	180	3L13CFL	364	1092	39
KITCHEN HOOD	1L40IN	406	40	1L09CFL	406	406	9
BATHROOM FIXTURE 1	2L60IN	364	120	2L13CFL	364	728	26
BATHROOM FIXTURE 2	2L2T12	56	50	2L2T8LP	56	112	31
BEDROOM FIXTURE 1	1L60IN	778	60	1L13CFL	778	778	13
LIVING ROOM FIXTURE 1	1L60IN	524	60	1L13CFL	524	524	13

Room / Location Identification	Description	Existing Fixture	Existing Wattage	Proposed Fixture	Fixture Quantity	Lamp Quantity	Future Wattage per Fixture
EXTERIOR WALL PACK 1	1L400MH	115	458	4L2T5	115	230	105

SCHEDULE A
SCOPE OF WORK

Arlington Heights

Room / Location Identification	Description	Existing Fixture	Existing Wattage	Proposed Fixture	Fixture Quantity	Lamp Quantity	Future Wattage per Fixture
HALLWAY	1L60IN	143	60	1L13CFL	143	143	13
KITCHEN FIXTURE 1	2L60IN	140	120	2L13CFL	140	280	26
KITCHEN FIXTURE 2	3L60IN	3	180	3L13CFL	3	9	39
KITCHEN HOOD	1L40IN	143	40	1L09CFL	143	143	9
BATHROOM FIXTURE 1	2L2T12	147	51	2L2T8LP	147	294	31
BEDROOM FIXTURE 1	1L60IN	264	60	1L13CFL	264	264	13
LIVING ROOM FIXTURE 1	1L60IN	143	60	1L13CFL	143	143	13

Room / Location Identification	Description	Existing Fixture	Existing Wattage	Proposed Fixture	Fixture Quantity	Lamp Quantity	Future Wattage per Fixture
EXTERIOR WALL PACK 1	1L400MH	42	458	4L2T5	42	84	105
LOBBY FIXTURE 1	1L200IN	30	200	2L4T8LP	30	60	48
LOBBY FIXTURE 3	1L60IN	64	60	1L13CFL	64	64	13
OFFICE FIXTURE 1	2L4T12	11	72	2L4T8LP	11	22	48
OFFICE FIXTURE 2	4L4T12	8	144	2L4T8LP	8	16	48
BOILER ROOM FIXTURE 1	2L4T12	44	72	2L4T8LP	44	88	48
EXIT LIGHT	EX40IN	11	40	EX03LED	11	11	3

Allegheny Dwellings

Room / Location Identification	Description	Existing Fixture	Existing Wattage	Proposed Fixture	Fixture Quantity	Lamp Quantity	Future Wattage per Fixture
ENTRY WAY / STAIRS / LANDING	2L60IN	282	120	2L13CFL	282	564	26
KITCHEN FIXTURE 1	3L60IN	282	180	3L13CFL	282	846	39
KITCHEN HOOD	1L40IN	282	40	1L09CFL	282	282	9
BATHROOM FIXTURE 1	2L60IN	282	120	2L13CFL	282	564	26
BEDROOM FIXTURE 1	2L60IN	486	120	2L13CFL	486	972	26
LIVING ROOM FIXTURE 1	3L60IN	282	180	3L13CFL	282	846	39

Room / Location Identification	Description	Existing Fixture	Existing Wattage	Proposed Fixture	Fixture Quantity	Lamp Quantity	Future Wattage per Fixture
EXTERIOR WALL PACK 1	1L400MH	136	458	4L2T5	136	136	105
COMMON ENTRYWAY 1	1L200IN	3	200	2L4T8LP	3	6	48
GROUP COMMON ROOM 1	1L400MH	36	458	6L4T8HP	36	216	236
GROUP COMMON ROOM 2	IL60IN	13	60	1L13CFL	13	13	13

SCHEDULE A
SCOPE OF WORK

Northview Heights

Room / Location Identification	Description	Existing Fixture	Existing Wattage	Proposed Fixture	Fixture Quantity	Lamp Quantity	Future Wattage per Fixture
ENTRY WAY / STAIRS / LANDING	1L60IN	465	60	1L13CFL	465	465	13
HALLWAY	2L60IN	465	120	2L13CFL	465	930	13
CLOSET	1L60IN	87	60	1L13CFL	87	81	13
FRONT AND BACK PORCH	1L60IN	930	60	1L13CFL	930	930	13
KITCHEN FIXTURE 1	3L60IN	465	180	3L13CFL	465	1395	39
KITCHEN HOOD	1L40IN	465	40	1L09CFL	579	538	9
BATHROOM FIXTURE 1	1L60IN	353	60	1L13CFL	353	353	13
BATHROOM FIXTURE 2	2L60IN	112	120	2L13CFL	112	224	26
BEDROOM FIXTURE 1	2L60IN	1639	120	2L13CFL	1639	3278	26
BASEMENT	2L60IN	465	120	2L13CFL	465	869	26
LIVING ROOM FIXTURE 1	3L60IN	112	180	3L13CFL	112	312	39

Room / Location Identification	Description	Existing Fixture	Existing Wattage	Proposed Fixture	Fixture Quantity	Lamp Quantity	Future Wattage per Fixture
EXTERIOR WALL PACK 1	1L400MH	487	458	4L2T5	487	487	105
LOBBY FIXTURE 1	4L4T12	8	144	4L4T8LP	8	30	95
OFFICE FIXTURE 1	2L8T12	12	123	4L4T8LP	12	45	95
EXIT LIGHT	EX40IN	16	40	EX03LED	16	15	3

Northview High Rise

Room / Location Identification	Description	Existing Fixture	Existing Wattage	Proposed Fixture	Fixture Quantity	Lamp Quantity	Future Wattage per Fixture
ENTRY WAY / STAIRS / LANDING	1L60IN	128	60	1L13CFL	128	128	13
HALLWAY	2L60IN	91	120	2L13CFL	91	182	26
KITCHEN FIXTURE 1	2L60IN	91	120	2L13CFL	91	182	26
BATHROOM FIXTURE 1	2L60IN	91	120	2L13CFL	91	182	26
BATHROOM FIXTURE 2	2L60IN	54	120	2L13CFL	54	108	26
BEDROOM FIXTURE 1	2L60IN	145	120	2L13CFL	145	290	26

Room / Location Identification	Description	Existing Fixture	Existing Wattage	Proposed Fixture	Fixture Quantity	Lamp Quantity	Future Wattage per Fixture
EXTERIOR WALL PACK 1	1L400MH	6	458	4L2T5	6	24	105
COMMON ENTRYWAY 1	1L200IN	8	200	2L4T8LP	8	16	48
GROUP COMMON ROOM 1	4L4T12	4	144	2L4T8LP	4	8	48
GROUP COMMON ROOM 2	2LUT12	54	72	2LUT8LP	54	82	48
GROUP COMMON ROOM 3	1L60IN	24	60	1L13CFL	24	13	13
LOBBY FIXTURE 1	1L4T12	15	43	1L4T8LP	15	15	22
LOBBY FIXTURE 2	2L4T12	246	72	2L4T8LP	246	492	48
OFFICE FIXTURE 1	2L4T12	41	72	2L4T8LP	41	82	48
OFFICE FIXTURE 2	3L4T12	6	115	3L4T8LP	6	12	73

SCHEDULE A
SCOPE OF WORK

Hamilton-Larimer

Room / Location Identification	Description	Existing Fixture	Existing Wattage	Proposed Fixture	Fixture Quantity	Lamp Quantity	Future Wattage per Fixture
ENTRY WAY / STAIRS / LANDING	1L60IN	30	60	1L13CFL	30	30	13
HALLWAY	1L60IN	66	60	1L13CFL	66	66	13
FRONT AND BACK PORCH	1L60IN	30	60	1L13CFL	30	30	13
KITCHEN FIXTURE 1	4L4T12	30	144	2L4T8LP	30	60	48
KITCHEN HOOD	1L40IN	30	40	1L09CFL	30	30	9
DINING AREA	4L4T12	30	144	2L4T8LP	30	60	48
BATHROOM FIXTURE 1	2L4T12	30	72	2L4T8LP	30	60	48
BATHROOM FIXTURE 2	1L60IN	30	60	1L13CFL	30	30	13
BEDROOM FIXTURE 1	1L60IN	114	60	1L13CFL	114	114	13
LIVING ROOM FIXTURE 1	1L60IN	30	60	1L13CFL	30	30	13
BASEMENT	1L60IN	120	60	1L13CFL	120	120	13

Room / Location Identification	Description	Existing Fixture	Existing Wattage	Proposed Fixture	Fixture Quantity	Lamp Quantity	Future Wattage per Fixture
EXTERIOR WALL PACK 1	1L400MH		458	4L2T5		336	105
STAIRS FIXTURE 1	2L4T12	25	72	2L4T8LP	25	50	48

Pennsylvania-Bidwell

Room / Location Identification	Description	Existing Fixture	Existing Wattage	Proposed Fixture	Fixture Quantity	Lamp Quantity	Future Wattage per Fixture
ENTRY WAY / STAIRS / LANDING	1L60IN	20	60	1L13CFL	20	20	13
HALLWAY	1L60IN	120	60	1L13CFL	120	120	13
KITCHEN FIXTURE 1	3L60IN	120	180	3L13CFL	120	360	39
BATHROOM FIXTURE 1	2L2T12	120	50	2L2T8LP	120	240	31
BEDROOM FIXTURE 1	2L60IN	100	120	2L13CFL	100	200	26
LIVING ROOM FIXTURE 1	3L60IN	120	180	3L13CFL	120	360	39

Room / Location Identification	Description	Existing Fixture	Existing Wattage	Proposed Fixture	Fixture Quantity	Lamp Quantity	Future Wattage per Fixture
COMMON ENTRYWAY 1	1L200IN	3	200	2L4T8LP	3	6	48
GROUP COMMON ROOM 1	1L60IN	6	60	1L13CFL	6	6	13
OFFICE FIXTURE 1	2L4T12	17	72	2L4T8LP	17	34	48
OFFICE FIXTURE 2	3L4T12	36	115	3L4T8LP	36	51	73
OFFICE FIXTURE 3	4L4T12	5	144	4L4T8LP	5	20	48
MAINTENANCE ROOM FIXTURE 1	1L60IN	15	60	1L13CFL	15	15	13
EXIT LIGHT	EX40IN	40	40	EX03LED	40	40	3
CORRIDOR	2L6T12	10	122	2L4T8LP	10	20	48
MAINTENANCE ROOM FIXTURE 1	2L8T12	7	123	4L4T8LP	7	10	95
MAINTENANCE ROOM FIXTURE 1	4L4T12	11	144	2L4T8LP	11	22	48
CORRIDOR	2LUT12	1	72	2LUT8LP	1	2	48

SCHEDULE A
SCOPE OF WORK

Pressley Street

Room / Location Identification	Description	Existing Fixture	Existing Wattage	Proposed Fixture	Fixture Quantity	Lamp Quantity	Future Wattage per Fixture
ENTRY WAY / STAIRS / LANDING	3L60IN	15	180	3L13CFL	15	45	39
HALLWAY	1L60IN	561	60	1L13CFL	561	561	13
KITCHEN HOOD	1L40IN	212	40	1L09CFL	212	212	9
BATHROOM FIXTURE 1	2L2T12	212	50	2L2T8LP	212	424	31
LIVING ROOM FIXTURE 1	2L60IN	212	120	2L13CFL	212	424	13

Room / Location Identification	Description	Existing Fixture	Existing Wattage	Proposed Fixture	Fixture Quantity	Lamp Quantity	Future Wattage per Fixture
COMMON ENTRYWAY 1	1L200IN	7	200	2L4T8LP	7	14	48
STAIRS FIXTURE 1	2L4T12	62	72	2L4T8LP	62	124	48
COMMON DINING AREA FIXTURE 1	1L60IN	705	60	1L13CFL	705	705	13
GROUP COMMON ROOM 1	1L400MH	3	458	6L4T8HP	3	18	236
LOBBY FIXTURE 1	2L4T12	58	72	2L4T8LP	58	116	48
LOBBY FIXTURE 2	3L4T12	74	115	3L4T8LP	74	144	73
LOBBY FIXTURE 3	2LUT12	29	72	2LUT8LP	29	58	48
OFFICE FIXTURE 1	2L4T12	8	72	2L4T8LP	8	16	48
OFFICE FIXTURE 2	4L4T12	14	144	2L4T8LP	14	28	48
OFFICE FIXTURE 3	4L4T12	5	144	4L4T8LP	5	20	95
OTHER 1	EX40IN	75	40	EX03LED	75	40	3

Homewood North

Room / Location Identification	Description	Existing Fixture	Existing Wattage	Proposed Fixture	Fixture Quantity	Lamp Quantity	Future Wattage per Fixture
HALLWAY	1L60IN	344	60	1L13CFL	344	344	13
CLOSET	1L60IN	135	60	1L13CFL	135	135	13
FRONT AND BACK PORCH	1L60IN	254	60	1L13CFL	254	254	13
KITCHEN FIXTURE 1	3L4T12	127	115	3L4T8LP	127	381	72
KITCHEN HOOD	1L40IN	127	40	1L09CFL	127	127	9
DINING AREA	3L60IN	127	180	3L13CFL	127	381	39
BATHROOM FIXTURE 1	4L60IN	127	240	4L13CFL	127	508	52
BATHROOM FIXTURE 2	1L60IN	100	60	1L13CFL	100	100	13
LAUNDRY	1L60IN	127	60	1L13CFL	127	127	13

Room / Location Identification	Description	Existing Fixture	Existing Wattage	Proposed Fixture	Fixture Quantity	Lamp Quantity	Future Wattage per Fixture
EXTERIOR WALL PACK 1	1L400MH	115	458	4L2T5	115	460	105
COMMON ENTRYWAY 1	1L200IN	1	200	2L4T8LP	1	2	48
LOBBY FIXTURE 3	2L4T12	6	72	2L4T8LP	6	12	48
OFFICE FIXTURE 1	4L4T12	22	144	2L4T8LP	22	44	48
MAINTENANCE ROOM FIXTURE 1	1L60IN	12	60	1L13CFL	12	12	13
EXIT LIGHT	EX40IN	5	40	EX03LED	5	5	3

SCHEDULE A
SCOPE OF WORK

Murray Towers

Room / Location Identification	Description	Existing Fixture	Existing Wattage	Proposed Fixture	Fixture Quantity	Lamp Quantity	Future Wattage per Fixture
ENTRY WAY / STAIRS / LANDING	1L60IN	70	60	1L13CFL	70	70	13
KITCHEN FIXTURE 1	3L60IN	40	180	3L13CFL	40	120	39
KITCHEN FIXTURE 2	2L4T12	30	72	2L4T8LP	30	60	48
KITCHEN HOOD	1L40IN	70	40	1L09CFL	70	70	9
BATHROOM FIXTURE 1	2L60IN	70	120	2L13CFL	70	140	26
BATHROOM FIXTURE 2	2L2T12	30	50	2L2T8LP	30	60	31

Room / Location Identification	Description	Existing Fixture	Existing Wattage	Proposed Fixture	Fixture Quantity	Lamp Quantity	Future Wattage per Fixture
COMMON ENTRYWAY 1	1L200IN	6	200	2L4T8LP	6	12	48
STAIRS FIXTURE 1	1L60IN	16	60	1L13CFL	16	16	13
GROUP COMMON ROOM 1	2L8T12	5	123	4L4T8LP	5	20	95
LOBBY FIXTURE 1	1L60IN	127	60	1L13CFL	127	127	13
OFFICE FIXTURE 1	2L4T12	37	72	2L4T8LP	37	74	48
OFFICE FIXTURE 2	3L4T12	6	115	3LT8LP	6	18	73
OFFICE FIXTURE 3	4L4T12	7	144	2L4T8LP	7	28	48
CORRIDOR	1L60IN	17	60	1L13CFL	17	17	13
EXIT LIGHT	EX40IN	44	40	EX03LED	44	44	3

Glen Hazel Family

Room / Location Identification	Description	Existing Fixture	Existing Wattage	Proposed Fixture	Fixture Quantity	Lamp Quantity	Future Wattage per Fixture
ENTRY WAY / STAIRS / LANDING	1L60IN	147	60	1L13CFL	147	147	13
HALLWAY	2L60IN	270	120	2L13CFL	270	540	26
CLOSET	1L60IN	50	60	1L13CFL	50	50	13
FRONT AND BACK PORCH	1L60IN	286	60	1L13CFL	286	286	13
KITCHEN FIXTURE 1	3L60IN	143	180	3L13CFL	143	429	39
KITCHEN HOOD	1L40IN	143	40	1L09CFL	143	143	9
DINING AREA	3L60IN	93	180	3L13CFL	93	279	39
BATHROOM FIXTURE 1	2L60IN	143	120	2L13CFL	143	286	26
BATHROOM FIXTURE 2	2L60IN	93	120	2L13CFL	93	186	26
LIVING ROOM FIXTURE 1	3L60IN	50	180	3L13CFL	50	150	39
BASEMENT	1L60IN	279	60	1L13CFL	279	279	13

SCHEDULE A
SCOPE OF WORK

Mazza Pavilion (Brookline)

Room / Location Identification	Description	Existing Fixture	Existing Wattage	Proposed Fixture	Fixture Quantity	Lamp Quantity	Future Wattage per Fixture
ENTRY WAY / STAIRS / LANDING	1L60IN	30	60	1L13CFL	30	30	13
KITCHEN FIXTURE 1	2L60IN	30	120	2L13CFL	30	60	26
KITCHEN FIXTURE 2	2L2T12	30	50	2L2T8LP	30	60	31
KITCHEN HOOD	1L40IN	30	40	1L09CFL	30	30	9

Room / Location Identification	Description	Existing Fixture	Existing Wattage	Proposed Fixture	Fixture Quantity	Lamp Quantity	Future Wattage per Fixture
EXTERIOR WALL PACK 1	1L400MH	5	458	4L2T5	5	10	105
GROUP COMMON ROOM 1	2L4T12	8	72	2L4T8LP	8	16	48
LOBBY FIXTURE 1	2L4T12	17	72	2L4T8LP	17	34	48
OFFICE FIXTURE 1	2L4T12	13	72	2L4T8LP	13	26	48
OFFICE FIXTURE 2	3L4T12	5	115	3L4T8LP	5	15	73
OFFICE FIXTURE 3	1L60IN	18	60	IL13CFL	18	18	13
EXIT LIGHT	EX40IN	10	40	EX03LED	10	10	3

Caliguiri Plaza (Allentown)

Room / Location Identification	Description	Existing Fixture	Existing Wattage	Proposed Fixture	Fixture Quantity	Lamp Quantity	Future Wattage per Fixture
ENTRY WAY / STAIRS / LANDING	1L60IN	104	60	1L13CFL	104	104	13
CLOSET	1L60IN	104	60	1L13CFL	104	104	13
KITCHEN FIXTURE 2	2L4T12	104	72	2L4T8LP	104	208	31
KITCHEN HOOD	1L40IN	104	40	1L09CFL	104	104	9
BATHROOM FIXTURE 1	4L60IN	104	240	4L13CFL	104	416	52

Room / Location Identification	Description	Existing Fixture	Existing Wattage	Proposed Fixture	Fixture Quantity	Lamp Quantity	Future Wattage per Fixture
GROUP COMMON ROOM 1	2L4T12	8	72	2L4T8LP	8	16	48
LOBBY FIXTURE 1	2L4T12	20	72	2L4T8LP	20	40	48
LOBBY FIXTURE 2	3L4T12	1	115	3L4T8LP	1	3	73
OFFICE FIXTURE 1	2L4T12	30	72	2L4T8LP	30	60	48
OFFICE FIXTURE 2	4L4T12	2	144	4L4T8LP	2	4	95
OFFICE FIXTURE 3	4L4T12	41	144	2L4T8LP	41	82	48
CORRIDOR	1L60IN	15	60	1L13CFL	15	15	13

SCHEDULE A
SCOPE OF WORK

Finello Pavilion (South Oakland)

Room / Location Identification	Description	Existing Fixture	Existing Wattage	Proposed Fixture	Fixture Quantity	Lamp Quantity	Future Wattage per Fixture
ENTRY WAY / STAIRS / LANDING	1L60IN	60	60	1L13CFL	60	60	13
KITCHEN FIXTURE 1	2L4T12	60	72	2L4T8LP	60	120	48
KITCHEN HOOD	1L40IN	60	40	1L09CFL	60	60	9
BATHROOM FIXTURE 1	2L60IN	60	120	2L13CFL	60	120	26
LIVING ROOM FIXTURE 1	1L60IN	60	60	1L13CFL	60	60	13

Room / Location Identification	Description	Existing Fixture	Existing Wattage	Proposed Fixture	Fixture Quantity	Lamp Quantity	Future Wattage per Fixture
EXTERIOR WALL PACK 1	1L400MH	7	458	4L2T5	7	7	105
STAIRS FIXTURE 1	2L4T12	7	72	2L4T8LP	7	14	48
GROUP COMMON ROOM 1	2L4T12	15	72	2L4T8LP	15	30	48
GROUP COMMON ROOM 2	2LUT12	10	72	2LUT8LP	10	20	48
OFFICE FIXTURE 1	2L4T12	101	72	2L4T8LP	101	202	48
OFFICE FIXTURE 2	4L4T12	15	144	2L4T8LP	15	30	48
OFFICE FIXTURE 3	1L60IN	27	60	1L13CFL	27	27	13

Morse Gardens

Room / Location Identification	Description	Existing Fixture	Existing Wattage	Proposed Fixture	Fixture Quantity	Lamp Quantity	Future Wattage per Fixture
HALLWAY	1L60IN	70	60	1L13CFL	70	70	13

Room / Location Identification	Description	Existing Fixture	Existing Wattage	Proposed Fixture	Fixture Quantity	Lamp Quantity	Future Wattage per Fixture
EXTERIOR WALL PACK 1	1L400MH	2	458	4L2T5	2	4	105
COMMON ENTRYWAY 1	1L200IN	9	200	2L4T8LP	9	18	48
STORAGE	2L4T12	17	72	2L4T8LP	17	34	48
TRASH ROOM	1L60IN	3	60	1L13CFL	3	3	13

SCHEDULE A
SCOPE OF WORK

Carrick Regency

Room / Location Identification	Description	Existing Fixture	Existing Wattage	Proposed Fixture	Fixture Quantity	Lamp Quantity	Future Wattage per Fixture
ENTRY WAY / STAIRS / LANDING	1L60IN	66	60	1L13CFL	66	66	13
KITCHEN FIXTURE 1	2L4T12	66	72	2L4T8LP	66	132	48
KITCHEN HOOD	1L40IN	66	40	1L09CFL	66	66	9
BATHROOM FIXTURE 1	3L60IN	66	180	3L13CFL	66	198	39
LIVING ROOM FIXTURE 1	1L60IN	66	60	1L13CFL	66	66	13

Room / Location Identification	Description	Existing Fixture	Existing Wattage	Proposed Fixture	Fixture Quantity	Lamp Quantity	Future Wattage per Fixture
STAIRS FIXTURE 1	2L4T12	16	72	2L4T8LP	16	32	48
GROUP COMMON ROOM 1	1L60IN	12	60	1L13CFL	12	12	13
GROUP COMMON ROOM 2	4L4T12	10	144	2L4T8LP	10	20	48
GROUP COMMON ROOM 3	2L4T12	104	72	2L4T8LP	104	208	48
OFFICE FIXTURE 1	2L4T12	67	72	2L4T8LP	67	134	48
EXIT LIGHT	EX40IN	40	40	EX03LED	40	40	3

Gualtieri Manor

Room / Location Identification	Description	Existing Fixture	Existing Wattage	Proposed Fixture	Fixture Quantity	Lamp Quantity	Future Wattage per Fixture
ENTRY WAY / STAIRS / LANDING	1L60IN	31	60	1L13CFL	31	31	13
HALLWAY	1L60IN	27	60	1L13CFL	27	27	13
KITCHEN FIXTURE 1	2L4T12	31	72	2L4T8LP	31	62	48
KITCHEN HOOD	1L40IN	31	40	1L09CFL	31	31	9
BATHROOM FIXTURE 1	2L60IN	4	120	2L13CFL	4	8	26
BATHROOM FIXTURE 2	3L60IN	27	180	3L13CFL	27	81	39
LIVING ROOM FIXTURE 1	1L60IN	31	60	1L13CFL	31	31	13

Room / Location Identification	Description	Existing Fixture	Existing Wattage	Proposed Fixture	Fixture Quantity	Lamp Quantity	Future Wattage per Fixture
EXTERIOR WALL PACK 1	1L400MH	3	458	4L2T5	3	3	105
STAIRS FIXTURE 1	2L4T12	4	72	2L4T8LP	4	8	48
LOBBY FIXTURE 1	1L400MH	9	458	6L4T8HP	9	56	236
OFFICE FIXTURE 1	2L4T12	40	72	2L4T8LP	40	80	48
OFFICE FIXTURE 2	3L4T12	2	115	3L4T8LP	2	6	73
OFFICE FIXTURE 3	4L4T12	38	144	2L4T8LP	38	76	48
Exit Light	EX40IN	22	40	EX03LED	22	22	3
CORRIDOR	1L60IN	9	144	1L13CFL	9	9	13

Housing Authority of the City of Pittsburgh

Pittsburgh, PA

Water Fixtures by Location

Site #	Site Name	Pressure Vessel Retrofit 1.28 gpf	12" Round Bowl w/ Vessel 1.0 gpf	12" Elongated Bowl w/ Vessel 1.0 gpf	17" high ADA Bowl w/ Vessel 1.0 gpf	Rear Outlet Elongated Bowl w/ Vessel 1.0 gpf	17" high ADA Rear Outlet Bowl	Floor Mount Elongated Bowl w/ Vessel 1.0 gpf	Floor Mount ADA Bowl w/ Vessel 1.0 gpf	Wall Mount Elongated Bowl w/ Vessel 1.0 gpf	Total Toilets	Urinal Valve 0.5 gpf	Shower Heads 1.5 gpm	ADA Handheld SH 1.5 gpm	Bathroom Sink Aerator 0.5 gpm	Kitchen Sink Aerator 1.5 gpm
PA 1-01	Addison Terrace	680	22	-	3	2	-	-	-	-	707	2	200	3	701	692
PA 1-04	Arlington Heights	-	135	2	8	-	-	-	-	-	145	-	78	8	145	145
PA 1-05	Allegheny Dwellings	284	11	-	15	-	-	-	3	-	313	-	262	14	293	287
PA 1-09	Northview Heights	478	9	-	26	-	-	-	-	-	513	-	233	24	504	469
PA 1-09	Northview High Rise	106	6	-	-	-	-	7	6	-	125	3	2	105	124	113
PA 1-11	Hamilton-Larimer	-	58	-	2	-	-	-	-	-	60	-	48	2	60	30
PA 1-15	Pennsylvania-Bidwell	-	106	2	14	-	-	-	3	-	125	1	107	14	123	123
PA 1-17	Pressley Street	-	193	4	22	-	-	-	-	-	219	3	190	21	219	213
PA 1-20	Homewood North	152	6	-	7	-	-	1	2	-	167	2	135	7	168	129
PA 1-31	Murray Towers	-	-	-	2	67	2	-	-	-	71	-	-	68	71	70
PA 1-32	Glen Hazel Family	226	5	-	7	-	-	-	-	-	238	-	143	7	237	143
PA 1-40	Mazza Pavilion (Brookline)	-	28	-	5	-	-	-	-	-	33	-	28	2	33	31
PA 1-41	Caliguiri Plaza (Allentown)	-	98	-	7	-	-	-	-	3	108	1	98	6	107	105
PA 1-45	Morse Gardens	-	66	-	4	-	-	-	3	-	73	-	66	4	73	71
PA 1-46	Carrick Regency	-	62	1	4	-	-	-	-	3	70	1	62	4	69	68
PA 1-47	Gualtieri Manor	-	29	-	2	-	-	-	2	-	33	1	29	2	33	33
	Totals	1,926	834	9	128	69	2	8	19	6	3,001	14	1,681	291	2,960	2,722

PART 5 – BUILDING ENVELOPE SCOPE

Addison Terrace: PA 28-1

Doors

- Weather-strip all unit doors – **691**

Windows

- Seal left and right sides of window perimeter of all units except bathroom windows – **1464 ft**

Addison Hall Doors

- Weather-strip doors (3 double & 1 single) - **7**

Bedford: PA28-2

Doors

- Weather-strip door bottoms of all units - **420**

Pennsylvania-Bidwell: PA28-15

Doors

- Weather-strip all doors on main floor including front, back, health center, court yard, recreations room and refrigerator storage room– **10**

Boiler Room

- Seal large pipe chase over hallway door– **3 ft^2**

Garbage Compactor Room

- Seal pipe penetrations – ~ **dozen**

Stairwells *(unconditioned)*

- Seal pipe penetrations leading into units – **77**

Unit Doors

- Weather-strip all unit doors – **120**

Laundry Rooms

- Weather-strip hallway doors – **10**

Roof

- Seal perimeter of roof top ventilators (2) – **16 ft**

Pressley Street: PA28-17

Doors

- Weather-strip all sides of doors in areas listed below; **9**
  - Main floor stairwell doors (2)
  - Doors on rear of building (2)
  - Recreation room doors (2)
  - Maintenance shop (1)

- Kitchen door (1)
- Roof top door (1)

- Weather-strip only center and bottom of front entrance doors – **2**

Typical Units

- Weather-strip hallway doors of units from 2nd to 16th floors – **209**

Elevator Room

- Reduce elevator cable holes – **2**
- Seal perimeter of large duct – **2" wide x 8 ft.**
- Seal large pipe penetrations – **dozen**

Emergency Generator Room

- Weather-strip hallway door
- Seal perimeter of duct penetrations – **8 ft.**

Boiler Room

- Weather-strip hallway door

Electrical Service Room

- Weather-strip hallway door
- Seal large pipe penetration – **2 ft^2**

Overhead Doors

- Weather-strip overhead doors (2) of maintenance shop – **68 ft.**

<u>Allegheny Dwellings</u>: PA28-5

Building 10 (includes office, break room, repair area and maintenance shop)

- Weather-strip exterior door of office, break room and repair area (2 oversized) – **4**
- Weather-strip maintenance shop doors leading to repair area and office – **2**
- Seal pipe penetrations into maintenance shop - **dozen**

Typical Unit

- Weather-strip al unit doors – **282**

Basement Doors

- Weather-strip all basement doors – **9**

<u>Northview High Rise</u>: PA28-9

Doors

- Weather-strip doors on front and back of building – **10**
- Weather-strip exterior doors of Senior Citizens Center – **9**
- Weather-strip basement stairwell doors – **2**

Boiler Room

- Weather-strip hallway doors – **3**

- Seal many pipe penetrations – **50**

Trash Compactor Room
- Weather-strip hallway door – **1**
- Seal pipe penetrations – **dozen**

Emergency Generator Room
- Weather-strip hallway door – **1**
- Seal pipe penetrations – **6**

Fire Pump Room
- Weather-strip hallway door – **1**
- Seal pipe penetrations – **dozen**

Homewood North: PA28-20

Main Office
- Seal door trim – **17 ft**
- Weather-strip only bottoms of doors in building - **3**

Doors
- Weather-strip front and back doors of units – **254**

Furnace Rooms
- Cover seal combustion air vent in each unit – **127 vents**

Arlington Heights: PA28-4

Doors
- Weather-strip doors to all units – **143**

Maintenance Shop
- Weather-strip access doors – **2**

Plumbing Shop
- Weather-strip exterior doors – **2**

Community Room
- Weather-strip exterior doors - **2**

Management Office
- Weather-strip exterior door - **1**

Murray Towers: PA28-31

Doors
- Weather-strip doors off 1st, 3rd and 4th floors – **4**

Typical Floor

- Weather-strip garbage chutes – **8**
- Seal holes in fire cabinet - **15 cabinets**
- Weather-strip stairwell doors – **16**

Roof

- Weather-strip roof top door – **1**
- Seal perimeter of roof top ventilators (2ft x 2ft) – **10**
- Seal gap at roof/wall intersection at top of stairwell– **48 ft.**

Elevator Room

- Reduce accessible elevator cable hole (8" x 8" by 50%) - **1**

Boiler/Trash Compactor Room

- Weather-strip hallway doors – **2**
- Seal perimeter of trash chute – **2 ft. x 2ft.**
- Seal pipe penetrations – **dozen**

Mazza Pavilion: PA28-40

Doors

- Weather-strip all doors including double commercial – **4**

Water Service Closet (located upper level parking deck)

- Weather-strip entrance door – **1**
- Seal pipe penetrations – **3**
- Seal wall crack (masonry to concrete) – **40 ft.**

Caliguiri Plaza: PA28-41

Doors

- Weather-strip door listed below; **4**
  - 1 front metal door (not main entrance)
  - 1 recreation room door
  - 2 rear doors

Ground Level Storage (located at rear of building)

- Seal deck to wall crack (masonry to concrete) – **160 ft.**
- Weather-strip double access doors – **2**
- Seal pipe penetrations in ceiling – **8**

Roof

- Weather-strip roof top door – **1**
- Seal perimeter of roof top ventilators on both roof levels- **16**
- Seal perimeter of trash chute lid – **1**

Typical Floor

- Weather-strip trash chutes (2ft. x 2 ft.) – **10**
- Weather-strip stairwell doors – **34**

SCHEDULE A
SCOPE OF WORK

Boiler Room
- Weather-strip only center of double hallway doors – **1**
- Seal pipe penetrations – **dozen**

Soffit
- Seal open area to soffits – **(6 ft. x 2ft.)**

<u>Finello Pavilion</u>: PA28-44

Doors
- Weather-strip exterior doors listed below; **3**
  - 2 recreation room doors
  - 1 side door

Elevator/Trash Compactor Room
- Weather-strip hallway door – **1**
- Seal pipe penetrations – **dozen**

<u>Finello Pavilion</u>: (continued)
Boiler Room
- Seal pipe penetrations – **2 dozen**

Crawlspace (off Fire Pump Room)
- Repair holes in polystyrene insulation on ceiling – **4 ft^2**

Typical Floor
- Weather-strip stairwell doors – **14**
- Weather-strip trash room doors – **6**
- Seal pipe penetrations in 5 Meter/Telephone Rooms (2nd to 6th floor) – **40**

Roof
- Seal perimeter of roof top ventilators (2ft x 2ft) – **5**
- Seal perimeter of trash chute lid – **1**

<u>Carrick Regency</u>: PA28-46

Doors
- Weather-strip exterior doors on rear of building – **4**

Typical Floor
- Caulk ceiling/wall intersection crack on each floor of both stairwells– **480 ft.**
- Weather-strip hallway doors to trash rooms on each floor – **7**
- Weather-strip stairwell doors (2 sets) – **17**
- Air leakage detected at hallway access panels. Weather-strip 4 panels/floor (2ft x 2ft) – **32**
- Seal holes in fire hose cabinets (2/floor) – **16 cabinets**

Trash Compactor Room

SCHEDULE A
SCOPE OF WORK

- Weather-strip only center of double hallway doors – **1**
- Seal pipe penetrations – **9**

Boiler/Emergency Generator Room

- Weather-strip all sides of hallway door near generator - **1**
- Weather-strip only center of double hallway doors – **1**
- Seal pipe penetrations – **30**
- Seal 1/8" ceiling/wall crack (masonry to concrete) - **120'**

Roof

- Weather-strip hallway door to roof – **1**
- Seal perimeter of roof top ventilators – **13**
- Seal perimeter of trash chute lid – **1**
- Seal pipe penetrations in hallway at top of stairs – **3**
- Reduce size of elevator cable holes (8" x 8") – **2**

PART 6 – THERMOSTATS & VALVES SCOPE

HA Site #	Site Name	Quantity of Thermostats
PA 1-04	Arlington Heights	143
PA 1-09	Northview Heights	465
PA 1-11	Hamilton-Larimer	30
PA 1-20	Homewood North	127
PA 1-32	Glen Hazel Family	128
PA 1-40	Mazza Pavilion (Brookline)	30
PA 1-41	Caliguiri Plaza (Allentown)	104
PA 1-44	Finello Pavilion (South Oakland)	60
PA 1-45	Morse Gardens	70
PA 1-46	Carrick Regency	66
PA 1-47	Gualtieri Manor	31
	Total Thermostats:	**1,261**

HA Site #	Site name	Quantity of New Radiator Valves
PA 1-15	Pennsylvania-Bidwell	120
PA 1-31	Murray Towers	68
	Total Valves:	**188**

PART 7 – REFRIGERATORS SCOPE

HA Site #	Site Name	Quantity
PA 1-01	Addison Terrace	61
PA 1-02	Bedford Dwellings	51
PA 1-05	Allegheny Dwellings	29
PA 1-09	Northview Heights	65
PA 1-11	Hamilton-Larimer	30
PA 1-32	Glen Hazel Family	69
	Total Refrigerators	**305**

SCHEDULE B

ENERGY SAVINGS GUARANTEE

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1. DEFINITIONS

When used in this Agreement, the following capitalized words shall have the meanings ascribed to them below:

"Baseline Period" is the period of time which defines the Baseline Usage and is representative of the facilities operations, consumption, and usage that is used as the benchmark for determining cost avoidance.

"Baseline Usage or Demand" the calculated or measured energy usage (demand) by a piece of equipment or a site prior to the implementation of the ECMs. Baseline physical conditions, such as equipment counts, nameplate data, and control strategies, will typically be determined through surveys, inspections, and/or metering at the site.

"Covered Systems and Equipment" means the systems and equipment identified as being covered by the Support Services to be performed by HONEYWELL pursuant to this Agreement.

"Cost Adjustments" means for each year following the first year of the Support Services, HONEYWELL, may increase the amounts charged by HONEYWELL for Support Services. For the purposes of this Agreement, the Annual Support Services price will be increased by 3% per Guarantee Year, commencing after the end of the First Guarantee Year.

"Energy Guarantee Practices" are those practices identified in Schedule D, intended to achieve avoided costs in energy and/or operating expenses.

"Energy Costs" may include the cost of electricity and fuels to operate HVAC equipment, facility mechanical and lighting systems, and energy management systems, and the cost of water and sewer usage, as applicable.

"ECM" the Energy Conservation Measure (ECM) is the installation of equipment or systems, or modification of equipment or systems as described in Schedule A.

"Facilities" shall mean those buildings where the energy and operational cost savings will be realized.

"F.E.M.P." shall mean the Federal Energy Management Program of the U.S. Department of Energy and its Measurement and Verification Guidelines for Federal Energy Projects (DOE/GO-102000-0960, September 2000). The F.E.M.P. guidelines classify measurement & verification approaches as Option A, Option B, Option C, and Option D. The F.E.M.P. Guideline is based on the International Performance Measurement and Verification Protocol (I.P.M.V.P.) and was written to be fully consistent with it. It is intended to be used by Federal procurement teams consisting of contracting and technical specialists. The focus of F.E.M.P. Guidelines is on choosing the M&V option and method most appropriate for specific projects.

"Financing Document" refers to that document executed between HACP and a third-party financing entity providing for payments from HACP to third-party financing entity.

"Final Project Acceptance" refers to the HACP acceptance of the installation of the ECMs as described in Schedule A.

"First Guarantee Year" is defined as the period beginning on the first (1st) day of the month following the date of Final Project Acceptance of the Work installed or the first (1st) day after the expiration of the 14 months following the commencement date as identified in the Notice to Proceed and ending on the day prior to the first (1st) anniversary thereof

"Guarantee Period" is defined as the period beginning on the first (1st) day of the First Guarantee Year and ending on the last day of the final Guarantee Year.

"Guarantee Year" is defined as the First Guarantee Year and each of the successive twelve (12) month periods commencing on the anniversary of the commencement of the First Guarantee Year throughout the Term of this Agreement.

"Guaranteed Savings" is defined as the amount of avoided Energy Costs necessary to pay for the cost of the Work and Schedule H Support Services incurred by HACP in each Guarantee Year [as identified in Section 3.1 hereof].

"I.P.M.V.P." International Performance Measurement and Verification Protocol (April 2007) provides an overview of current best practice techniques available for measurement & verification of performance contracts. This document is the basis for the F.E.M.P. protocol. The techniques are classified as Option A, Option B, Option C, and Option D.

"Measurement and Verification Plan" (M&V Plan) is defined as the plan providing details on how the Guarantee Savings will be verified.

"Operational Costs" Not Applicable to this Project.

"Option A" is a verification approach that is designed for projects in which the potential to perform needs to be verified, but the actual performance can be stipulated based on the results of the "potential to perform and generate Savings" verification and engineering calculations. Option A involves procedures for verifying that:

- Baseline conditions have been properly defined; and
- The equipment and/or systems that were contracted to be installed have been installed; and
- The installed equipment components or systems meet the specifications of the contract in terms of quantity, quality, and rating; and
- The installed equipment is operating and performing in accordance with the specifications in the contract and meeting all functional tests.

"Option B" is for projects in which the potential to perform and generate Savings needs to be verified; and actual performance needs to be measured (verified). Option B involves procedures for verifying the same items as Option A plus verifying actual performance of equipment component or system. Performance verification techniques involve engineering calculations with metering and monitoring for verifying that:

- The installed equipment components or systems *at the end of the construction period* meet the specifications of the contract in terms of quantity, quality and rating, and operation and functional performance.

"Option C" is also for projects in which the potential to perform needs to be verified and actual performance during the term of the contract needs to be verified. Option C involves procedures for verifying the same items as Option A plus verifying actual achieved energy savings during the term of the contract. Performance verification techniques involve utility whole building meter analysis.

"Option D" is a verification technique where calibrated simulations of the baseline energy use and/or calibrated simulations of the post-installation energy consumption are used to measure Savings from the Energy Conservation Measures. Option D can involve measurements of energy use both before and after the Retrofit for specific equipment or energy end use as needed to calibrate the simulation program. Periodic inspections of the equipment may also be warranted. Energy consumption is calculated by developing calibrated hourly simulation models of whole-building energy use, or equipment sub-systems in the baseline mode and in the post-installation mode and comparing the simulated annual differences for either an average year or for conditions that correspond to the specific year during either the baseline or post-installation period.

"Retrofit and Support Costs" are the sum of the (i) the financing payments required to be made by HACP pursuant to the Financing Document; and (ii) the payments required to be made by HACP for Support Services.

"Retrofit" is the work provided by HONEYWELL as defined by the "ECMs."

"Savings" is defined as avoided, defrayed, or reallocated costs.

"Support Services" is defined as the services to be provided by HONEYWELL and described in Schedule H.

"Term" shall have the meaning as defined in Section 2 hereof.

"Total Guarantee Year Savings" is defined as the summation of avoided Energy Costs realized by Facilities in each Guarantee Year as a result of the Retrofit and Support Services provided by HONEYWELL.

2. TERM AND TERMINATION

2.1 **Guarantee Term.** The Term of this Guarantee Period shall commence on the first (1st) day of the month following the date of Final Project Acceptance of the Work installed pursuant to this Agreement or the first (1st) day after the expiration

of the 14 months following the commencement date as identified in the Notice to Proceed and shall terminate at the end of the Guarantee Period unless terminated earlier as provided for herein. The Term of this Guarantee Period is defined in Section 1 of Schedule D.

2.2 **Guarantee Termination.** Except as modified by the mutual agreement of the parties as set forth in ESA, Section 14, should this Agreement be terminated (including, as applicable, the Support Services Agreement) in whole or in part for any reason prior to the end of the Term, the Guaranteed Savings for the Guarantee Year in which such termination becomes effective shall be prorated as of the effective date of such termination, with a reasonable adjustment for seasonal fluctuations in Energy Costs, and the Guaranteed Savings for all subsequent Guarantee Years shall be null and void.

3. SAVINGS GUARANTEE

3.1 **Guarantee Savings.** HONEYWELL guarantees to HACP that the identified Facilities will realize the total energy savings through the combined value of all ECMs over the Term of the contract as defined in Section 1 of Schedule D. In no event shall the savings guarantee provided herein exceed the total project cost, Schedule H Support Services, and financing costs for the Work under this Agreement.

3.1.1 **Additional Savings.** Additional consumption savings that can be demonstrated in writing as a result of Honeywell's efforts that result in no additional costs to HACP beyond the costs identified in this Agreement will be included in the guarantee savings reconciliation report for the applicable Guarantee Year(s).

3.1.2 **Savings Prior to Final Retrofit Acceptance.** **Not Applicable to this Project.**

3.1.3 **Annual Satisfaction of Savings.** The Guaranteed Savings in each Guarantee Year are considered satisfied if the Total Guarantee Year Savings for such Guarantee Year equals or exceeds the amount identified in Section 1 of Schedule D hereto, as adjusted per Schedule B, "Cost Adjustments".

3.1.4 **Excess Savings.** Any excess savings inure to the benefit of HACP.

3.1.5 **Savings Shortfalls.** In the event that the Total Guarantee Year Savings in any Guarantee Year is less than the Guaranteed Savings required for that Guarantee Year (limited by Sec. 1 of Schedule D), HONEYWELL shall make all reasonable efforts to remit within 45 days, but in no event any later than 60 days, of its receipt of HACP's written acceptance of the reconciliation report the amount of any such shortfall, limited by the value of the guarantee. Resulting compensation shall be HONEYWELL's sole liability for any shortfall in the Guaranteed Savings.

3.2 **Savings Reconciliation Documentation.** HONEYWELL will provide HACP with a written guarantee savings reconciliation report no later than 90 days after the conclusion of each Guarantee Year and all utility bills have been received. HACP will assist HONEYWELL in generating the savings reconciliation report by providing HONEYWELL, within four (4) weeks of contract execution, with authorization to collect utility data directly from the providers, and permitting access to any maintenance records, drawings, or other data deemed necessary by HONEYWELL to generate the said report and/or, copies of all bills pertaining to Energy Costs associated with the sites and accounts set forth in Schedule I, within two (2) weeks following HACP's receipt thereof, together with access to relevant records relating to such Energy Costs. Data and calculations utilized by HONEYWELL in the preparation of its guarantee cost savings reconciliation report will be made available to HACP, along with such explanations and clarifications as HACP may reasonably request.

3.2.1 **Acceptance of Guarantee Reconciliation.** Upon receipt of the annual reconciliation report, the HACP will have sixty (60) days to review the guarantee savings reconciliation report and provide written notice to HONEYWELL of a) acceptance or rejection of the Guarantee Savings for that Guarantee Year or b) the date certain past the 60 day mark (not to exceed an additional sixty 60 days) that the HACP will provide their decision. HACP's failure to provide written notice of its acceptance or rejection of the reconciliation report within one hundred and twenty (120) days of its receipt thereof will deem the report "Accepted" by HACP.

3.2.2 **Guarantee Savings Reconciliation.** Guarantee Savings will be determined in accordance with the methodology(s), operating parameters, formulas, and constants as described below and/or defined in Schedule D and/or additional methodologies defined by HONEYWELL that may be negotiated with HACP at any time. Baseline adjustments shall comply with the Moving to Work Agreement between HACP and HUD dated November 17, 2000, if applicable.

For reconciliation of Guarantee Savings employing the method of utility bill analysis consistent with F.E.M.P. Option C:

Energy usage for the Facilities for such Guarantee Year will be summarized and compared with the adjusted Baseline Period energy usage for the Facilities through the use of energy accounting software. The difference between the adjusted Baseline Period energy usage and the Guarantee Year energy usage will be multiplied by the applicable energy rate as defined in Schedules D and E, to calculate the Energy Cost avoidance. A Baseline Period will be specified (Section 1 of Schedule D) for the purpose of utility bill analysis. HACP will provide, or provide access to actual utility bills spanning the baseline period defined in Section 1 of Schedule D. These bills will be used to generate average monthly consumptions, for the purpose of accurately defining the base year consumptions in the utility accounting software, as reasonably comparable to the Energy Baseline collected in Schedule E.

AND/OR for those energy audits employing the method consistent with I.P.M.V.P. Options A and/or B:

For each ECM, HONEYWELL will employ an M&V Plan which may be comprised of any or all of the following elements:

1. Pre-retrofit model of energy consumption or demand
2. Post retrofit measured energy consumption
3. Post-retrofit measured demand and time-of-use
4. Post-retrofit energy and demand charges
5. Sampling plan
6. Stipulated Values

The value of the energy savings will be derived from the measured data and engineering formulae included herein, and the utility rates set forth in the rate escalation table in Schedule D section 1.4.2. In some cases, energy usage and/or demand will be calculated from measured variables that directly relate to energy consumption, demand or cost, such as, but not limited to, measured flow, temperature, current, voltage, enthalpy or pressure.

3.3 RESERVED.

3.4 **Base Year Adjustments.** a) The baseline period shall only be adjusted to reflect changes in energy usage due to weather. This includes both heating and cooling degree day adjustments due to variations in temperature. b) Pursuant to ESA, Section 14, adjustments related to building use, occupancy, new construction, demolition will be addressed as a change order to the contract and not included in the annual base year adjustments.

3.4.1 **Facility Operational Changes.** Except in the case of emergencies, HACP agrees it will not, without the consent of an Authorized Representative of HONEYWELL: make any significant deviations from the applicable Energy Guarantee Practices; put any system or item of equipment in a permanent "on" position, if the same would constitute a deviation from the applicable Energy Guarantee Practices; or assume manual control of any energy management system or item of equipment, if the same would constitute a deviation from the applicable Energy Guarantee Practices. To the extent HACP defaults in or fails to comply with this Section 3.4.1, Honeywell and HACP will negotiate a mutually agreeable adjustment to Honeywell's Guaranteed Savings obligation; provided, however, that no adjustment hereunder shall be effective unless Honeywell has first provided HACP with written notice of HACP's default or failure to comply with Section 3.4.1 and provided further, that the parties' inability to mutually agree on an adjustment will result in submission of the issue to arbitration consistent with AAA rules, the resolution of which will be final.

3.4.1.1 HACP and Honeywell agree that the savings guarantee can be negatively impacted by the behavior of residents and others including, but not limited to, opening of windows, removal of energy saving water fixtures, and overriding of equipment set points, and Honeywell assumes no responsibility for the actions of residents or others with regard to such behaviors and the impact on the savings guarantee.

3.4.2 **Hours and Practices.** To achieve these energy savings, HONEYWELL and HACP agree upon the operating practices listed in Schedules D and E.

3.4.3 **Activities and Events Adversely Impacting Savings.** HACP shall promptly notify HONEYWELL of any activities it knows or has reason to believe will adversely impact HONEYWELL's ability to realize the Guaranteed Savings and HACP and HONEYWELL shall negotiate an equitable adjustment to the Guaranteed Savings as provided in ESA, Section 14.2 and 14.3.

3.5 **Guarantee Adjustment.** HONEYWELL's Guaranteed Savings obligations under this Agreement are contingent upon: (1) HACP following the Energy Guarantee Practices set forth herein and in Schedules D and E; (2) no alterations or

additions outside the Energy Guarantee Practices set forth herein and in Schedules D and E being made by HACP to any of the Covered Systems and Equipment without prior notice to and agreement by HONEYWELL; (3) Equipment life that extends up to and/or beyond the guarantee term. Should the actual life of any Equipment not extend to the end of the guarantee term, and not otherwise be covered by a warranty hereunder, HACP shall replace failed Equipment with the same or equivalent equipment. ; (4) HONEYWELL's ability to render services not being impaired by circumstances beyond its control. To the extent HACP defaults in or fails to perform fully any of its obligations under this Agreement, HONEYWELL may, consistent with the provisions of ESA, Section 14, negotiate with HACP a reasonable adjustment to its Guaranteed Savings obligation; provided, however, that no adjustment hereunder shall be effective unless HONEYWELL has first provided HACP with written notice of HACP's default(s) or failure(s) to perform and HACP has failed to cure its default(s) or failure(s) to perform within forty five (45) days after the date of such notice.

3.5.1 Should HACP fail to replace the failed Equipment with the same or equivalent equipment, any adjustment to the guarantee will be governed by ESA Section 14.3 and consistent with the following: Except during the 1 year Honeywell warranty period, HACP and Honeywell agree that Honeywell assumes no financial responsibility for the replacement or maintenance of any Equipment that does not function as intended until the end of the guarantee term, but will notify HACP in writing of any Equipment it knows is not functioning as intended. Should HACP wish to replace any Equipment prior to the end of the guarantee term, it will only do so after providing written notice to Honeywell, and the guarantee will be equitably adjusted by mutual agreement of the parties to account for any replaced Equipment, but only if said replacement equipment is not equivalent or more efficient than the Equipment that it replaced.

SCHEDULE C

COMPANY'S COMPENSATION

1. The following payment schedule has been established for the Work to be provided by Honeywell:

1. 1 Consistent with ESA, Section 4, and with the General Conditions, payment will be made net thirty (30) days of receipt of Honeywell's acceptable invoice. In the event of non-payment only as to undisputed amounts owing, Honeywell will provide written notice of non-payment to HACP. If issues surrounding lack of payment on such non-disputed amounts owing are not remedied within thirty (30) business days from the date of the notice, HONEYWELL may suspend Work on the affected ECMs until payment is made.

1.2 Total payment for the Work provided by Honeywell is Twenty Five Million One Hundred Ten Thousand Eight Hundred One Dollars and No Cents ($25,110,801.00).

1.3 Payment will be made as follows:

.1 Project Development- Two Million Two Hundred Thirty Two Thousand Fifty Four Dollars and Fifty Cents ($2,232,054.50) upon the occurrence of all of the following: contract execution, final funding under the financing agreements as described in ESA, Section 4.2.1 and submission of Honeywell's acceptable invoice.

.2 Consistent with HUD 5370, Section 27, the balance of the contract amount will be billed monthly as a percentage complete using an approved Schedule of Values for the work listed in Schedule A.

2. The following payment schedule has been established for Support Services:

2.1 The first invoice for services provided will be issued upon completion of the Work and after the first month of Support Services.

2.2 HACP shall pay or cause to be paid to HONEYWELL the full price for the Services as specified in Schedule H, based upon monthly invoicing. HONEYWELL shall submit monthly invoices to HACP for Services performed during the prior billing period, and payment shall be due within thirty (30) days after HACP's receipt of each such invoice. Payments shall be remitted by check. Invoiced amounts shall be subject to the adjustments set forth in Schedule H.

SCHEDULE D

PROJECTED FINANCIAL PERFORMANCE and MEASUREMENT AND VERIFICATION PLAN

1. Schedule of Savings

The total energy (including water/sewer) cost avoidance over the Term of the contract is equal to or greater than $36,056,414 as defined in the table below (comprised of energy including water/sewer and rolling base year cost avoidance): This table reflects Honeywell's annual guarantee, which will provide the Customer the amount needed to cover the principal amount to be paid to a financial institution, the interest amount to be paid to a financial institution, and on going Measurement and Verification (M&V) costs to be paid to Honeywell, for each performance year. The total shown is the cost of the project over the 12 year term (see projected cash flow below).

*

Phase 1 Price	$	25,110,801	
Buyout Penalty	$	-	
Phase 1B Price	$	-	
Project Buy Down	$	-	
Const. Fin.	$	1,381,711	(does not include interest earned on escrow during construction period)
Total Financed	$	26,492,512	
Term		12 Years	
Rate		4.60%	
Overall Guarantee %		92.59%	0.00%

Annual Guarantee Summary

		Savings			Service			Amortization			P+I+Service	Savings %
		Energy	RBY	Total	MECH Services	M&V	Total	Interest	Principal	Balance	= Honeywell Guarantee	Guaranteed by HW
Escalation Over Term		16.3%	0.0%			3.0%						
0	Year 1	$ 2,584,170	$ -	$ 2,584,170	$ -	$ 72,342	$ 72,342	$ 1,191,040	$ 1,320,788	$ 25,171,724	$ 2,584,170	92.59%
1	Year 2	$ 2,653,235	$ -	$ 2,653,235	$ -	$ 74,512	$ 74,512	$ 1,127,558	$ 1,451,158	$ 23,720,566	$ 2,653,228	92.59%
2	Year 3	$ 2,724,372	$ -	$ 2,724,372	$ -	$ 76,747	$ 76,747	$ 1,057,907	$ 1,589,713	$ 22,130,853	$ 2,724,367	92.59%
3	Year 4	$ 2,797,644	$ -	$ 2,797,644	$ -	$ 79,049	$ 79,049	$ 981,703	$ 1,736,885	$ 20,393,969	$ 2,797,637	92.59%
4	Year 5	$ 2,873,113	$ -	$ 2,873,113	$ -	$ 81,420	$ 81,420	$ 898,539	$ 1,893,153	$ 18,500,816	$ 2,873,112	92.59%
5	Year 6	$ 2,950,847	$ -	$ 2,950,847	$ -	$ 83,863	$ 83,863	$ 807,987	$ 2,058,993	$ 16,441,823	$ 2,950,843	92.59%
6	Year 7	$ 3,030,912	$ -	$ 3,030,912	$ -	$ 86,379	$ 86,379	$ 709,595	$ 2,234,929	$ 14,206,894	$ 3,030,903	92.59%
7	Year 8	$ 3,113,380	$ -	$ 3,113,380	$ -	$ 88,970	$ 88,970	$ 602,887	$ 2,421,521	$ 11,785,372	$ 3,113,378	92.59%
8	Year 9	$ 3,198,321	$ -	$ 3,198,321	$ -	$ 91,639	$ 91,639	$ 487,361	$ 2,619,319	$ 9,166,053	$ 3,198,319	92.59%
9	Year 10	$ 3,285,811	$ -	$ 3,285,811	$ -	$ 94,388	$ 94,388	$ 362,489	$ 2,828,935	$ 6,337,119	$ 3,285,812	92.59%
10	Year 11	$ 3,375,926	$ -	$ 3,375,926	$ -	$ 97,220	$ 97,220	$ 227,716	$ 3,050,984	$ 3,286,135	$ 3,375,920	92.59%
11	Year 12	$ 3,468,744	$ -	$ 3,468,744	$ -	$ 100,137	$ 100,137	$ 82,453	$ 3,286,135	$ -	$ 3,468,725	92.58%
	Total	$ 36,056,474	$ -	$ 36,056,474	$ -	$ 1,026,666	$ 1,026,666	$ 8,537,236	$ 26,492,512		$ 36,056,414	92.59%

* In the event the financing interest rate at closing is greater than 4.6%, the parties will renegotiate or terminate the Agreement as set forth in ESA, Section 4 and these tables will be recalculated as necessary.

Provided further, in no event shall the savings guarantee provided herein exceed the total installation, maintenance services, and financing costs for the Work under this Agreement

The Term of this contract is for __12__ years. There are two components to the M&V Process: As outlined in Section 1.4.2.3; commissioning phase activities are completed prior to the close of construction and are considered part of the construction period. The performance period activities begin after the earlier of 100% acceptance of work by the housing authority or the first (1st) day after the expiration of the 14 months following the commencement date as identified in the Notice to Proceed which starts the performance period and continue for the 12 year term of the contract.

The Baseline Period for Authority Paid utilities is defined as the average of the budget years, 2004-2006 as provided to Honeywell by the Housing Authority.

The Baseline Period is defined as the adjusted, average, energy consumption (see Schedule I, 1.1), per the energy costs and utility unit costs provided by the Housing Authority and as defined in Engineered Savings Calculations attached hereto and incorporated herein.

1 a Projected Cash Flow

The following describes in further detail the breakouts between project costs, annual M&V costs, and interest paid to financing partner. This projection is based on information regarding the interest rate and escrow re-investment rate received from the chosen Lender.

*

Housing Authority of the City of Pittsburgh

Infow & Guarantee Summary

Honeywell

Year 1 Guaranteed Energy Savings	$ 2,584,170
Interest Rate - From Phase 1 Project	4.60%
Term, Months	144
Year 1 M&V Price	$ 72,342
Utility Rate Escalation (Electric)	0%
Utility Rate Escalation (Gas & Water)	3.0% / 3.0%

Project Cost	$ 25,110,801.00
Project Buy Down	$ -
Construction Interest Fees	$ 1,381,711.34
Total Financed	$ 26,492,512.34

Year	Calculated Savings: Utility Consumption Escalated - MASTER METERED	Rolling Base Normalization - Not Used for project funding			Utility Consumption Escalated - TENANT PAID	Utility Consumption Escalated - FROZEN BASE	Total	Project Costs: Debt Service	M&V Support Services	Total
2009	$ -	$ -	100%		$ 16,601	$ 2,774,521	$ 2,791,122	$ 2,511,828	$ 72,342	$ 2,584,170
2010	$ -	$ -	75%		$ 16,601	$ 2,849,118	$ 2,865,719	$ 2,578,716	$ 74,512	$ 2,653,228
2011	$ -	$ -	50%		$ 16,601	$ 2,925,952	$ 2,942,553	$ 2,647,620	$ 76,747	$ 2,724,367
2012	$ -	$ -	25%		$ 16,601	$ 3,005,091	$ 3,021,692	$ 2,718,588	$ 79,049	$ 2,797,637
2013	$ -	$ -			$ 16,601	$ 3,086,604	$ 3,103,205	$ 2,791,692	$ 81,420	$ 2,873,112
2014	$ -	$ -			$ 16,601	$ 3,170,563	$ 3,187,164	$ 2,866,980	$ 83,863	$ 2,950,843
2015	$ -	$ -			$ 16,601	$ 3,257,041	$ 3,273,642	$ 2,944,524	$ 86,379	$ 3,030,903
2016	$ -	$ -			$ 16,601	$ 3,346,113	$ 3,362,714	$ 3,024,408	$ 88,970	$ 3,113,378
2017	$ -	$ -			$ 16,601	$ 3,437,857	$ 3,454,458	$ 3,106,680	$ 91,639	$ 3,198,319
2018	$ -	$ -			$ 16,601	$ 3,532,353	$ 3,548,954	$ 3,191,424	$ 94,388	$ 3,285,812
2019	$ -	$ -			$ 16,601	$ 3,629,684	$ 3,646,285	$ 3,278,700	$ 97,220	$ 3,375,920
2020	$ -	$ -			$ 16,601	$ 3,729,936	$ 3,746,537	$ 3,368,588	$ 100,137	$ 3,468,725
Total	$ -	$ -	0%	$ -	$ 199,212	$ 38,744,833	$ 38,944,045	$ 35,029,748	$ 1,026,666	$ 36,056,414

Year	Guaranteed Energy Savings - ADD ON plus Tenant Paid	Rolling Base Savings Used			Guaranteed Savings Total	Excess Savings: Guarantee Buffer	To Client (unused Rolling Base + unused Frozen Base + unused Tenant Allowance Svgs.)
2009	$ 2,584,170	$ -	#DIV/0!		$ 2,584,170	$ 206,952	$ 206,952
2010	$ 2,653,235	$ -	#DIV/0!		$ 2,653,235	$ 212,491	$ 212,484
2011	$ 2,724,372	$ -	#DIV/0!		$ 2,724,372	$ 218,186	$ 218,181
2012	$ 2,797,644	$ -	#DIV/0!		$ 2,797,644	$ 224,055	$ 224,048
2013	$ 2,873,113				$ 2,873,113	$ 230,093	$ 230,092
2014	$ 2,950,847				$ 2,950,847	$ 236,321	$ 236,317
2015	$ 3,030,912				$ 3,030,912	$ 242,739	$ 242,730
2016	$ 3,113,380				$ 3,113,380	$ 249,336	$ 249,334
2017	$ 3,198,321				$ 3,198,321	$ 256,139	$ 256,137
2018	$ 3,285,811				$ 3,285,811	$ 263,142	$ 263,143
2019	$ 3,375,926				$ 3,375,926	$ 270,365	$ 270,359
2020	$ 3,468,744				$ 3,468,744	$ 277,812	$ 277,793
Total	$ 36,056,474	$ -	#DIV/0!		$ 36,056,474	$ 2,887,631	$ 2,887,571

1.1 HUD Funding Relationships to Savings - The following table describes the savings relationship between Utility Allowance Savings, Add-on Subsidy Savings, and Frozen Base Year Savings as applicable for each ECM. Details by site are listed in Schedule E.

Savings listed as **Frozen Rolling Base Savings** is the actual utility savings the Housing Authority should realize through implementation of the EPC. These savings, with the exception of electricity, will be monitored with utility bills to be provided to Company by the Housing Authority on a monthly basis. The difference between the Frozen Baseline presented in Schedule I, and the actual utility costs is the amount the Housing Authority will use to amortize the loan. For the purposes of this EPC, it is assumed that the Housing Authority will continue to receive funds at a level equal to or greater than the Baseline presented in Schedule I. It is the responsibility of the Housing Authority to ensure funding continues for the term of this EPC.

Savings listed as **Tenant Paid Utility Allowance Savings**, is the amount of savings the Housing Authority receives from reducing the utility allowances given to the tenants. The Client and Company agree that the Client is responsible for filing necessary paperwork to receive this benefit based on the calculations presented in Schedule E.

*

Summary of All Guaranteed Savings - Year 1

Site Totals

		Gas - Option C		Electric - Option A		Water/Sewer - Option C		
Site #	Site Name	FROZEN BASE	Tenant Paid Savings	FROZEN BASE	Tenant Paid Savings	FROZEN BASE	Tenant Paid Savings	Total Savings
PA 1-01	Addison Terrace	$ 103,650	$ -	$ 81,567	$ -	$ 86,350	$ -	$ -
PA 1-02	Bedford Dwellings	$ 5,291	$ -	$ 53,388	$ -	$ -	$ -	$ -
PA 1-04	Arlington Heights	$ 206,623	$ -	$ (17,582)	$ -	$ 37,846	$ -	$ -
PA 1-05	Allegheny Dwellings	$ 11,705	$ -	$ 85,532	$ -	$ 31,865	$ -	$ -
PA 1-09	Northview Heights	$ 872,472	$ -	$ (16,667)	$ -	$ 81,808	$ -	$ -
PA 1-09H	Northview High Rise	$ 7,689	$ -	$ 16,839	$ -	$ 8,025	$ -	$ -
PA 1-11	Hamilton-Larimer	$ 10,781	$ -	$ 6,593	$ -	$ 15,365	$ -	$ -
PA 1-15	Pennsylvania-Bidwell	$ 64,416	$ -	$ 13,479	$ -	$ 16,913	$ -	$ -
PA 1-17	Pressley Street	$ 19,720	$ -	$ 31,655	$ -	$ 27,076	$ -	$ -
PA 1-20	Homewood North	$ 395,283	$ -	$ (47,397)	$ -	$ 27,928	$ -	$ -
PA 1-31	Murray Towers	$ 37,796	$ -	$ 12,182	$ -	$ 8,020	$ -	$ -
PA 1-32	Glen Hazel Family	$ 57,641	$ -	$ 20,698	$ -	$ 21,975	$ -	$ -
PA 1-40	Mazza Pavilion (Brookline)	$ 22,336	$ -	$ 2,608	$ -	$ 2,174	$ -	$ -
PA 1-41	Caliguiri Plaza (Allentown)	$ 25,111	$ -	$ 6,067	$ 4,636	$ 15,192	$ -	$ 4,636
PA 1-44	Finello Pavilion (South Oakland)	$ 9,509	$ -	$ 4,589	$ 3,249	$ -	$ -	$ 3,249
PA 1-45	Morse Gardens	$ 23,497	$ -	$ 1,976	$ 1,396	$ 7,354	$ -	$ 1,396
PA 1-46	Carrick Regency	$ 19,962	$ -	$ 5,783	$ 3,043	$ 7,843	$ -	$ 3,043
PA 1-47	Gualtieri Manor	$ 10,091	$ -	$ 5,313	$ 3,046	$ 2,867	$ -	$ 3,046
		$ 1,903,574	$ -	$ 266,624	$ 15,370	$ 398,602	$ -	$ 15,370
	Total Savings:		$ 1,903,574		$ 281,994		$ 398,602	$ 2,584,170

For Totals of other years, refer to Section 1a Projected Cash Flow, herein.

1.1.1 **First Year Energy Savings by Utility Type.** The First Year annual amount of energy savings is the sum of the below listed ECMs. The Savings are based on the listed Energy and Operational Cost Avoidance Guarantee Practices contained in Section 1.3 herein.

*

Summary Table of ECM's Guaranteed Savings - Year 1

ECM #	ECM Description	Total Annual Savings	Annual Natural Gas Savings MCF	Annual Natural Gas Savings $	Annual Electric Savings kWh	Annual Electric Savings $	Annual Water Savings Mgal	Annual Water Savings $	Annual Sewer Savings $
	Lighting								
1	Retrofit Common Area Lighting	$ 289,348			2,541,524	$ 289,348			
2	Retrofit Tenant Area Lighting	$ 262,170			2,302,802	$ 262,170			
	Electrical								
6	Install High Efficiency Refrigerators	$ 16,422			144,248	$ 16,422			
	Water/Sewer								
10	Low Flow Aerators and Showerheads	$ 535,462	12,243	$ 243,282	206,208	$ 23,476	28,986	$ 268,704	
11	Low Flow Toilet Replacement	$ 129,898					14,013	$ 129,898	
	Envelope								
16	Building Envelope Leakage	$ 98,285	4,669	$ 92,767	48,472	$ 5,518			
18	Replace Roof and/or Add Insulation	$ 15,218	722	$ 14,339	7,723	$ 879			
	Controls								
21	Limiting Thermostats	$ 296,984	13,908	$ 276,368	181,086	$ 20,616			
	Mechanical								
26	Geothermal HVAC, DWH System	$ 842,619	59,254	$ 1,177,408	(2,940,669)	$ (334,790)			
27	New High Efficiency Boilers	$ 3,965	200	$ 3,965					
29	Adjust CFMs	$ 25,823	1,300	$ 25,823					
30	New Ventilation Unit	$ 921	151	$ 2,995	(18,211)	$ (2,073)			
31	New Radiator Control Valves	$ 58,088	2,923	$ 58,088					
32	Ventilation Unit Heat Recovery	$ 8,567	411	$ 8,163	3,554	$ 405			
37	Insulate Make-up Air Duct on Roof	$ 399	19	$ 377	196	$ 22			
	Honeywell Pass Through								
	Owner's Contingency								
	Total First Year ECM Guaranteed Savings:	$ 2,584,170	95,799	$ 1,903,574	2,476,932	$ 281,994	42,999	$ 398,602	$ -

For totals of other years and for individual year totals, refer to Section 1a Projected Cash Flow, herein. Reference table in D.1.4.1 for M&V Options related to individual ECMs.

1.2 **Operational Cost Savings.** Not Applicable to this contract.

1.3 **Energy and Operational Cost Avoidance Guarantee Practices:**

1.3.1 **BASELINE Operating Parameters** are the facility(s) and system(s) operations measured and/or observed before commencement of the Work and as determined and set forth in the IGA The data summarized will be used in the calculation of the baseline energy consumption and/or demand and for calculating baseline adjustments for changes in facility operation that occur during the Guarantee Period. HONEYWELL and CUSTOMER agree that the operating parameters specified in this section are representative of equipment operating characteristics during the Base Year specified in this Agreement. The following data was collected with the assistance of the Housing Authority.

The baseline operating parameters are stipulated in the *Savings Section and Program Section* of Schedule E, attached hereto and incorporated herein. Operating Parameters are derived from the HUD guidebook.

1.3.2 **PROPOSED Operating Parameters** of the facility(s) and system(s) after completion of Work. The data summarized will be used in the calculation of the post-retrofit energy consumption and/or demand. HONEYWELL and CUSTOMER agree that the proposed operating parameters specified in this section are representative of equipment operating characteristics during the Guarantee Period specified in this Agreement.

The post-retrofit required operating parameters are stipulated in the *Savings Section and Program Section* of Schedule E, attached hereto and incorporated herein. Operating Parameters are derived from the HUD guidebook.

Honeywell recommends that limits for programmable thermostats are set as follows:

All Units

Occupied Heating: 72°F
Occupied Cooling: 76°F *

* Cooling setpoints only apply to existing cooling systems, or where new, geothermal heat pump systems are installed

1.3.3 **Operational Cost Avoidance**: Not Applicable to this contract.

1.3.4 **Other energy and operating savings measures taken include the following:** Not Applicable to this contract.

1.4 **Guarantee Savings Measurement and Verification Plan**

1.4.1 **Measurement and Verification Methodology(s)**: The following table relates the ECMs in this project to IPMVP (International Performance Measurement and Verification Protocol) Options, as required by HUD. These options are defined in Schedule B.

ECM#	ECM Description	Post-Installation Option	Performance Period Option
1,2	Lighting	B (measured sample set)	A
6	Refrigerators	B (measured sample set)	A
10,11	Water Conservation (showers, faucet aerators, toilets)	B (measured sample set)	A (electric), C (gas and water)
16	Building Envelope	A (visual inspection)	A for cooling, C for gas heating
18	Roofs and Insulation (attics)	A (visual inspection)	A for cooling, C for gas heating,
21	High Limit Thermostats	A (visual inspection)	A (tenant paid allowance sites), C (gas at frozen base sites)
26	Geothermal Heat Pump Systems	A (visual inspection)	C (electric and gas)
27	New Boilers	A (visual inspection)	C (gas)
29,30	Adjust CFMs and New Ventilation Units	A (visual inspection)	A (electric), C (gas)
31	Radiator Control Valves	A (visual inspection)	C (gas)
32	Ventilation Unit Heat Recovery	A (visual inspection)	A for electric, C for gas
37	Insulate Make up Air Ducts	A (visual inspection)	A (electric), C (gas)

HA Site #	Building	Gas	Electric	Water	Meters in M & V Program	Gas	Electric	Water
PA 1-01	Addison Terrace	2		2	4	Option C	Option A	Option C
PA 1-02	Bedford Dwellings	4		11	15	Option C	Option A	Option C
PA 1-04	Arlington Heights	3	1	1	5	Option C	Option A	Option C
PA 1-05	Allegheny Dwellings	2		4	6	Option C	Option A	Option C
PA 1-09	Northview Heights	1	1	3	5	Option C	Option A	Option C
PA 1-09H	Northview High Rise	1		1	2	Option C	Option A	Option C
PA 1-11	Hamilton-Larimer	1		1	2	Option C	Option A	Option C
PA 1-15	Pennsylvania-Bidwell	1		3	4	Option C	Option A	Option C
PA 1-17	Pressley Street	1		3	4	Option C	Option A	Option C
PA 1-20	Homewood North	6	22	12	40	Option C	Option A	Option C
PA 1-31	Murray Towers	1		1	2	Option C	Option A	Option C
PA 1-32	Glen Hazel Family	0		0	0	Option A	Option A	Option A
PA 1-40	Mazza Pavilion (Brookline)	1		4	5	Option C	Option A	Option C
PA 1-41	Caliguiri Plaza (Allentown)	1		1	2	Option C	Option A	Option C
PA 1-44	Finello Pavilion (South Oakland)	1		2	3	Option C	Option A	Option C
PA 1-45	Morse Gardens	2		2	4	Option C	Option A	Option C
PA 1-46	Carrick Regency	1		3	4	Option C	Option A	Option C
PA 1-47	Gualtieri Manor	2		3	5	Option C	Option A	Option C
		31	24	57	112	0	0	0
	Tenant Paid Allowances			A		A		

1.4.1.1 Master Meters Audited: Selected PHA Paid electric, water and gas accounts, as shown in the following table. For this project, all master metered water accounts and gas accounts, as reported to Honeywell, will be monitored via Option C. The utility data provided to HONEYWELL by the HA will be input to the METRIX Energy Accounting Software, or equivalent, and will be analyzed and tabulated by Honeywell. All Electric accounts, except the sites with Geothermal Heat Pumps, will be Option A, therefore, the consumption savings is agreed to, per the as builts, and dollar savings will be as set forth in the Utility Rate Escalation Table in Section 1.4.2, infra. The electric rate will not be updated annually, but will be fixed at $0.1138/(kWh) for the term of the Agreement. The HA may be reimbursed for lost savings if the agreed to Option A savings, plus the metered Option C savings, falls below the total guaranteed savings of the project bundle, per requirements set forth in Schedule B.

The Parties agree they will make a good faith effort to consolidate utility bills for the twenty two (22) electric meters at Homewood North into total kWh and Cost numbers on a monthly basis.

1.4.2 Energy Cost Avoidance: The following describes the Measurement and Verification procedures, formulas, and agreed to values which may be used in the calculation of the energy cost avoidance. Notwithstanding anything to the contrary elsewhere in this Schedule, Schedules B or I or elsewhere in the Energy Savings Agreement, including all schedules and attachments, the annual Energy Cost Avoidance, including any adjustments made per Schedule B, Section 3.4, will be calculated by multiplying the annual consumption savings by the pre-established utility rates shown in the following table. The Year 1 rates are established in Schedule I, Section 1.3 Final Rates Used.

Utility Rate Escalation Table:

Guarantee Year	Gas Rate (MCF)	Agreed to Escalation	Water Rate (1000 gal)	Agreed to Escalation	Electricity Rate (kWh)	Agreed to Escalation
Year 1	**$ 19.8705**		**$ 9.2700**		**$ 0.1138**	
Year 2	$ 20.4666	3.00%	$ 9.5481	3.00%	$ 0.1138	0.00%
Year 3	$ 21.0806	3.00%	$ 9.8346	3.00%	$ 0.1138	0.00%
Year 4	$ 21.7130	3.00%	$ 10.1296	3.00%	$ 0.1138	0.00%
Year 5	$ 22.3644	3.00%	$ 10.4335	3.00%	$ 0.1138	0.00%
Year 6	$ 23.0354	3.00%	$ 10.7465	3.00%	$ 0.1138	0.00%
Year 7	$ 23.7264	3.00%	$ 11.0689	3.00%	$ 0.1138	0.00%
Year 8	$ 24.4382	3.00%	$ 11.4010	3.00%	$ 0.1138	0.00%
Year 9	$ 25.1714	3.00%	$ 11.7430	3.00%	$ 0.1138	0.00%
Year 10	$ 25.9265	3.00%	$ 12.0953	3.00%	$ 0.1138	0.00%
Year 11	$ 26.7043	3.00%	$ 12.4581	3.00%	$ 0.1138	0.00%
Year 12	$ 27.5054	3.00%	$ 12.8319	3.00%	$ 0.1138	0.00%

Coordination with Public Housing Authority (PHA) / HUD requirements:
Calculation of Energy Cost Avoidance shall comply with HUD requirements as of the date of this contract.

PHA/HUD Utility Accounting Methods will be coordinated with M&V methodologies *in general* as described in the following table and in specific in the individual ECM M&V method descriptions on the next page.

Pittsburgh, PA- PHA: ECM & Utility Account vs. Cost Avoidance Method Coordination			
PHA/HUD Energy Conservation Incentive	**Utility Allowance Waiver (for Resident Paid Accounts)**	**Add-On Subsidy (for PHA paid Accounts)**	**Frozen Rolling Base Year**
PHA/HUD Energy Conservation Incentive	**Utility Allowance Waiver (for Resident Paid Accounts)**	**Add-On Subsidy (for PHA paid Accounts)**	**Frozen Rolling Base Year**
M&V Method	**M&V Option 1** Allowance Waiver Savings Verification Method	N/A	**M&V Option 3** Frozen Base Year Savings Verification Method
Operating Subsidy Coordination	Used with Engineering-Based Methodology for Calculating Utility Allowances. Verified and Applied for by Housing Authority	N/A	Per HACP MTW Agreement
Utility Payment Coordination	*Resident-paid* check metered or individually metered utilities	N/A	Authority-Provided Utilities via either master-metered, master-metered via checkmeters, or individual meters, per meter list
HUD Form Coordination [1]	Waiver to maintain baseline] for up to12 years per HACP MTW Agreement, if applicable	N/A	Frozen baseline for up to 12 years, per HACP MTW Agreement, if applicable
DOE FEMP M&V Options	Option A, B, or D	N/A	Options A, C
Industry Standard general M&V Description	Retrofit Isolation Method / Engineering Calculation Based (Option A or B) or Building Energy Use Simulation (Opt D).	N/A	Utility Account Based Approach or Retrofit Isolation Method

[1] Provision or assistance with these forms is excluded.

The Engineered Savings Calculations referred to below are included in Schedule E. Savings values presented in Schedule E are *projected* savings and are not necessarily the *guaranteed* savings amount. For guaranteed savings amount, see Section 1, *supra.*

M&V Option 1

1. Cost avoidance determined via Option 1 is defined as "Utility Allowance Waiver Savings".
2. Monitoring and verification method 'Option 1' is used on utility accounts that are considered *tenant-paid* utilities, *not paid by the Public Housing Authority*. These are generally, but not always, related to individual tenant utility meters.
3. This procedure uses a stipulated agreed-to value(s), a one-time pre-retrofit and /or post-retrofit measurement, or a short-term periodic measurement of a significant parameter(s) defined in the Engineered Savings Calculations and in the Specific ECM M&V Coordination below. The measured value of this parameter(s) is reinserted into the Engineered Savings Calculation for the final determination of realized cost avoidance subject to baseline adjustments as necessary.
   3.1. If the periodic monitoring method is used, additional details will be defined in Schedule H. Support Services agreement (Schedule H) must be in effect, if canceled, the Guarantee will be considered deemed satisfied for the full term.
   3.2. If the agreed-to parameter or one-time measurement method is used, then a *one-time* measurement of, or visual recording of, or submission of a manufacturer's data sheet containing the significant parameter defined in the Engineered Savings Calculations, is collected. The monitored value of this parameter is reinserted into the Engineered Savings Calculation for the final determination of realized cost avoidance subject to baseline adjustments as necessary. Determination of energy unit avoidance under this option will be performed only once post-retrofit. The energy unit avoidance for years 1 through end of term will be equal to the values resulting from the M&V Commissioning process.
4. The cost avoidance determination procedure is defined as Option A or B in Schedule B of this contract.
5. For Option 1 monitored ECMs, the customer is responsible for all operational parameters included in the Engineered Savings Calculations set forth in Schedule E, for example such items including but not limited to lighting *burn* hours, , mechanical equipment runtime and motor *run* hours.

6. For Option 1 monitored ECMs, Honeywell is responsible for demand performance of installed ECMs, such as post-retrofit lighting electric kW demand.
7. Annual cost avoidance for the Honeywell guarantee will use the rates set forth in the rate escalation table in Schedule D, Section 1.4.2

M&V Option 3

1. Cost avoidance determined via Option 2 is defined as "Utility Frozen Base Year Savings"
2. Monitoring and verification method 'Option 3' is used on utility accounts that are considered *tenant* utilities that are *paid by the Public Housing Authority*. These accounts are generally, but not always, related to multi family dwellings where individual units are master metered on a single utility meter.
3. This procedure uses either a stipulated agreed-to value(s), a one-time pre-retrofit and /or post-retrofit measurement, or a short-term periodic measurement of a significant parameter(s) defined in the Engineered Savings Calculations and in the Specific ECM M&V Coordination below. The measured value of this parameter(s) is reinserted into the Engineered Savings Calculation for the final determination of realized cost avoidance subject to baseline adjustments as necessary.
   3.1. If the periodic monitoring method is used, additional details will be defined in Schedule H. Support Services agreement (Schedule H) must be in effect, if canceled the Guarantee will be considered deemed satisfied for the full term.
   3.2. If the stipulated-parameter or one-time measurement method is used then a *one-time* measurement of, or visual recording of, or submission of a manufacturer's data sheet containing the significant parameter defined in the Engineered Savings Calculations is collected. The monitored value of this parameter is reinserted into the Engineered Savings Calculation for the final determination of realized cost avoidance subject to baseline adjustments as necessary. Determination of energy unit avoidance under this option will be performed only once post-retrofit. The energy unit avoidance for years 1 through end of term will be stipulated equal to the values resulting from the year 1 realized results.
4. This method allows the use of measured results as a significant parameter for determination of cost avoidance using Engineered Savings Calculations for related ECMs.
5. The cost avoidance determination procedure is defined as Option A, B, or C in Schedules B and D of this contract.
6. For Option 3 monitored ECMs, the customer is responsible for all operational parameters included in the Engineered Savings Calculations, for example such items including but not limited to lighting *burn* hours and motor *run* hours.
7. For Option 3 monitored ECMs, Honeywell is responsible for demand performance of installed ECMs, such as post-retrofit lighting electric kW demand.
8. Annual cost avoidance for the Honeywell guarantee will use the current consumption savings times the rates set forth in the rate escalation table in Schedule D, Section 1.4.2. For stipulated & one-time reconciliation the current monthly utility rates will be used in years 1 through the end of the term, but will not use a rate lower than the Baseline year (plus agreed to escalation, in the case of gas and water only).

For ECMs Monitored with Option C

1. Option C is used on utility accounts that are considered *master-metered* utilities, that are *paid by the Public Housing Authority*. These accounts are generally, but not always, related to multi-family dwellings where individual units are master metered on a single utility meter.
2. The cost avoidance determination procedure is defined as Option C in Schedule B of this contract.
3. Customer is responsible for providing utility authorization letters to Honeywell for the purpose of gathering actual utility data, including but not limited to current and baseline year billing histories.
4. Customer is responsible for remitting to Honeywell actual monthly utility bills (see provisions in B. 3.2), per table in Section D1.4.1-Option C meters, within two (2) weeks of their receipt. The customer is responsible for all operational parameters included in the Engineered Savings Calculations, including but not limited to lighting *burn* hours and motor *run* hours and water *operational/census* parameters. Changes in operational parameters will incur baseline adjustments.
5. Honeywell is responsible for demand performance of installed ECMs, such as post-retrofit lighting electric kW demand and water (gpm) demand
6. Annual cost avoidance will use the dollar value of per energy unit based upon the rates set forth in the rate escalation table in Schedule D, Section 1.4.2.
7. Analysis will consist of the utility account current-to-baseline comparison method in coordination to the requirements of Schedule H subject to normalization baseline adjustments.
8. A retrofit isolation (Option A) method (e.g., timed bucket test, lighting pre/post test, etc.) may be used to provide baseline adjustments for Option C monitored ECMs in a procedure that will be agreed to by the customer and Honeywell, if necessary.

Option C Normalization Baseline Adjustments:

1. In specific, this baseline adjustment method may be necessary to determine cost avoidance for electrical ECMs including but not limited to lighting and motors and the water conservation ECMs.
2. Changes in operational parameters from baseline conditions and/or specified in this contract will incur baseline adjustments.
3. Measured, observed, or installation submittal data will be reinserted into the Engineered Savings Calculations and the resultant savings will be the *verified savings* to be used as baseline adjustments.

4. Measurements, observed recordings, or installation submittal verified parameters for energy unit determination of baseline adjustments under this option will be performed only once during the post-retrofit for the entire contract term. The energy unit avoidance for years 1 through end of term will be determined using the Option C approach. Annual walk throughs will also be conducted to verify building use, occupancy, general condition of retrofit, and customer satisfaction

Specific ECM M&V Coordination:
The following describes ECM-specific M&V elements not captured under the general PHA/HUD M&V coordination.

ECM & Utility Account vs. Cost Avoidance Method Coordination			
PHA/HUD Energy Conservation Incentive	**Utility Allowance Waiver**	**Add-On Subsidy**	**Frozen Base Year**
M&V Method	**M&V Option 1**	**M&V Option 2**	**M&V Option 3**
PHA ECM & Utility Accounts Coordination	Resident paid electric and gas utilities. To be verified each year by Housing Authority. The ESCO will apply the current rates plus agreed to escalation to the Baseline confirmed by the Housing Authority per HACP MTW Agreement	N/A	All HA provided Electric, Water/Sewer & Gas accounts affected by ECMs included in Schedule A-scope of work per D.1.4.1.1

1.4.2.1 IPMVP Sample Set Requirements: The following table is taken from the IPMVP (International Performance Measurement and Verification Protocol) Guidebook. The Measurements taken, and facility inspections outlined below, are based on a 90% Confidence, and 20% Precision.

Precision	20%	20%	10%
Confidence	80%	90%	90%
Population Size, N	Sample Size, n		
4	3	4	4
12	6	8	11
20	8	10	16
30	9	11	21
40	9	12	26
50	10	13	29
60	10	14	32
70	10	15	35
80	10	15	37
90	10	15	39
100	10	15	41
200	11	16	51
300	11	17	56
400	11	17	59
500	11	17	60
Infinite	11	17	68

1.4.2.2 Measurement and Verification Plans for Specific ECMs:

The following describes general activities performed by the Measurement and Verification Team during the Post Installation Period at M&V commissioning and during the Performance Period. These activities correspond to the IPMVP Options listed in Section D.1.4.1.

Measurement and Verification (M&V) - Construction Phase Activities

The M&V Commissioning Phase activities occur toward the end of the installation period of the project, and prior to the beginning of the Performance Period. The general activities during this period are described below.

General Activities:

1) Review scope of work, and project with M&V subcontractor and/or Project Manager
2) Review of M&V plan with customer, prior to Performance Period
3) One day to walk through M&V subcontractor, and familiarize them with the job, and Performance Period activities.
4) Write post install conditions report (Measurement and Verification (M&V) Commissioning Report)
5) Consistent with the provisions of Schedule D, Determine as built savings and determine if guaranteed consumption savings, for the project bundle, are met. If as built consumption savings does not meet the guaranteed consumption savings, for the whole project, the identified consumption shortfall will be reconciled each performance year at the current utility unit costs provided by the Housing Authority.

   Utility Bill Analysis - For Selected PHA Paid Water and Gas Utility Accounts Only, per D.1.4.1.1

   i. Establish point of contact and bill collection procedure; coordinate with site contact.
   ii. Set up specified electric, water and gas utility meters in Metrix Utility Accounting System for monthly analysis. Includes setting up rate schedules, weather analysis, and entering base year utility data.
   iii. Write up in post install conditions report (Measurement and Verification (M&V) Commissioning Report)

Measurement and Verification (M&V) Performance Period Activities - Years 1 through 12

The Performance Period activities occur after the installation of the project, and the job has been accepted by the customer. The general activities during this period are described below, and will be performed by the Honeywell Energy Analysis Team.

General Activities:

1) Prepare list of tasks, and schedule meetings with customer.
2) Ongoing discussions with HA regarding energy use at its buildings
3) Annual inspections as described in Schedule D.
4) Interviews with customer, maintenance personnel, and/or residents (if available)
5) Address customer questions throughout the year
6) Prepare annual Performance Year Report.
7) Utility Bill/Rate Analysis will be performed each Performance Year:

   Utility Bill/Rate Analysis - For Selected PHA Paid Electric, Water and Gas Utility Accounts Only, per Schedule D.1.4.1.1.

   i. Monthly collect, enter data, and analyze utility bills.
   ii. Keep weather data up to date
   iii. Notify customer of any bill anomalies or additional energy usages.
   iv. Work with customer to identify causes of any additional energy usages.
   v. Perform continuous site inspections if there are issues with savings/meter data.
   vi. Check utility bill savings every three (3) months, to ensure project is on track
   vii. Confirm with customer and Utility Company any meter change outs, or changes to account numbers.
   viii. Calculate utility meter cost avoidance
   ix. Apply any adjustments due to occupancy or construction
   x. Write up in annual Performance Year Report.

ECM	Specific ECM M&V Methodology Summary by ECM
1,2	**Lighting Improvements (Common, Tenant)**

Electricity Utility Avoidance:

A) Parameters to be monitored and sampling plan:

1. THE CONTRACTOR Project Manager shall direct and ensure lighting subcontractor performs measurements in accordance with the 90% confidence, 20% precision sample sets agreed to.

2. THE CONTRACTOR Measurement and Verification Specialist (MVS will perform (17) kW circuit measurements and light level tests to double check post installation measurements of lighting subcontractor. These measurements will be used to verify that the projected savings is achievable, based on the installed work.

3. THE CONTRACTOR Project Manager to provide housing authority (HA) and installation subcontractor proposed sampling plan for each application type (lamp/ballast combination, fixture, usage group), to be grouped by site, and to include the specific location for each measurement

4. Data to be included on the data collection form will include, but not be limited to: fixture type, lens type, lamp type, ballast type, control type (switch, etc.), location, manufacturer and model numbers. This will be recorded for each pre and post fixture measured.

5. The number of measurements taken will be determined by the number in sample populations, and will be approved by HA prior to measurements being taken, if required.

6. The lighting subcontractor shall follow the following sampling plan (90%/20%):

SITE GROUP, per PHA	60W Inc. to CFL	2x2 U Tube T8	4' 1 Lamp to T8	4' 2 lamp to T8	4' 3 lamp to T8	4' 4 lamp to T8	4' 4 lamp to 2 lamp T8	8' 2 lamp to 4' 4 lamp T8	400W MH to 4' 4 lamp T8	Exit lights to LEDs	F20 2 lamp T12 to T8	Outdoor 400W HPS to CFL fixture
Addison Terrace	6238	0	0	0	0	6	0	0	0	0	0	180
Required Samples	17	0	0	0	0	6	0	0	0	0	0	16
Bedford Dwellings	4158	0	0	0	0	0	0	0	0	0	56	115
Required Samples	17	0	0	0	0	0	0	0	0	0	14	15
Arlington Heights	1111	0	0	55	0	0	8	0	0	11	147	42
Required Samples	17	0	0	14	0	0	7	0	0	8	16	12
Allegheny Dwellings	4087	0	0	0	0	0	0	0	36	0	0	136
Required Samples	17	0	0	0	0	0	0	0	12	0	0	15
Northview Heights	10816	0	0	0	0	8	0	12	0	16	0	525
Required Samples	17	0	0	0	0	7	0	8	0	9	0	17
Northview High Rise	1096	54	15	287	6	0	4	0	0	0	0	6
Required Samples	17	13	9	17	6	0	4	0	0	0	0	6
Hamilton-Larimer	450	0	0	60	0	60	0	0	0	0	0	84
Required Samples	17	0	0	14	0	14	0	0	0	0	0	15
Pennsylvania-Bidwell	1081	1	0	17	36	5	11	7	0	40	120	0
Required Samples	17	1	0	9	12	5	8	6	0	12	15	0
Pressley Street	1947	29	0	128	74	5	14	0	3	75	212	0
Required Samples	17	11	0	15	15	5	9	0	3	15	16	0

ECM	Specific ECM M&V Methodology Summary by ECM

SITE GROUP, per PHA	60W Inc. to CFL	2x2 U Tube T8	4' 1 Lamp to T8	4' 2 lamp to T8	4' 3 lamp to T8	4' 4 lamp to T8	4' 4 lamp to 2 lamp T8	8' 2 lamp to 4' 4 lamp T8	400W MH to 4' 4 lamp T8	Exit lights to LEDs	F20 2 lamp T12 to T8	Outdoor 400W HPS to CFL fixture
Homewood North	2115	0	0	6	135	0	22	0	0	5	0	122
Required Samples	17	0	0	6	15	0	10	0	0	5	0	15
Murray Towers	560	0	0	67	6	0	7	5	0	44	30	0
Required Samples	17	0	0	15	6	0	7	5	0	12	11	0
Glen Hazel Low Rise	2775	0	0	0	0	0	0	0	0	0	0	0
Required Samples	17	0	0	0	0	0	0	0	0	0	0	0
Glen Hazel High Rise	97	10	0	42	0	0	18	0	0	10	0	0
Required Samples	15	8	0	12	0	0	10	0	0	8	0	0
Mazza Pavillion (Brookline High Rise)	138	0	0	38	5	0	0	0	0	11	30	5
Required Samples	15	0	0	12	5	0	0	0	0	8	11	5
Caliguiri Plaza (Allentown Plaza)	743	0	0	162	1	2	41	0	0	0	1	0
Required Samples	17	0	0	16	1	2	12	0	0	0	1	0
Finello Pavillion (South Oakland)	327	10	0	183	0	0	15	0	0	0	0	7
Required Samples	17	8	0	16	0	0	9	0	0	0	0	7
Morse Gardens	73	0	17	0	0	0	0	0	0	0	0	2
Required Samples	15	0	10	0	0	0	0	0	0	0	0	2
Carrick Regency	408	0	0	253	0	0	10	0	0	40	0	0
Required Samples	17	0	0	17	0	0	8	0	0	12	0	0
Gualtieri Manor	218	0	0	75	2	0	38	0	9	22	0	3
Required Samples	16	0	0	15	2	0	12	0	8	10	0	3

B) In General, the following applies:

1. Each test procedure shall include: sample data collection sheets, specifications and NIST calibration test certificates for equipment being used to conduct measurements (or test instrument manufacturer's specification data sheet), and approval line for HA representative to sign off, at its option, prior to conducting measurements.
2. THE CONTRACTOR Project Manager or MVS shall coordinate the testing process with HA, and HA shall have the option to assign an individual to witness the tests to sign off on the data sheets, or provide written notice that HA elects not to witness the tests.
4. Equipment used will be a Fluke 43B power meter, or equivalent, with a +/- 2% accuracy or better.
5. Customer Responsibilities: Provide access to lighting fixtures, pre and post, and agree to lighting operational hours within parameters stipulated in the Engineered Savings Calculations (Schedule E), and HUD Utility Allowance Guidebook.
6. Determination of Energy Avoidance: (pre measured kW - post measured kW) x agreed to hours of operation by usage group (hallway, kitchen, bathroom, etc.); fixture watts (volt-amps @ pf=1) will be reinserted into Engineered Savings Calculations to determine realized energy avoidance. This to be multiplied by electrical utility rates from HA subsidy forms, annually.

C) Specific M&V Commissioning Phase Activities to be performed by Measurement and Verification Specialist :

1. Confirm with Project Manager that Lighting Subcontractor performs pre and post installation measurements as described above.
2. Receive as built documentation from Project Manager, review installation.
3. Inspect installation. Measure samples of kW and light levels of 17 circuits. This is to verify Lighting Subcontractor measurements conducted above. This will verify the installed kW. Contractor will also document the location, type of fixture, and model numbers of fixtures measured.
4. Quantify consumption avoidance values with specific fixture counts and effect on annual savings. Fixture watts (volt-amps @ power factor = 1) will be reinserted into Engineered Savings Calculations to determine realized energy avoidance, using previously established electric utility rates as set forth in Section 1.4.2.
5. Develop walk through sheets, and review savings calculations.
6. Modify electronic as-builts.
7. Write up in post install conditions report (Measurement and Verification (M&V) Commissioning Report.)

D) Specific M&V Ongoing Performance Phase Activities to be performed by Honeywell:

ECM	Specific ECM M&V Methodology Summary by ECM

Performance Period Activities: No on-going measurements, other than as listed below. The consumption avoidance values realized published in the post install conditions report (Measurement and Verification (M&V) Commissioning Report) will be stipulated for years 1 through the end of the Guarantee Term.

1. Physical inspection of installed fixtures at 17 Resident apartments, to be selected with the customer each year. Apartments inspected are rotated each year to ensure all locations are inspected throughout the performance period. An inspection list will be presented to HA for approval prior to the site visit.
2. Confirm that proper maintenance is being performed and identify and communicate to HA any maintenance issues.
3. Write up in annual Performance Year Report
4. Although there are no on-going measurements, the Honeywell MVS will perform inspections in accordance with number 1 above, to ensure the lighting retrofit remains in place. Deviations from the as built condition will be provided to HA for them to address. If significant deviations are found, the sample size may be increased. Provisions in the master agreement define the responsibilities for replacement if equipment is removed.

6	**Refrigerators**

Parameters To Be Monitored & Sampling Plan: Manufacturer, counts, model numbers, efficiencies, contractor as builts. During construction, twenty four (24) existing refrigerators will be monitored via plug load data logging. After installation of the new refrigerators, the same twenty four (24) locations data logged pre installation will be monitored to verify the energy consumption of the new refrigerators. This data logging will be accomplished for a period of at least one week, pre and post installation. Honeywell MVS will also visually inspect (24) of the new refrigerators after installation.

Commissioning Phase Activities:

1. Receive as built documentation from project manager, review installation.
2. Inspect installation. Measure samples per plan above. An inspection list will be presented to HA for approval prior to the site visit, if required. Company will document location and model/serial numbers of refrigerators tested.
3. Develop walk through sheets, and review savings calculations.
4. Modify electronic as-builts.
5. Write up in post installation report

Customer Responsibilities: Provide access and escorts for conducting data logging activities, and agree to sampling plan presented prior to measurements being taken. Agree to consumption savings resulting from measurements.

Determination of Energy Avoidance: Results of the pre and post data logging of new refrigerators will be reinserted into the Engineered Savings calculations to determine installed, consumption avoidance; this will be multiplied by the electrical utility rate set forth in the Utility Rate Escalation Table in Section 1.4.2, supra.

Performance Period Activities: No on-going measurements, other than as listed below. Each Performance Year the MVS will interview maintenance personnel for any issues with the new refrigerators.

1. No inspections.
2. Confirm any maintenance activities or issues.
3. Write up in annual report

ECM	Specific ECM M&V Methodology Summary by ECM
7,8,9,10	**Water/Sewer Conservation (Kitchen and Bathroom Faucet Aerators, Showerheads and toilets)**

Water and Gas Utility Avoidance:

A) Parameters To Be Monitored & Sampling Plan

1. Honeywell will direct water Subcontractor to measure water demand (gpm) for a random sampling of ten percent (10%) of each pre-retrofit and each post-retrofit fixture-type, excluding toilets. Sampling will occur on existing fixtures before retrofit and on fixtures after retrofit. The Honeywell MVS will take 17 measurements of retrofitted showerheads and aerators. This totals 51 measurements. Testing method will be via graduated bucket, funnel, and stopwatch, or other approved method, as access permits, preferably in vacant units. These measurements will be used to verify that the projected savings is achievable, based on the installed work.

2. Domestic Hot Water heating gas savings will be verified by either Option A or C as defined in D.1.4.1.1.

B) In general, the following applies:

Customer Responsibilities: Access and operation within parameters stipulated in Engineered Savings Calculations. Agree to the domestic water savings not verified via Option C.

C) Specific M&V Commissioning Phase Activities to be performed by Measurement and Verification Specialist:

1. Receive as built documentation from project manager, review installation.
2. Inspect installation. Measure samples of installed fixtures, as described above. Contractor will document location, type of fixture, and nameplate ratings for each measurement.
3. Develop walk through sheets, and review savings calculations.
4. Determination of Energy Avoidance: For water use fixtures, aerators and showerheads, fixture demand (gpm) will be reinserted into Engineered Savings Calculations to determine realized energy avoidance baseline adjustment.
5. Modify electronic as-builts.
6. Write up in post install conditions report (Measurement and Verification (M&V) Commissioning Report).

D) Specific M&V Ongoing Performance Period Activities: to be performed by MVS:

No on-going measurements, other than as listed below. The utility avoidance values realized published in the post install conditions report (Measurement and Verification (M&V) Commissioning Report) will be verified via Option C, utility meter audit, for years 1 through the end of the Guarantee Term, per provisions in D.1.4.1.1 Master Meters Audited and B.3.2.

Consumption savings will be multiplied by the electrical utility rate set forth in the Utility Rate Escalation Table in Section 1.4.2, supra.

Although there are no on-going measurements, other than as listed in section below, each Performance Year, the Honeywell MVS will randomly inspect 17 units, as access permits, to verify the integrity of the retrofit. The sites will be rotated each Performance Year, so that all sites will eventually be inspected. The MVS will also interview maintenance staff for any issues, answer questions, and collect any appropriate documentation, if available. More inspections may be scheduled at the discretion of the MVS

1. Physical inspection of installed fixtures at (17) resident locations. Sites inspected are rotated each year to ensure all locations are inspected throughout the performance period. An inspection list will be presented to HA for approval prior to the site visit, if required.
2. Check for proper operation of fixtures.
3. Confirm that proper maintenance is being performed and identify and communicate to HA any maintenance issues.
4. Write up in annual Performance Year Report

ECM	Specific ECM M&V Methodology Summary by ECM

16	**Building Envelope Improvements**

Parameters To Be Monitored & Sampling Plan: verify installed linear feet of leaks sealed, manufacturer, per as built documentation from installation contractor. Honeywell MVS will inspect the sealing of building envelopes at seventeen (17) apartments.

Commissioning Phase Activities:

1. Receive as built documentation from project manager, review installation.
2. Physical inspection of work, at each site, and verify as-builts. An inspection list will be presented to HA for approval prior to the site visit, if required. Company will document location, what was inspected, and proper installation.
3. Modify electronic as-builts, review calculations.
4. Write up in post installation report

Customer Responsibilities: by execution of this contract, Customer deems the % unit savings value and the methodology and the results presented in the Engineered Savings Calculation as stipulated and agreed-to, except for gas utilities monitored under D.1.4.1.1.

Determination of Energy Avoidance: insert monitoring & sampling plan results into Engineered Savings Calculation to determine realized energy avoidance. Consumption savings will be multiplied by the electrical utility rate set forth in the Utility Rate Escalation Table in Section 1.4.2, supra.

Performance Period Activities: No on-going measurements, other than as listed below. Each Performance Year the MVS will interview maintenance personnel for any issues with the building envelope retrofits.

1. Physical inspection to verify retrofit still in place, if deemed necessary from maintenance interviews.
2. Confirm any issues.
3. Write up in annual report.

18	**Roofs and Insulation (attics)**

Parameters To Be Monitored & Sampling Plan: visually verify installed roofs and insulation, manufacturer. Honeywell MVS will inspect the roofs and/or insulation improvements at 3 sites.

Commissioning Phase Activities:

1. Receive as built documentation from project manager, review installation.
2. Physical inspection of work, at each site, and verify as-builts. An inspection list will be presented to HA for approval prior to the site visit, if required. Company will document location, what was inspected, and proper installation.
3. Modify electronic as-builts, review calculations.
4. Write up in post installation report

ECM	Specific ECM M&V Methodology Summary by ECM

Customer Responsibilities: by execution of this contract, Customer deems the % unit savings value and the methodology and the results presented in the Engineered Savings Calculation as stipulated and agreed-to, except for the high rises monitored through Option C.

Determination of Energy Avoidance: insert monitoring & sampling plan results into Engineered Savings Calculation to determine realized energy avoidance. Consumption savings will be multiplied by the electrical utility rate set forth in the Utility Rate Escalation Table in Section 1.4.2, supra.

Performance Period Activities: No on-going measurements, other than as listed below. Each Performance Year the MVS will interview maintenance personnel for any issues with the insulation retrofits.

1. No annual inspections, unless determined from maintenance interviews.
2. Confirm any issues.
3. Write up in annual report.

21	**High Limit Thermostats**

Gas Utility Avoidance:

A) Parameters To Be Monitored & Sampling Plan: Manufacturer, counts, model numbers, contractor as builts of new thermostats. Honeywell MVS will visually inspect (17) of the new thermostats. New high and low limit setpoints (73°F is the proposed new high heating limit, and 75°F is the cooling setpoint).

B) In General, the following applies:

1. Customer Responsibilities: by execution of this contract, Customer deems the % unit savings value and the methodology and the results presented in the Engineered Savings Calculation as stipulated and agreed-to, except for Option C meters.

2. Determination of Energy Avoidance: M&V Specialist shall insert monitoring & sampling plan results into Engineered Savings Calculation to determine realized energy avoidance. Consumption savings will be multiplied by the electrical utility rate set forth in the Utility Rate Escalation Table in Section 1.4.2, supra.
3. Published results of Engineered Savings Calculation will be adjusted for any discrepancy between the list of buildings with thermostats implemented and the buildings list published in the Engineered Savings Calculation to determine realized energy avoidance.

C) Specific M&V Commissioning Phase Activities to be performed by a Measurement and Verification Specialist:

1. Receive as built documentation from project manager, review installation.
2. Physical inspection of sites and retrofits, to verify installation and to check that thermostat mounting locations will not affect proper operation of the thermostats. (i.e. installation on boiler room or exterior wall could affect performance). An inspection list will be presented to HA for approval prior to the site visit, if required. Contractor will document location, as built drawings, and set points of installed controls.
3. Modify electronic as-builts, review calculations.
4. Write up in post install conditions report (Measurement and Verification (M&V) Commissioning Report) and include thermostat manufacturer data and accuracy information

D) Specific M&V Ongoing Performance Period Activities: to be performed by MVS:

No on-going measurements, other than as listed below. . Each Performance Year MVS will visually inspect (17) of the new thermostats/setpoints. The energy avoidance values realized published in the post install conditions report (Measurement and Verification (M&V) Commissioning Report) will be stipulated for years 1 through the end of the Guarantee Term, which will be multiplied by the electrical utility rate set forth in the Utility Rate Escalation Table in Section 1.4.2, supra.Physical inspection of (17) thermostats, rotated annually, to verify retrofit still in place. An inspection list will be presented to HA for approval prior to the site visit, if required.

1. Check for proper operation of controls and set points.
2. Confirm that proper maintenance is being performed and identify and communicate to HA any maintenance issues.

ECM	Specific ECM M&V Methodology Summary by ECM

4. Write up in annual Performance Year Report

26	Geothermal HVAC System

Parameters To Be Monitored & Sampling Plan: Receive as built documentation from project manager, review installation Physical inspections of work at (3) sites, and verify as-builts / start up reports, Develop walk through sheets, and review savings calculations, Modify electronic as-builts, confirm installed savings potential, Write up in Post installation report.

Customer ResponsibilitiesDetermination of Energy Avoidance: insert monitoring & sampling plan results into Engineered Savings Calculation to determine realized energy avoidance.

On-going Activities: No on-going measurements, unless deemed necessary from maintenance interviews - Years 1 through 12.

27	New Boilers

Gas Utility Avoidance:

A) Parameters To Be Monitored & Sampling Plan:

Manufacturer, counts, model numbers, efficiencies, contractor as builts and start up reports. The Honeywell MVS will measure the combustion efficiency of (1) new boilers. Verify installation and programmed setpoints.

B) In General, the following applies:

1. Customer Responsibilities: by execution of this contract,
2. Determination of Energy Avoidance: M&V Specialist shall insert monitoring & sampling plan results into Engineered Savings Calculation to determine realized energy avoidance. Consumption savings will be multiplied by the electrical utility rate set forth in the Utility Rate Escalation Table in Section 1.4.2, supra.

C) Specific M&V Commissioning Phase Activities to be performed by a Measurement and Verification Specialist:

1- Collect combustion efficiency tests on new boilers, and physically verify installation.
2- Receive as built documentation from project manager, review installation.
3- Physical inspection of work, at each site, and verify as-builts. An inspection list will be presented to HA for approval prior to the site visit. Contractor will document location, equipment inspected, model numbers, and nameplate ratings.
4- Measure combustion efficiency of (1) new boilers.
5- Modify electronic as-builts, review calculations.
6- Write up in post install conditions report (Measurement and Verification (M&V) Commissioning Report)

D) Specific M&V Ongoing Performance Period Activities: to be performed by Technical Resource Manager:

No on-going measurements, other than as listed below.

Some gas meters are verified under Option C, as listed by site in D1.4.1.1. Each Performance Year the MVS will inspect the new boiler systems, interview maintenance personnel for any issues and check for proper operation and that the set points are correct.

1. Physical inspection of all new boiler, to verify retrofits are still in place. An inspection list will be presented to HA for approval prior to the site visit, if required.
2. The Honeywell MVS will address issues with the maintenance staff.
3. ANNUALLY Check for proper operation, and proper set points of boiler controls to ensure that they are correct.
4. Confirm that proper boiler maintenance is being performed and identify and communicate to HA any maintenance issues.
5. Write up in annual Performance Year Report

ECM	Specific ECM M&V Methodology Summary by ECM

29,30	**Adjust CFMs and New Ventilation Units**

Parameters To Be Monitored & Sampling Plan: Manufacturer, counts, model numbers, efficiencies, contractor as builts.

Commissioning Phase Activities:

1- #30, New Ventilation Unit - Inspect and verify installation and operation; Collect as builts, nameplate data
2- #29, Adjust CFMs- Inspect installation, collect nameplate data, contractor as builts and/or drawings, verify subcontractor air flow measurements

Customer Responsibilities: The consumption savings is agreed to, per the as builts.
Determination of Energy Avoidance: insert monitoring & sampling plan results into Engineered Savings Calculation to determine realized energy avoidance. Consumption savings will be multiplied by the electrical utility rate set forth in the Utility Rate Escalation Table in Section 1.4.2, supra.
Performance Period Activities: No on-going inspections. Some gas meters are verified under Option C, as listed by site in D1.4.1.1. Each Performance Year MVS will interview maintenance personnel for any issues with the new systems.

1. Confirm any maintenance issues.
2. Write up in annual report

31	**Radiator Control Valves**

Parameters To Be Monitored & Sampling Plan: Manufacturer, contractor as builts, quantity per building, type. Honeywell MVS will visually inspect 2 sites, for a total of 17 radiator valves, as access permits, to verify the installation. Quantity installed will be compared to scope of work.

Customer Responsibilities: Determination of Energy Avoidance: insert monitoring & sampling plan results into Engineered Savings Calculation to determine realized energy avoidance.

On-going Activities: No on-going measurements. Each Performance Year MVS will visually inspect 2 sites, for a total of 17 radiator valves, as access permits, and interview maintenance personnel for any issues.

32	**Ventilation Unit Heat Recovery**

Parameters To Be Monitored & Sampling Plan: Manufacturer, counts, model numbers, efficiencies, contractor as builts.

Commissioning Phase Activities:

1- #32, New Heat Recovery Unit - Inspect and verify installation and operation; Collect as builts, nameplate data

Customer ResponsibilitiesRegarding electrical savings, the consumption savings is agreed to, per the as builts, and will be multiplied by the electrical utility rate set forth in the Utility Rate Escalation Table in Section 1.4.2, supra Regarding gas savings, consumption savings will be multiplied by the gas rates set forth in the Utility Rate Escalation Table in Section 1.4.2, supra.
Determination of Energy Avoidance: insert monitoring & sampling plan results into Engineered Savings Calculation to determine realized energy avoidance. Consumption savings to be multiplied by the rates as set forth in the Utility Rate Escalation Table in Section 1.4.2.
Performance Period Activities: No on-going inspections. Some gas meters are verified under Option C, as listed by site in D1.4.1.1. Each Performance Year MVS will interview maintenance personnel for any issues with the new systems.

1. Confirm any maintenance issues.
2. Write up in annual report

ECM	Specific ECM M&V Methodology Summary by ECM
37	**Insulate Make up Air Ducts**

Parameters To Be Monitored & Sampling Plan: Manufacturer, counts, model numbers, efficiencies, contractor as builts.

Commissioning Phase Activities:

1- #37, Duct Insulation - Inspect and verify installation and operation; Collect as builts, manufacturer's data

Customer Responsibilities: Regarding electrical savings, the consumption savings is agreed to, per the as builts, and will be multiplied by the electrical utility rate set forth in the Utility Rate Escalation Table in Section 1.4.2, supra Regarding gas savings, consumption savings will be multiplied by the gas rates set forth in the Utility Rate Escalation Table in Section 1.4.2, supra.

Determination of Energy Avoidance: insert monitoring & sampling plan results into Engineered Savings Calculation to determine realized energy avoidance Consumption savings to be multiplied by the rates as set forth in the Utility Rate Escalation Table in Section 1.4.2.

Performance Period Activities: No on-going inspections. Some gas meters are verified under Option C, as listed by site in D1.4.1.1. Each Performance Year MVS will interview maintenance personnel for any issues with the new insulation.

1. Confirm any maintenance issues.
2. Write up in annual report

1.4.3 **Constants**: The constants and/or stipulated values presented in Schedule E are agreed to be reasonable and may be used in the calculation of the *realized and verified* energy cost avoidance.

Honeywell

Housing Authority of the City of Pittsburgh

Pittsburgh, PA

Building Utilities Baselines

Utilities Baseline By AMP

		Natural Gas - MCF			Electric - kWh			Water - Mgals			Total
AMP #	AMP Name	MCF/yr.	Cost/yr.	$ per MCF	kWh/yr.	Cost/yr.	$ per kWh	Mgal/yr.	Cost/yr.	$ per Mgals	Cost/yr.
1	Addison Terrace	56,106	$ 1,114,862	$ 19.87	4,288,267	$ 488,211	$0.1138	52,514	$ 486,808	$ 9.27	$ 2,089,881
2	Bedford Dwellings	52,217	$ 1,037,590	$ 19.87	3,209,330	$ 365,376	$0.1138	-	$ -	$ -	$ 1,402,966
4	Arlington Heights	11,491	$ 228,332	$ 19.87	675,017	$ 76,849	$0.1138	13,355	$ 123,801	$ 9.27	$ 428,982
5	Allegheny Dwellings	17,214	$ 342,053	$ 19.87	2,312,239	$ 263,244	$0.1138	10,321	$ 95,679	$ 9.27	$ 700,975
9	Northview	62,238	$ 1,236,700	$ 19.87	4,465,432	$ 508,381	$0.1138	27,302	$ 253,091	$ 9.27	$ 1,998,172
10	Glen Hazel	13,222	$ 262,732	$ 19.87	1,128,794	$ 128,511	$0.1138	11,021	$ 102,168	$ 9.27	$ 493,411
11	Hamilton-Larimer	1,999	$ 39,716	$ 19.87	143,352	$ 16,320	$0.1138	3,476	$ 32,222	$ 9.27	$ 88,259
15	Pennsylvania-Bidwell	11,237	$ 223,279	$ 19.87	667,553	$ 76,000	$0.1138	4,573	$ 42,396	$ 9.27	$ 341,674
17	Pressley Street	13,102	$ 260,345	$ 19.87	1,439,800	$ 163,918	$0.1138	6,287	$ 58,284	$ 9.27	$ 482,547
20	Homewood North	23,843	$ 473,784	$ 19.87	926,803	$ 105,515	$0.1138	16,317	$ 151,258	$ 9.27	$ 730,556
31	Murray Towers	6,651	$ 132,166	$ 19.87	433,333	$ 49,334	$0.1138	3,656	$ 33,888	$ 9.27	$ 215,388
40	Brookline	2,532	$ 50,314	$ 19.87	236,747	$ 26,953	$0.1138	1,326	$ 12,294	$ 9.27	$ 89,560
41	Allentown Plaza	4,198	$ 83,423	$ 19.87	814,918	$ 92,777	$0.1138	3,454	$ 32,015	$ 9.27	$ 208,216
44	South Oakland	1,594	$ 31,677	$ 19.87	491,377	$ 55,942	$0.1138	-	$ -	$ -	$ 87,619
45	Morse Gardens	2,999	$ 59,588	$ 19.87	574,185	$ 65,370	$0.1138	3,036	$ 28,144	$ 9.27	$ 153,101
46	D.A.P. Carrick Regency	2,456	$ 48,812	$ 19.87	650,483	$ 74,056	$0.1138	2,861	$ 26,525	$ 9.27	$ 149,392
47	Gualtieri Manor	1,408	$ 27,980	$ 19.87	288,945	$ 32,896	$0.1138	1,529	$ 14,170	$ 9.27	$ 75,046
		284,508	**$ 5,653,351**	**$ 19.87**	**22,746,575**	**$ 2,589,654**	$0.1138	**161,029**	**$ 1,492,741**	**$ 9.27**	**$ 9,735,745**

Housing Authority of the City of Pittsburgh

Honeywell

Pittsburgh, PA

Building Utilities Baselines

		Natural Gas - MCF			Electric - kWh			Water - Mgals			Total	
HA Site #	Site Name	MCF/yr.	Cost/yr.	$ per MCF	kWh/yr.	Cost/yr.	$ per kWh	Mgal/yr.	Cost/yr.	$ per Mgals	Cost/yr.	AMP #
PA 1-01	Addison Terrace	56,106	$ 1,114,862	$ 19.87	4,288,267	$ 488,211	$0.1138	52,514	$ 486,808	$ 9.27	$ 2,089,881	1
PA 1-02	Bedford Dwellings	52,217	$ 1,037,590	$ 19.87	3,209,330	$ 365,376	$0.1138	-	$ -	$ -	$ 1,402,966	2
PA 1-04	Arlington Heights	11,491	$ 228,332	$ 19.87	675,017	$ 76,849	$0.1138	13,355	$ 123,801	$ 9.27	$ 428,982	4
PA 1-05	Allegheny Dwellings	17,214	$ 342,053	$ 19.87	2,312,239	$ 263,244	$0.1138	10,321	$ 95,679	$ 9.27	$ 700,975	5
PA 1-09	Northview Heights	56,014	$ 1,113,030	$ 19.87	4,018,889	$ 457,543	$0.1138	24,572	$ 227,782	$ 9.27	$ 1,798,355	9
PA 1-09H	Northview High Rise	6,224	$ 123,670	$ 19.87	446,543	$ 50,838	$0.1138	2,730	$ 25,309	$ 9.27	$ 199,817	9
PA 1-11	Hamilton-Larimer	1,999	$ 39,716	$ 19.87	143,352	$ 16,320	$0.1138	3,476	$ 32,222	$ 9.27	$ 88,259	11
PA 1-15	Pennsylvania-Bidwell	11,237	$ 223,279	$ 19.87	667,553	$ 76,000	$0.1138	4,573	$ 42,396	$ 9.27	$ 341,674	15
PA 1-17	Pressley Street	13,102	$ 260,345	$ 19.87	1,439,800	$ 163,918	$0.1138	6,287	$ 58,284	$ 9.27	$ 482,547	17
PA 1-20	Homewood North	23,843	$ 473,784	$ 19.87	926,803	$ 105,515	$0.1138	16,317	$ 151,258	$ 9.27	$ 730,556	20
PA 1-31	Murray Towers	6,651	$ 132,166	$ 19.87	433,333	$ 49,334	$0.1138	3,656	$ 33,888	$ 9.27	$ 215,388	31
PA 1-32	Glen Hazel Family	13,222	$ 262,732	$ 19.87	1,128,794	$ 128,511	$0.1138	11,021	$ 102,168	$ 9.27	$ 493,411	10
PA 1-40	Mazza Pavilion (Brookline)	2,532	$ 50,314	$ 19.87	236,747	$ 26,953	$0.1138	1,326	$ 12,294	$ 9.27	$ 89,560	40
PA 1-41	Caliguiri Plaza (Allentown)	4,198	$ 83,423	$ 19.87	814,918	$ 92,777	$0.1138	3,454	$ 32,015	$ 9.27	$ 208,216	41
PA 1-44	Finello Pavilion (South Oakland)	1,594	$ 31,677	$ 19.87	491,377	$ 55,942	$0.1138	-	$ -	$ -	$ 87,619	44
PA 1-45	Morse Gardens	2,999	$ 59,588	$ 19.87	574,185	$ 65,370	$0.1138	3,036	$ 28,144	$ 9.27	$ 153,101	45
PA 1-46	Carrick Regency	2,456	$ 48,812	$ 19.87	650,483	$ 74,056	$0.1138	2,861	$ 26,525	$ 9.27	$ 149,392	46
PA 1-47	Gualtieri Manor	1,408	$ 27,980	$ 19.87	288,945	$ 32,896	$0.1138	1,529	$ 14,170	$ 9.27	$ 75,046	47
		284,508	$ 5,653,351	$ 19.87	22,746,575	$ 2,589,654	$0.1138	161,029	$ 1,492,741	$ 9.27	$ 9,735,745	

Natural Gas Cost: $ 19.87 per MCF
Electric Cost: $ 0.1138 per Kwh
Combined Water/Sewer: $ 9.27 Per Mgal.

These adjusted current utility rates are used in actual savings calculations.

Honeywell

Housing Authority of the City of Pittsburgh

Pittsburgh, PA

Building Utilities Baselines

Utilities Post ER By Site

		Natural Gas - MCF			Electric - kWh			Water - Mgals			Total	
HA Site #	Site Name	MCF/yr.	Cost/yr.	$ per MCF	kWh/yr.	Cost/yr.	$ per kWh	Mgal/yr.	Cost/yr.	$ per Mgals	Cost/yr.	AMP #
PA 1-01	Addison Terrace	50,472	$ 1,002,911	$ 19.87	3,514,433	$ 400,111	$ 0.1138	42,453	$ 393,543	$ 9.27	$ 1,796,565	1
PA 1-02	Bedford Dwellings	51,930	$ 1,031,875	$ 19.87	2,702,838	$ 307,713	$ 0.1138	-	$ -	$ -	$ 1,339,587	2
PA 1-04	Arlington Heights	260	$ 5,161	$ 19.87	841,815	$ 95,839	$ 0.1138	8,945	$ 82,924	$ 9.27	$ 183,923	4
PA 1-05	Allegheny Dwellings	16,578	$ 329,411	$ 19.87	1,500,788	$ 170,862	$ 0.1138	6,609	$ 61,262	$ 9.27	$ 561,534	5
PA 1-09	Northview Heights	8,590	$ 170,686	$ 19.87	4,177,008	$ 475,544	$ 0.1138	15,040	$ 139,423	$ 9.27	$ 785,654	9
PA 1-09H	Northview High Rise	5,806	$ 115,365	$ 19.87	286,793	$ 32,651	$ 0.1138	1,795	$ 16,641	$ 9.27	$ 164,656	9
PA 1-11	Hamilton-Larimer	1,413	$ 28,071	$ 19.87	80,807	$ 9,200	$ 0.1138	1,686	$ 15,627	$ 9.27	$ 52,898	11
PA 1-15	Pennsylvania-Bidwell	7,735	$ 153,704	$ 19.87	539,678	$ 61,441	$ 0.1138	2,603	$ 24,128	$ 9.27	$ 239,274	15
PA 1-17	Pressley Street	12,030	$ 239,045	$ 19.87	1,139,486	$ 129,728	$ 0.1138	3,133	$ 29,040	$ 9.27	$ 397,813	17
PA 1-20	Homewood North	2,357	$ 46,845	$ 19.87	1,376,463	$ 156,708	$ 0.1138	13,063	$ 121,093	$ 9.27	$ 324,646	20
PA 1-31	Murray Towers	4,597	$ 91,343	$ 19.87	317,759	$ 36,176	$ 0.1138	2,721	$ 25,225	$ 9.27	$ 152,745	0
PA 1-32	Glen Hazel Family	10,089	$ 200,475	$ 19.87	932,428	$ 106,155	$ 0.1138	8,461	$ 78,433	$ 9.27	$ 385,063	0
0	0	-	$ -	$ -	-	$ -	$ -	-	$ -	$ -	$ -	0
PA 1-40	Mazza Pavilion (Brookline)	1,318	$ 26,189	$ 19.87	212,009	$ 24,137	$ 0.1138	1,073	$ 9,945	$ 9.27	$ 60,272	0
PA 1-41	Caliguiri Plaza (Allentown)	2,833	$ 56,301	$ 19.87	712,738	$ 81,144	$ 0.1138	1,684	$ 15,607	$ 9.27	$ 153,052	0
PA 1-44	Finello Pavilion (South Oakland)	1,077	$ 21,406	$ 19.87	416,530	$ 47,421	$ 0.1138	-	$ -	$ -	$ 68,827	0
PA 1-45	Morse Gardens	1,722	$ 34,209	$ 19.87	541,985	$ 61,704	$ 0.1138	2,179	$ 20,200	$ 9.27	$ 116,113	0
PA 1-46	Carrick Regency	1,371	$ 27,251	$ 19.87	566,136	$ 64,454	$ 0.1138	1,947	$ 18,053	$ 9.27	$ 109,758	0
PA 1-47	Gualtieri Manor	860	$ 17,081	$ 19.87	209,076	$ 23,803	$ 0.1138	1,195	$ 11,073	$ 9.27	$ 51,957	0
		181,038	**$ 3,597,330**	**$ 19.87**	**20,068,769**	**$ 2,284,791**	**$ 0.1138**	**114,587**	**$ 1,062,217**	**$ 9.27**	**$ 6,944,338**	

Honeywell

Housing Authority of the City of Pittsburgh

Pittsburgh, PA

Building Utilities Baselines

Utilities Post ER By AMP

AMP #	AMP Name	Natural Gas - MCF			Electric - kWh			Water - Mgals			Total
		MCF/yr.	Cost/yr.	$ per MCF	kWh/yr.	Cost/yr.	$ per kWh	Mgal/yr.	Cost/yr.	$ per Mgals	Cost/yr.
1	Addison Terrace	50,472	$ 1,002,911	$ 19.87	3,514,433	$ 400,111	$ 0.1138	42,453	$ 393,543	$ 9.27	$ 1,796,565
2	Bedford Dwellings	51,930	$ 1,031,875	$ 19.87	2,702,838	$ 307,713	$ 0.1138	-	$ -	$ -	$ 1,339,587
4	Arlington Heights	260	$ 5,161	$ 19.87	841,815	$ 95,839	$ 0.1138	8,945	$ 82,924	$ 9.27	$ 183,923
5	Allegheny Dwellings	17,214	$ 342,053	$ 19.87	2,312,239	$ 263,244	$ 0.1138	10,321	$ 95,679	$ 9.27	$ 700,975
9	Northview	62,238	$ 1,236,700	$ 19.87	4,465,432	$ 508,381	$ 0.1138	27,302	$ 253,091	$ 9.27	$ 1,998,172
10	Glen Hazel	13,222	$ 262,732	$ 19.87	1,128,794	$ 128,511	$ 0.1138	11,021	$ 102,168	$ 9.27	$ 493,411
11	Hamilton-Larimer	1,999	$ 39,716	$ 19.87	143,352	$ 16,320	$ 0.1138	3,476	$ 32,222	$ 9.27	$ 88,259
15	Pennsylvania-Bidwell	11,237	$ 223,279	$ 19.87	667,553	$ 76,000	$ 0.1138	4,573	$ 42,396	$ 9.27	$ 341,674
17	Pressley Street	13,102	$ 260,345	$ 19.87	1,439,800	$ 163,918	$ 0.1138	6,287	$ 58,284	$ 9.27	$ 482,547
20	Homewood North	23,843	$ 473,784	$ 19.87	926,803	$ 105,515	$ 0.1138	16,317	$ 151,258	$ 9.27	$ 730,556
31	Murray Towers	6,651	$ 132,166	$ 19.87	433,333	$ 49,334	$ 0.1138	3,656	$ 33,888	$ 9.27	$ 215,388
33	Glen Hazel High Rise	-	$ -	$ -	-	$ -	$ -	-	$ -	$ -	$ -
40	Brookline	2,532	$ 50,314	$ 19.87	236,747	$ 26,953	$ 0.1138	1,326	$ 12,294	$ 9.27	$ 89,560
41	Allentown Plaza	4,198	$ 83,423	$ 19.87	814,918	$ 92,777	$ 0.1138	3,454	$ 32,015	$ 9.27	$ 208,216
44	South Oakland	1,594	$ 31,677	$ 19.87	491,377	$ 55,942	$ 0.1138	-	$ -	$ -	$ 87,619
45	Morse Gardens	2,999	$ 59,588	$ 19.87	574,185	$ 65,370	$ 0.1138	3,036	$ 28,144	$ 9.27	$ 153,101
46	D.A.P. Carrick Regency	2,456	$ 48,812	$ 19.87	650,483	$ 74,056	$ 0.1138	2,861	$ 26,525	$ 9.27	$ 149,392
47	Gualtieri Manor	1,408	$ 27,980	$ 19.87	288,945	$ 32,896	$ 0.1138	1,529	$ 14,170	$ 9.27	$ 75,046
		267,355	**$ 5,312,514**	**$ 19.87**	**21,633,047**	**$ 2,462,881**	**$ 0.1138**	**146,559**	**$ 1,358,599**	**$ 9.27**	**$ 3,320,076**

Honeywell

Housing Authority of the City of Pittsburgh

Pittsburgh, PA

Building Data

HA Site #	Site Name	Common Sq. Feet	Bldg Sq. Feet	Year Built	# of Flrs	# of Units	# of Bldgs	# of Units by Bedrooms: Eff	1 BR	2 BR	3 BR	4 BR	5 BR	6 BR	Tot. Br.s	Total Occupants	% Occupancy	Annual MMBtu: Heating	Cooling
PA 1-01	Addison Terrace	44,400	274,150	1941	3	691	40	-	191	381	119	-	-	-	1,310	1,965	78.1%	16,436.8	6,460.8
PA 1-02	Bedford Dwellings	81,550	303,550	1940	2 & 3	420	28	-	132	232	56	-	-	-	764	1,146	93.1%	18,199.5	7,153.6
PA 1-04	Arlington Heights	6,000	92,310	1943	3	143	7	-	30	113	-	-	-	-	256	384	94.4%	5,534.5	2,175.4
PA 1-05	Allegheny Dwellings	6,835	184,590	1943	3	282	17	-	78	204	-	-	-	-	486	729	92.9%	11,067.2	4,350.1
PA 1-09	Northview Heights	30,000	595,100	1960	2	501	75	-	-	36	353	87	25	-	1,604	2,406	83.6%	35,679.5	14,024.4
PA 1-09H	Northview High Rise	42,875	115,250	1962	10	91	1	-	37	54	-	-	-	-	145	218	78.0%	6,909.9	2,716.0
PA 1-11	Hamilton-Larimer	-	34,200	1961	2	30	6	-	-	-	12	12	6	-	114	171	93.3%	2,050.5	806.0
PA 1-15	Pennsylvania-Bidwell	22,825	135,300	1970	11	120	1	-	100	20	-	-	-	-	140	210	95.8%	8,112.0	3,188.6
PA 1-17	Pressley Street	44,000	163,000	1970	16	211	1	15	180	16	-	-	-	-	227	333	95.3%	9,772.7	3,841.3
PA 1-20	Homewood North	8,000	145,550	1970	2 & 3	135	20	-	-	38	58	30	-	9	424	636	97.0%	8,726.5	3,430.1
PA 1-31	Murray Towers	11,200	48,000	1973	8	68	1	38	28	2	-	-	-	-	70	86	98.5%	2,877.9	1,131.2
PA 1-32	Glen Hazel Family	-	134,340	1978	2	128	45	-	16	34	58	20	-	-	338	507	96.9%	8,054.4	3,165.9
PA 1-40	Mazza Pavilion (Brookline)	5,900	23,000	1981	5	30	1	-	30	-	-	-	-	-	30	45	90.0%	1,379.0	542.0
PA 1-41	Caliguiri Plaza (Allentown)	14,300	61,750	1984	11	104	1	-	104	-	-	-	-	-	104	156	97.1%	3,702.2	1,455.2
PA 1-44	Finello Pavilion (South Oakland	7,000	43,000	1985	7	60	1	-	60	-	-	-	-	-	60	90	100.0%	2,578.1	1,013.4
PA 1-45	Morse Gardens	18,100	57,000	1874	3 & 5	70	1	-	70	-	-	-	-	-	70	105	100.0%	3,417.5	1,343.3
PA 1-46	Carrick Regency	17,800	57,950	1985	8	66	1	-	66	-	-	-	-	-	66	99	93.9%	3,474.4	1,365.7
PA 1-47	Gualtieri Manor	13,490	31,780	1985	5	31	1	4	27	-	-	-	-	-	31	45	80.6%	1,905.4	748.9
	Totals:	374,275	2,499,820			3,181	248	57	1,149	1,130	656	149	31	9	6,239	9,330	88.56%	149,877.8	58,912.1

Weather Data

Annual Heating Degree Days: **5829**
Indoor Heating Design Temp: **72**
Outdoor Heating Design Temp: **2**
Heating Design Delta T: **70**
Heating Design Hours per Year: **1993**
Annual Cooling Degree Days: **726**
Indoor Cooling Design Temp: **75**
Indoor Cooling Design wb Temp: **63**
Outdoor Cooling Design db Temp: **89**
Outdoor Cooling Design wb Temp: **73**
Cooling Design Delta T: **14**
Cooling Design wb Delta T: **10**
Cooling Design Hours per Year: **1236**

Honeywell

Housing Authority of the City of Pittsburgh
Pittsburgh, PA
Summary of Recommended Energy and Water Saving Measures

Summary Table of ECM's Savings, Costs, Payback & Financing

ECM #	ECM Description	Total Annual Savings	Annual Natural Gas Savings MCF	Annual Natural Gas Savings $	Annual Electric Savings kWh	Annual Electric Savings $	Annual Water Savings Mgal	Annual Water Savings $	ECM Construction Cost	Simple R. O. I. Years	Total R.O.I. with Financing	Annual Maintenance Costs	Equipment Service Life
	Lighting												
1	Retrofit Common Area Lighting	$ 312,813			2,747,635	$ 312,813			$ 940,528	2.67	4.19	Reduced	9,000 Hours
2	Retrofit Tenant Area Lighting	$ 283,431			2,489,554	$ 283,431			$ 697,046	2.18	3.43	Reduced	9,000 Hours
	Electrical												
6	Install High Efficiency Refrigerators	$ 17,754			155,946	$ 17,754			$ 199,902	9.99	15.71	Reduced	10 Years
	Water/Sewer												
10	Low Flow Aerators and Showerheads	$ 578,368	13,224	$ 262,765	222,931	$ 25,380	31,308	$ 290,222	$ 155,498	0.24	0.32	Reduced	15 Years
11	Low Flow Toilet Replacement	$ 140,301					15,135	$ 140,301	$ 1,030,297	6.52	8.66	Reduced	25 Years
	Envelope												
16	Building Envelope Leakage	$ 106,162	5,042	$ 100,196	52,403	$ 5,966			$ 539,975	4.51	6.05	Unchanged	10 Years
18	Replace Roof and/or Add Insulation	$ 16,437	779	$ 15,487	8,349	$ 951			$ 172,358	9.31	12.48	None	20 Years
	Controls												
21	Limiting Thermostats	$ 320,789	15,022	$ 298,501	195,772	$ 22,288			$ 108,249	0.30	0.40	Reduced	15 Years
	Mechanical												
26	Geothermal HVAC, DWH System	$ 909,760	63,999	$ 1,271,700	(3,179,151)	$ (361,940)			$ 20,337,291	19.84	24.84	Unchanged	19 Years
27	New High Efficiency Boilers	$ 4,283	216	$ 4,283					$ -	-		Unchanged	24 Years
29	Adjust CFMs	$ 27,891	1,404	$ 27,891	-	$ -			$ -	-		None	NA
30	New Ventilation Unit	$ 993	163	$ 3,234	(19,688)	$ (2,241)			$ -	-		Unchanged	10 Years
31	New Radiator Control Valves	$ 62,740	3,157	$ 62,740					$ 247,104	3.50	4.65	Increased	15 Years
32	Ventilation Unit Heat Recovery	$ 9,254	444	$ 8,816	3,842	$ 437			$ -	-		Increased	15 Years
37	Insulate Make-up Air Duct on Roof	$ 431	20	$ 407	212	$ 24			$ -	-		Reduced	20 Years
	Honeywell Pass Through	$ -	-	$ -	-	$ -			$ 380,064	-			
	Owner's Contingency	$ -							$ 302,489	-			
	Total First Year ECM Savings:	$ 2,791,408	103,470	$ 2,056,021	2,677,806	$ 304,863	46,443	$ 430,524	$ 25,110,801	9.00	12.55		
	First Year Rolling Base Year Savings:	$ -	TPU Adjust:	$ -		(286)		-					
	Total First Year Savings:	$ 2,791,122											
	Guaranteed First Year Savings:	$ 2,583,948											
		$ -		3%				3%					
	Annualized Escalated Savings:	$ 3,245,337	103,470	$ 2,431,592	2,677,806	$ 304,577	46,443	$ 509,167					
	Annualized Rolling Base Year Savings:	$ -											
	Total Annualized Savings:	$ 3,245,337											
	Annualized Guaranteed Savings:	$ 3,004,448	95,790	$ 2,251,105	2,479,043	$ 281,970	42,995	$ 471,374		-			

ECM Savings % Summary

	Present Annual Usage	Present Annual Cost	Guaranteed Usage Savings	Guaranteed Annualized Savings	% Guaranteed Savings
Gas	284508	$ 5,653,351	$ 95,790	$2,251,105	39.82%
Electric	22746575	$ 2,589,654	2,479,043	$ 281,970	10.89%
Water	161029	$ 1,492,741	42,995	$ 471,374	31.58%
Totals:		$ 9,735,745	-	$3,004,448	30.86%

Amount to be financed:	$ 25,110,801
Effective Interest Rate:	5.86%
Term (Months):	144
Term (Years):	12
Finance Charge:	$ 9,915,896
Total Cost of Loan w/ Interest:	$ 35,026,697
Total Project Cost w/FC & Service:	$ 36,053,377
% of Savings Used:	92.6%
$ per Unit:	$ 7,894.00

Honeywell

Housing Authority of the City of Pittsburgh

Pittsburgh, PA

Building Utilities Baselines

Utilities Post ER By Site

		Natural Gas - MCF			Electric - kWh			Water - Mgals			Total	
HA Site #	Site Name	MCF/yr.	Cost/yr.	$ per MCF	kWh/yr.	Cost/yr.	$ per kWh	Mgal/yr.	Cost/yr.	$ per Mgals	Cost/yr.	AMP #
PA 1-01	Addison Terrace	50,472	$ 1,002,911	$ 19.87	3,514,433	$ 400,111	$ 0.1138	42,453	$ 393,543	$ 9.27	$ 1,796,565	1
PA 1-02	Bedford Dwellings	51,930	$ 1,031,875	$ 19.87	2,702,838	$ 307,713	$ 0.1138	-	$ -	$ -	$ 1,339,587	2
PA 1-04	Arlington Heights	260	$ 5,161	$ 19.87	841,815	$ 95,839	$ 0.1138	8,945	$ 82,924	$ 9.27	$ 183,923	4
PA 1-05	Allegheny Dwellings	16,578	$ 329,411	$ 19.87	1,500,788	$ 170,862	$ 0.1138	6,609	$ 61,262	$ 9.27	$ 561,534	5
PA 1-09	Northview Heights	8,590	$ 170,686	$ 19.87	4,177,008	$ 475,544	$ 0.1138	15,040	$ 139,423	$ 9.27	$ 785,654	9
PA 1-09H	Northview High Rise	5,806	$ 115,365	$ 19.87	286,793	$ 32,651	$ 0.1138	1,795	$ 16,641	$ 9.27	$ 164,656	9
PA 1-11	Hamilton-Larimer	1,413	$ 28,071	$ 19.87	80,807	$ 9,200	$ 0.1138	1,686	$ 15,627	$ 9.27	$ 52,898	11
PA 1-15	Pennsylvania-Bidwell	7,735	$ 153,704	$ 19.87	539,678	$ 61,441	$ 0.1138	2,603	$ 24,128	$ 9.27	$ 239,274	15
PA 1-17	Pressley Street	12,030	$ 239,045	$ 19.87	1,139,486	$ 129,728	$ 0.1138	3,133	$ 29,040	$ 9.27	$ 397,813	17
PA 1-20	Homewood North	2,357	$ 46,845	$ 19.87	1,376,463	$ 156,708	$ 0.1138	13,063	$ 121,093	$ 9.27	$ 324,646	20
PA 1-31	Murray Towers	4,597	$ 91,343	$ 19.87	317,759	$ 36,176	$ 0.1138	2,721	$ 25,225	$ 9.27	$ 152,745	0
PA 1-32	Glen Hazel Family	10,089	$ 200,475	$ 19.87	932,428	$ 106,155	$ 0.1138	8,461	$ 78,433	$ 9.27	$ 385,063	0
0	0	-	$ -	$ -	-	$ -	$ -	-	$ -	$ -	$ -	0
PA 1-40	Mazza Pavilion (Brookline)	1,318	$ 26,189	$ 19.87	212,009	$ 24,137	$ 0.1138	1,073	$ 9,945	$ 9.27	$ 60,272	0
PA 1-41	Caliguiri Plaza (Allentown)	2,833	$ 56,301	$ 19.87	712,738	$ 81,144	$ 0.1138	1,684	$ 15,607	$ 9.27	$ 153,052	0
PA 1-44	Finello Pavilion (South Oakland)	1,077	$ 21,406	$ 19.87	416,530	$ 47,421	$ 0.1138	-	$ -	$ -	$ 68,827	0
PA 1-45	Morse Gardens	1,722	$ 34,209	$ 19.87	541,985	$ 61,704	$ 0.1138	2,179	$ 20,200	$ 9.27	$ 116,113	0
PA 1-46	Carrick Regency	1,371	$ 27,251	$ 19.87	566,136	$ 64,454	$ 0.1138	1,947	$ 18,053	$ 9.27	$ 109,758	0
PA 1-47	Gualtieri Manor	860	$ 17,081	$ 19.87	209,076	$ 23,803	$ 0.1138	1,195	$ 11,073	$ 9.27	$ 51,957	0
		181,038	**$ 3,597,330**	**$ 19.87**	**20,068,769**	**$ 2,284,791**	**$ 0.1138**	**114,587**	**$ 1,062,217**	**$ 9.27**	**$ 6,944,338**	

Honeywell

Housing Authority of the City of Pittsburgh

Pittsburgh, PA

Building Utilities Baselines

		Natural Gas - MCF			Electric - kWh			Water - Mgals			Total	
HA Site #	Site Name	MCF/yr.	Cost/yr.	$ per MCF	kWh/yr.	Cost/yr.	$ per kWh	Mgal/yr.	Cost/yr.	$ per Mgals	Cost/yr.	AMP #
PA 1-01	Addison Terrace	56,106	$ 1,114,862	$ 19.87	4,288,267	$ 488,211	$0.1138	52,514	$ 486,808	$ 9.27	$ 2,089,881	1
PA 1-02	Bedford Dwellings	52,217	$ 1,037,590	$ 19.87	3,209,330	$ 365,376	$0.1138	-	$ -	$ -	$ 1,402,966	2
PA 1-04	Arlington Heights	11,491	$ 228,332	$ 19.87	675,017	$ 76,849	$0.1138	13,355	$ 123,801	$ 9.27	$ 428,982	4
PA 1-05	Allegheny Dwellings	17,214	$ 342,053	$ 19.87	2,312,239	$ 263,244	$0.1138	10,321	$ 95,679	$ 9.27	$ 700,975	5
PA 1-09	Northview Heights	56,014	$ 1,113,030	$ 19.87	4,018,889	$ 457,543	$0.1138	24,572	$ 227,782	$ 9.27	$ 1,798,355	9
PA 1-09H	Northview High Rise	6,224	$ 123,670	$ 19.87	446,543	$ 50,838	$0.1138	2,730	$ 25,309	$ 9.27	$ 199,817	9
PA 1-11	Hamilton-Larimer	1,999	$ 39,716	$ 19.87	143,352	$ 16,320	$0.1138	3,476	$ 32,222	$ 9.27	$ 88,259	11
PA 1-15	Pennsylvania-Bidwell	11,237	$ 223,279	$ 19.87	667,553	$ 76,000	$0.1138	4,573	$ 42,396	$ 9.27	$ 341,674	15
PA 1-17	Pressley Street	13,102	$ 260,345	$ 19.87	1,439,800	$ 163,918	$0.1138	6,287	$ 58,284	$ 9.27	$ 482,547	17
PA 1-20	Homewood North	23,843	$ 473,784	$ 19.87	926,803	$ 105,515	$0.1138	16,317	$ 151,258	$ 9.27	$ 730,556	20
PA 1-31	Murray Towers	6,651	$ 132,166	$ 19.87	433,333	$ 49,334	$0.1138	3,656	$ 33,888	$ 9.27	$ 215,388	31
PA 1-32	Glen Hazel Family	13,222	$ 262,732	$ 19.87	1,128,794	$ 128,511	$0.1138	11,021	$ 102,168	$ 9.27	$ 493,411	10
PA 1-40	Mazza Pavilion (Brookline)	2,532	$ 50,314	$ 19.87	236,747	$ 26,953	$0.1138	1,326	$ 12,294	$ 9.27	$ 89,560	40
PA 1-41	Caliguiri Plaza (Allentown)	4,198	$ 83,423	$ 19.87	814,918	$ 92,777	$0.1138	3,454	$ 32,015	$ 9.27	$ 208,216	41
PA 1-44	Finello Pavilion (South Oakland)	1,594	$ 31,677	$ 19.87	491,377	$ 55,942	$0.1138	-	$ -	$ -	$ 87,619	44
PA 1-45	Morse Gardens	2,999	$ 59,588	$ 19.87	574,185	$ 65,370	$0.1138	3,036	$ 28,144	$ 9.27	$ 153,101	45
PA 1-46	Carrick Regency	2,456	$ 48,812	$ 19.87	650,483	$ 74,056	$0.1138	2,861	$ 26,525	$ 9.27	$ 149,392	46
PA 1-47	Gualtieri Manor	1,408	$ 27,980	$ 19.87	288,945	$ 32,896	$0.1138	1,529	$ 14,170	$ 9.27	$ 75,046	47
		284,508	$ 5,653,351	$ 19.87	22,746,575	$ 2,589,654	$0.1138	161,029	$ 1,492,741	$ 9.27	$ 9,735,745	

Natural Gas Cost: $ 19.87 per MCF
Electric Cost: $ 0.1138 per Kwh
Combined Water/Sewer: $ 9.27 Per Mgal.

These adjusted current utility rates are used in actual savings calculations.

7/29/2008

Chris Campbell, PE

Honeywell

Housing Authority of the City of Pittsburgh
Pittsburgh, PA

Energy Unit and $ Savings Summary by Bldg

Site #	HA Site #	Building	Total Annual Savings	Annual Gas Savings		Annual Electric Savings		Annual Water Savings		ECM Costs	Simple ROI	ROI with Int.	AMP #
				MCF	$	kWh	$	Mgal	$				
1	PA 1-01	Addison Terrace	$ 293,316	5,634	$ 111,951	773,834	$ 88,099	10,061	$ 93,265	$ 612,612	2.09	2.91	1
2	PA 1-02	Bedford Dwellings	$ 63,378	288	$ 5,715	506,492	$ 57,663	-	$ -	$ 202,777	3.20	4.46	2
3	PA 1-04	Arlington Heights	$ 245,058	11,231	$ 223,171	(166,798)	$ (18,990)	4,410	$ 40,877	$ 4,856,928	19.82	27.65	4
4	PA 1-05	Allegheny Dwellings	$ 139,441	636	$ 12,642	811,451	$ 92,382	3,713	$ 34,417	$ 345,585	2.48	3.46	5
5	PA 1-09	Northview Heights	$ 1,012,701	47,424	$ 942,344	(158,120)	$ (18,002)	9,532	$ 88,359	$ 12,418,990	12.26	17.11	9
6	PA 1-09H	Northview High Rise	$ 35,161	418	$ 8,305	159,751	$ 18,187	935	$ 8,668	$ 72,963	2.08	2.89	9
7	PA 1-11	Hamilton-Larimer	$ 35,361	586	$ 11,645	62,545	$ 7,121	1,790	$ 16,595	$ 131,719	3.73	5.20	11
8	PA 1-15	Pennsylvania-Bidwell	$ 102,401	3,501	$ 69,575	127,875	$ 14,558	1,971	$ 18,268	$ 320,605	3.13	4.37	15
9	PA 1-17	Pressley Street	$ 84,733	1,072	$ 21,299	300,314	$ 34,190	3,155	$ 29,244	$ 253,734	2.99	4.18	17
10	PA 1-20	Homewood North	$ 405,911	21,486	$ 426,939	(449,660)	$ (51,193)	3,254	$ 30,165	$ 4,226,023	10.41	14.52	20
11	PA 1-31	Murray Towers	$ 62,643	2,054	$ 40,823	115,574	$ 13,158	934	$ 8,663	$ 586,241	9.36	13.05	31
12	PA 1-32	Glen Hazel Family	$ 108,348	3,133	$ 62,257	196,366	$ 22,356	2,560	$ 23,735	$ 170,077	1.57	2.19	10
14	PA 1-40	Mazza Pavilion (Brookline)	$ 29,289	1,214	$ 24,124	24,738	$ 2,816	253	$ 2,348	$ 199,838	6.82	9.52	40
15	PA 1-41	Caliguiri Plaza (Allentown)	$ 55,164	1,365	$ 27,122	102,180	$ 11,633	1,770	$ 16,409	$ 137,636	2.50	3.48	41
16	PA 1-44	Finello Pavilion (South Oakla	$ 18,792	517	$ 10,271	74,847	$ 8,521	-	$ -	$ 42,104	2.24	3.13	44
17	PA 1-45	Morse Gardens	$ 36,988	1,277	$ 25,379	32,201	$ 3,666	857	$ 7,943	$ 190,597	5.15	7.19	45
18	PA 1-46	Carrick Regency	$ 39,635	1,085	$ 21,561	84,346	$ 9,603	914	$ 8,472	$ 115,914	2.92	4.08	46
19	PA 1-47	Gualtieri Manor	$ 23,088	549	$ 10,899	79,869	$ 9,093	334	$ 3,096	$ 53,599	2.32	3.24	47
			$ 2,791,408	**103,470**	**$ 2,056,021**	**2,677,806**	**$ 304,863**	**46,443**	**$ 430,524**	**$ 24,937,943**	**8.93**	**10.79**	

Housing Authority of the City of Pittsburgh
Pittsburgh, PA

Honeywell

Energy Unit and $ Savings Summary by Bldg

First Year Energy Unit and $ Savings Summary by AMP

AMP #	Name	Total Annual Savings	Annual Gas Savings		Annual Electric Savings		Annual Water Savings		ECM Costs	Simple ROI	ROI with Int.
			MCF	$	kWh	$	Mgal	$			
1	Addison Terrace	$ 293,316	5,634	$ 111,951	773,834	$ 88,099	10,061	$ 93,265	$ 612,612	2.09	2.91
2	Bedford Dwellings	$ 63,378	288	$ 5,715	506,492	$ 57,663	-	$ -	$ 202,777	3.20	4.46
4	Arlington Heights	$ 245,058	11,231	$ 223,171	(166,798)	$ (18,990)	4,410	$ 40,877	$ 4,856,928	19.82	27.65
5	Allegheny Dwellings	$ 139,441	636	$ 12,642	811,451	$ 92,382	3,713	$ 34,417	$ 345,585	2.48	3.46
9	Northview	$ 1,047,862	47,842	$ 950,649	1,631	$ 186	10,467	$ 97,027	$ 12,491,952	11.92	16.63
10	Glen Hazel	$ 108,348	3,133	$ 62,257	196,366	$ 22,356	2,560	$ 23,735	$ 170,077	1.57	2.19
11	Hamilton-Larimer	$ 35,361	586	$ 11,645	62,545	$ 7,121	1,790	$ 16,595	$ 131,719	3.73	5.20
15	Pennsylvania-Bidwell	$ 102,401	3,501	$ 69,575	127,875	$ 14,558	1,971	$ 18,268	$ 320,605	3.13	4.37
17	Pressley Street	$ 84,733	1,072	$ 21,299	300,314	$ 34,190	3,155	$ 29,244	$ 253,734	2.99	4.18
20	Homewood North	$ 405,911	21,486	$ 426,939	(449,660)	$ (51,193)	3,254	$ 30,165	$ 4,226,023	10.41	14.52
31	Murray Towers	$ 62,643	2,054	$ 40,823	115,574	$ 13,158	934	$ 8,663	$ 586,241	9.36	13.05
40	Brookline	$ 29,289	1,214	$ 24,124	24,738	$ 2,816	253	$ 2,348	$ 199,838	6.82	9.52
41	Allentown Plaza	$ 55,164	1,365	$ 27,122	102,180	$ 11,633	1,770	$ 16,409	$ 137,636	2.50	3.48
44	South Oakland	$ 18,792	517	$ 10,271	74,847	$ 8,521	-	$ -	$ 42,104	2.24	3.13
45	Morse Gardens	$ 36,988	1,277	$ 25,379	32,201	$ 3,666	857	$ 7,943	$ 190,597	5.15	7.19
46	D.A.P. Carrick Regency	$ 39,635	1,085	$ 21,561	84,346	$ 9,603	914	$ 8,472	$ 115,914	2.92	4.08
47	Gualtieri Manor	$ 23,088	549	$ 10,899	79,869	$ 9,093	334	$ 3,096	$ 53,599	2.32	3.24
		$ 2,791,408	**103,470**	**$ 2,056,021**	**2,677,806**	**$ 304,863**	**46,443**	**$ 430,524**	**$ 24,937,943**	**8.93**	**12.46**

Housing Authority of the City of Pittsburgh
Pittsburgh, PA

Honeywell

Savings Calculations and Cost Estimates

ECM: Interior Common Area Lighting Retrofit

HA Site #	Site Name	Annual Savings				Savings % of Total			
		Natural Gas - MCF	Electric - kWh	Water - Mgals	Sewer - Mgals	Natural Gas - MCF	Electric - kWh	Water - Mgals	Sewer - Mgals
PA 1-01	Addison Terrace	(712.10)	306,522			-1.27%	7.15%		
PA 1-02	Bedford Dwellings	(452.24)	194,663			-0.87%	6.07%		
PA 1-04	Arlington Heights	(359.42)	154,711			-3.13%	22.92%		
PA 1-05	Allegheny Dwellings	(596.00)	273,650			-3.46%	11.83%		
PA 1-09	Northview Heights	(2,154.48)	927,385			-3.85%	23.08%		
PA 1-09H	Northview High Rise	(250.15)	93,318			-4.02%	20.90%		
PA 1-11	Hamilton-Larimer	(15.04)	6,905			-0.75%	4.82%		
PA 1-15	Pennsylvania-Bidwell	(92.79)	39,943			-0.83%	5.98%		
PA 1-17	Pressley Street	(507.10)	213,553			-3.87%	14.83%		
PA 1-20	Homewood North	(566.69)	243,930			-2.38%	26.32%		
PA 1-31	Murray Towers	(202.87)	98,968			-3.05%	22.84%		
PA 1-32	Glen Hazel Family	-	-			0.00%	0.00%		
PA 1-40	Mazza Pavilion (Brookline)	(45.17)	21,332			-1.78%	9.01%		
PA 1-41	Caliguiri Plaza (Allentown)	(60.72)	28,301			-1.45%	3.47%		
PA 1-44	Finello Pavilion (South Oakland)	(73.77)	33,577			-4.63%	6.83%		
PA 1-45	Morse Gardens	(22.62)	10,159			-0.75%	1.77%		
PA 1-46	Carrick Regency	(89.53)	41,723			-3.64%	6.41%		
PA 1-47	Gualtieri Manor	(123.61)	58,996			-8.78%	20.42%		
		(6,324)	**2,747,635**			**-2.22%**	**12.08%**		

Housing Authority of the City of Pittsburgh
Pittsburgh, PA

Honeywell

Savings Calculations and Cost Estimates

ECM: Interior Common Area Lighting Retrofit

Estimated Savings in kWh/sf: 2.75 **Mo.s of Heating:** 7 **Mo.s of Cooling:** 3

HA Site #	Site Name	Annual kWh Saved	Common Area Sq. Ft.	Annual kWh Saved per Sq. Ft.	Heating Eff.	Cooling EER	Heating Penalty MCF	Heating Penalty kWh	Cooling Credit kWh
PA 1-01	Addison Terrace	279,978	44,400	6.3058	0.8	9	712.10	0	26544
PA 1-02	Bedford Dwellings	177,806	81,550	2.1803	0.8	9	452.24	0	16857
PA 1-04	Arlington Heights	141,313	6,000	23.5522	0.8	9	359.42	0	13397
PA 1-05	Allegheny Dwellings	249,953	6,835	36.5696	0.8	9	596.00	0	23697
PA 1-09	Northview Heights	912,657	30,000	30.4219	0.8	9	2,321.27	0	86525
PA 1-09H	Northview High Rise	85,237	42,875	1.9880	0.7	9	250.15	0	8081
PA 1-15	Pennsylvania-Bidwell	36,484	22,825	1.5984	0.8	9	92.79	0	3459
PA 1-17	Pressley Street	199,376	44,000	4.5313	0.8	12	507.10	0	14176
PA 1-20	Homewood North	222,807	8,000	27.8508	0.8	9	566.69	0	21123
PA 1-31	Murray Towers	90,398	11,200	8.0712	0.9	9	202.87	0	8570
PA 1-40	Mazza Pavilion (Brookline)	19,655	5,900	3.3314	0.8	10	45.17	0	1677
PA 1-41	Caliguiri Plaza (Allentown)	26,422	14,300	1.8477	0.8	12	60.72	0	1879
PA 1-44	Finello Pavilion (South Oakland)	30,938	7,000	4.4197	0.8	10	73.77	0	2640
PA 1-45	Morse Gardens	9,485	18,100	0.5240	0.8	12	22.62	0	674
PA 1-46	Carrick Regency	38,953	17,800	2.1884	0.8	12	89.53	0	2770
PA 1-47	Gualtieri Manor	55,080	13,490	4.0830	0.9	12	123.61	0	3916
Interior Common Area Totals:		**2,582,849**	**374,275**	**6.9009**			**6491**	**0**	**236584**

Housing Authority of the City of Pittsburgh
Pittsburgh, PA

Savings Calculations and Cost Estimates

Honeywell

ECM: Interior Common Area Lighting Retrofit

Common Areas

Area	Recom-mended Hours
RESTROOM FAN	3120
STORAGE	730
BATHROOMS	3120
OFFICES	3120
LOBBY	8760
DINING AREA	3120
FRONT & BACK PORCH	3120
HALLWAY	8760
KITCHEN	3120
KITCHEN SINK	3120
LANDING	8760
LAUNDRY	4380
STAIRS	8760
EXTERIOR LIGHTING	4380

Heating Penalty MCF= TS x B/Wh x %h / MBtus/MCF / Eff
Heating Penalty kWh= TS x %h / Eff
Cooling Credit= TS x %c / EER x Btu/Wh

Where: TS=Total electric savings, kWh/yr.
%h=percent of year in heating
%c=percent of year in cooling
Eff=heating efficiency
EER=Cooling efficiency, Btu/Wh

Housing Authority of the City of Pittsburgh
Pittsburgh, PA

Savings Calculations and Cost Estimates

Honeywell

ECM: Interior Tenant Area Lighting Retrofit

HA Site #	Site Name	Annual Savings				Savings % of Total			
		Natural Gas - MCF	Electric - kWh	Water - Mgals	Sewer - Mgals	Natural Gas - MCF	Electric - kWh	Water - Mgals	Sewer - Mgals
PA 1-01	Addison Terrace	(982.42)	422,878			-1.75%	9.86%		
PA 1-02	Bedford Dwellings	(651.04)	280,238			-1.25%	8.73%		
PA 1-04	Arlington Heights	(176.77)	76,091			-1.54%	11.27%		
PA 1-05	Allegheny Dwellings	(639.35)	293,553			-3.71%	12.70%		
PA 1-09	Northview Heights	(1,630.41)	701,803			-2.91%	17.46%		
PA 1-09H	Northview High Rise	(176.51)	65,848			-2.84%	14.75%		
PA 1-11	Hamilton-Larimer	(78.73)	36,147			-3.94%	25.22%		
PA 1-15	Pennsylvania-Bidwell	(195.71)	84,245			-1.74%	12.62%		
PA 1-17	Pressley Street	(195.76)	82,441			-1.49%	5.73%		
PA 1-20	Homewood North	(335.01)	144,204			-1.41%	15.56%		
PA 1-31	Murray Towers	(53.60)	26,150			-0.81%	6.03%		
PA 1-32	Glen Hazel Family	(353.47)	162,295			-2.67%	14.38%		
PA 1-40	Mazza Pavilion (Brookline)	(18.04)	8,521			-0.71%	3.60%		
PA 1-41	Caliguiri Plaza (Allentown)	(90.73)	42,285			-2.16%	5.19%		
PA 1-44	Finello Pavilion (South Oakland)	(45.85)	20,869			-2.88%	4.25%		
PA 1-45	Morse Gardens	(5.73)	2,572			-0.19%	0.45%		
PA 1-46	Carrick Regency	(56.42)	26,293			-2.30%	4.04%		
PA 1-47	Gualtieri Manor	(27.49)	13,122			-1.95%	4.54%		
		(5,713)	**2,489,554**	**-**	**-**	**-2.01%**	**10.94%**		

Housing Authority of the City of Pittsburgh
Pittsburgh, PA

Honeywell

Savings Calculations and Cost Estimates

ECM: Interior Tenant Area Lighting Retrofit

Estimated Savings in kWh/sf: 0.80 **Mo.s of Heating:** 7 **Mo.s of Cooling:** 3

HA Site #	Site Name	Annual kWh Saved	Tenant Area Sq. Ft.	Annual kWh Saved per Sq. Ft.	Heating Eff.	Cooling EER	Heating Penalty MCF	Heating Penalty kWh	Cooling Credit kWh
PA 1-01	Addison Terrace	386,258	229,750	1.68	0.8	9	982.42	0	36619
PA 1-02	Bedford Dwellings	255,971	222,000	1.15	0.8	9	651.04	0	24267
PA 1-04	Arlington Heights	69,502	86,310	0.81	0.8	9	176.77	0	6589
PA 1-05	Allegheny Dwellings	268,133	177,755	1.51	0.8	9	639.35	0	25420
PA 1-09	Northview Heights	690,658	565,100	1.22	0.8	9	1,756.64	0	65478
PA 1-09H	Northview High Rise	60,145	72,375	0.83	0.7	9	176.51	0	5702
PA 1-11	Hamilton-Larimer	33,016	34,200	0.97	0.8	9	78.73	0	3130
PA 1-15	Pennsylvania-Bidwell	76,949	112,475	0.68	0.8	9	195.71	0	7295
PA 1-17	Pressley Street	76,968	119,000	0.65	0.8	12	195.76	0	5473
PA 1-20	Homewood North	131,716	137,550	0.96	0.8	9	335.01	0	12487
PA 1-31	Murray Towers	23,886	36,800	0.65	0.9	9	53.60	0	2264
PA 1-32	Glen Hazel Family	148,241	134,340	1.10	0.8	9	353.47	0	14054
PA 1-40	Mazza Pavilion (Brookline)	7,851	17,100	0.46	0.8	10	18.04	0	670
PA 1-41	Caliguiri Plaza (Allentown)	39,478	47,450	0.83	0.8	12	90.73	0	2807
PA 1-44	Finello Pavilion (South Oakland)	19,228	36,000	0.53	0.8	10	45.85	0	1641
PA 1-45	Morse Gardens	2,402	38,900	0.06	0.8	12	5.73	0	171
PA 1-46	Carrick Regency	24,548	40,150	0.61	0.8	12	56.42	0	1745
PA 1-47	Gualtieri Manor	12,250	18,290	0.67	0.9	12	27.49	0	871
Interior Tenant Lighting Totals		**2,327,201**	**2,125,545**	**1.09**			**5839**	**0**	**216686**

Housing Authority of the City of Pittsburgh
Pittsburgh, PA

Savings Calculations and Cost Estimates

Honeywell

ECM: Interior Tenant Area Lighting Retrofit

Tenant Areas

Area	HUD Recom-mended Hours
RESTROOM FAN	1095
BASEMENT	730
BATHROOMS	1095
BEDROOM	1460
CLOSETS	365
DINING AREA	1825
FRONT & BACK PORCH	1095
HALLWAY	730
KITCHEN	1460
KITCHEN SINK	1460
LANDING	730
LAUNDRY	1095
LIVING ROOM	1825
LOBBY	730
PANTRY	365
RESTROOM SHOWER	1095
STAIRS	730

Specifically mentioned areas, p.71, UAG
Assumed similar areas to mentioned areas

Heating Penalty MCF= TS x B/Wh x %h / MBtus/MCF / Eff
Heating Penalty kWh= TS x %h / Eff
Cooling Credit= TS x %c / EER x Btu/Wh

Where: TS=Total electric savings, kWh/yr.
%h=percent of year in heating
%c=percent of year in cooling
Eff=heating efficiency
EER=Cooling efficiency, Btu/Wh

Housing Authority of the City of Pittsburgh

Pittsburgh, PA

Savings Calculations and Cost Estimates

Honeywell

ECM: New Refrigerators

HA Site #	Site Name	Annual Savings				Savings % of Total			
		Natural Gas - MCF	Electric - kWh	Water - Mgals	Sewer - Mgals	Natural Gas MCF	Electric - kWh	Water - Mgals	Sewer - Mgals
PA 1-01	Addison Terrace		26,515				0.06%		
PA 1-02	Bedford Dwellings		28,516				0.11%		
PA 1-05	Allegheny Dwellings		14,062				0.06%		
PA 1-09	Northview Heights		33,289				0.11%		
PA 1-11	Hamilton-Larimer		19,494				13.60%		
PA 1-32	Glen Hazel Family		34,071				1.63%		
		-	155,946	-	-		0.69%		

HA Site #	Site Name	% of Units Occupied	Existing Refrig. Code #	Quan.	Existing Refrigerators Annual kWh	Existing Refrigerators Annual Cost	New Refrigerators Refrig. Code #	New Refrigerators Annual kWh	New Refrigerators Annual Cost	Annual Electric Savings
PA 1-01	Addison Terrace	78.1%	7	21	12,883	$ 1,467	1	6,335	$ 721	6,548
PA 1-01	Addison Terrace	78.1%	8	15	11,968	$ 1,363	1	4,525	$ 515	7,444
PA 1-01	Addison Terrace	78.1%	9	25	20,064	$ 2,284	1	7,541	$ 859	12,523
PA 1-02	Bedford Dwellings	93.1%	10	18	11,696	$ 1,332	1	6,468	$ 736	5,228
PA 1-02	Bedford Dwellings	93.1%	12	8	10,360	$ 1,179	1	2,875	$ 327	7,485
PA 1-02	Bedford Dwellings	93.1%	13	25	24,787	$ 2,822	1	8,984	$ 1,023	15,803
PA 1-05	Allegheny Dwellings	92.9%	14	17	12,588	$ 1,433	1	6,097	$ 694	6,491
PA 1-05	Allegheny Dwellings	92.9%	13	12	11,874	$ 1,352	1	4,303	$ 490	7,570
PA 1-09	Northview Heights	83.6%	4	30	20,247	$ 2,305	1	9,685	$ 1,103	10,563
PA 1-09	Northview Heights	83.6%	5	7	7,095	$ 808	1	2,260	$ 257	4,836
PA 1-09	Northview Heights	83.6%	6	28	26,930	$ 3,066	1	9,039	$ 1,029	17,891
PA 1-11	Hamilton-Larimer	93.3%	8	3	2,859	$ 325	1	1,081	$ 123	1,778
PA 1-11	Hamilton-Larimer	93.3%	11	27	27,443	$ 3,124	1	9,727	$ 1,107	17,716
PA 1-32	Glen Hazel Family	96.9%	1	61	51,234	$ 5,833	1	22,810	$ 2,597	28,424
PA 1-32	Glen Hazel Family	96.9%	2	1	1,138	$ 130	1	374	$ 43	764
PA 1-32	Glen Hazel Family	96.9%	3	7	7,500	$ 854	1	2,618	$ 298	4,883
		88.6%		305	260,667	$ 29,676		104,721	$ 11,922	155,946

Housing Authority of the City of Pittsburgh

Pittsburgh, PA

Savings Calculations and Cost Estimates

Honeywell

ECM: New Refrigerators

Refrig. Code #	Existing Units: Description	Amps	kW	Annual kWh	Annual Hours	Width inches	Height inches	Depth inches	Cubic Feet	Year Built
1	Kenmore	6.50	0.7475	867	1,160					
2	Roper/GE	6.50	0.7475	1,175	1,572					
3	Whirlpool	6.50	0.7475	1,106	1,480					
4	Kenmore	6.50	0.7475	807	1,080					
5	Roper/GE	6.50	0.7475	1,212	1,621					
6	Whirlpool	6.50	0.7475	1,150	1,538					
7	Kenmore	6.50	0.7475	785	1,050					
8	Roper/GE	6.50	0.7475	1,021	1,366					
9	Whirlpool	6.50	0.7475	1,027	1,374					
10	Kenmore	6.50	0.7475	698	934					
11	Whirlpool	6.50	0.7475	1,089	1,457					
12	Roper/GE	6.50	0.7475	1,391	1,861					
13	Whirlpool	6.50	0.7475	1,065	1,425					
14	Kenmore	6.50	0.7475	797	1,066					
15			-							
	New Units:									
1	**GE • HTH16BBS**	**4.50**	**0.5175**	**386**	**746**	**28.000**	**59.375**	**26.625**	**15.7**	**2007**
2	**GE • GTH18DBR**	**4.50**	**0.5175**	**410**	**792**	**28.000**	**64.375**	**26.625**	**18.0**	**2007**
3										

Honeywell

Housing Authority of the City of Pittsburgh

Pittsburgh, PA

Savings Calculations and Cost Estimates

ECM: Low Flow Faucet Restrictors & Shower Heads

HA Site #	Site Name	Annual Savings				Savings % of Total			
		Natural Gas - MCF	Electric - kWh	Water - Mgals	Sewer - Mgals	Natural Gas - MCF	Electric - kWh	Water - Mgals	Sewer - Mgals
PA 1-01	Addison Terrace	3,958	-	8,469	8,469	7.05%	0.00%	16.13%	0.00%
PA 1-04	Arlington Heights	919	-	1,967	1,967	8.00%	0.00%	14.73%	0.00%
PA 1-05	Allegheny Dwellings	-	222,931	3,011	3,011	0.00%	9.64%	29.17%	0.00%
PA 1-09	Northview Heights	3,550	-	7,596	7,596	6.34%	0.00%	30.91%	0.00%
PA 1-09H	Northview High Rise	355	-	759	759	5.70%	0.00%	27.81%	0.00%
PA 1-11	Hamilton-Larimer	268	-	574	574	13.43%	0.00%	16.52%	0.00%
PA 1-15	Pennsylvania-Bidwell	433	-	928	928	3.86%	0.00%	20.28%	0.00%
PA 1-17	Pressley Street	533	-	1,141	1,141	4.07%	0.00%	18.14%	0.00%
PA 1-20	Homewood North	1,222	-	2,614	2,614	5.12%	0.00%	16.02%	0.00%
PA 1-31	Murray Towers	196	-	418	418	2.94%	0.00%	11.45%	0.00%
PA 1-32	Glen Hazel Family	840	-	1,797	1,797	6.35%	0.00%	16.30%	0.00%
PA 1-40	Mazza Pavilion (Brookline)	89	-	190	190	3.51%	0.00%	14.35%	0.00%
PA 1-41	Caliguiri Plaza (Allentown)	341	-	730	730	8.12%	0.00%	21.13%	0.00%
PA 1-45	Morse Gardens	227	-	485	485	7.56%	0.00%	15.98%	0.00%
PA 1-46	Carrick Regency	198	-	424	424	8.06%	0.00%	14.81%	0.00%
PA 1-47	Gualtieri Manor	96	-	205	205	6.82%	0.00%	13.44%	0.00%
		13,224	**222,931**	**31,308**	**31,308**	**4.65%**	**0.98%**	**19.44%**	**0.00%**

Honeywell

Housing Authority of the City of Pittsburgh

Pittsburgh, PA

Savings Calculations and Cost Estimates

ECM: Low Flow Faucet Restrictors & Shower Heads

Existing Plumbing Fixture Data:

HA Site #	Site Name	# of Kitchen Faucets at gpm flow rate shown		# of Bathroom Lavatory Faucets at gpm flow rate shown		# of Shower Heads at gpm flow rate shown	
		gpm	number	gpm	number	gpm	number
PA 1-01	Addison Terrace	2.2	692	2.15	701	2.5	203
PA 1-02	Bedford Dwellings	2.15	426	1.75	433	2.5	442
PA 1-04	Arlington Heights	2.5	145	2.1	145	2.5	86
PA 1-05	Allegheny Dwellings	2.2	287	1.93	293	2.5	276
PA 1-09	Northview Heights	2.2	504	1.63	542	2.4	276
PA 1-09H	Northview High Rise	2.2	113	1.5	124	2.35	107
PA 1-11	Hamilton-Larimer	1.75	30	2.16	60	2.23	60
PA 1-15	Pennsylvania-Bidwell	2.1	123	2.03	123	2.5	121
PA 1-17	Pressley Street	2.2	213	2.2	219	1.75	211
PA 1-20	Homewood North	2.15	137	1.5	179	2.5	151
PA 1-31	Murray Towers	2.2	70	2.2	71	2.5	70
PA 1-32	Glen Hazel Family	2.15	143	1.75	237	2.05	150
PA 1-40	Mazza Pavilion (Brookline)	2	31	2.1	33	2.5	30
PA 1-41	Caliguiri Plaza (Allentown)	2.07	105	2.2	107	2.5	104
PA 1-44	Finello Pavilion (South Oakland)	2.2	61	2.2	63	2.5	60
PA 1-45	Morse Gardens	2.1	71	2.2	73	2.5	70
PA 1-46	Carrick Regency	2.2	68	2.2	69	2.5	66
PA 1-47	Gualtieri Manor	2.2	33	2.2	33	2.5	31
	Total of all Sites		**3351**		**3609**		**2618**

Housing Authority of the City of Pittsburgh

Honeywell

Pittsburgh, PA

Savings Calculations and Cost Estimates

ECM: Low Flow Faucet Restrictors & Shower Heads

Water Savings Calculations (Gallons):

Gas water heater efficiency 52%

			New Kitchen Faucet Flow, GPM 1.50			New Bathroom Faucet Flow, GPM 0.50		Hot Water as % of Total 43%	New Shower Head flow, GPM 1.50		
		Kitchen Faucet Aerators			Bathroom Faucet Aerators			Low Flow Shower Heads			
HA Site #	Site Name	Average Existing Flow, GPM	Usage Minutes per Day per Resident	Annual Gallons Saved	Average Existing Flow, GPM	Usage Minutes per Day per Resident	Annual Gallons Saved	Average Existing Flow, GPM	Usage Minutes per Day per Resident	Annual Gallons Saved	Total Gallons Saved
PA 1-01	Addison Terrace	2.2	5.4	2,523,915	2.2	2.7	2,974,614	2.5	5.3	2,970,619	8,469,148
PA 1-02	Bedford Dwellings	2.2	5.4	1,386,061	1.8	2.7	1,332,751	2.5	5.3	2,063,863	4,782,675
PA 1-04	Arlington Heights	2.5	5.4	703,186	2.1	2.7	562,549	2.5	5.3	701,290	1,967,024
PA 1-05	Allegheny Dwellings	2.2	5.4	841,179	1.9	2.7	859,204	2.5	5.3	1,310,233	3,010,616
PA 1-09	Northview Heights	2.2	5.4	2,589,985	1.6	2.7	2,090,488	2.4	5.3	3,503,347	8,183,820
PA 1-09H	Northview High Rise	2.2	5.4	280,079	1.5	2.7	200,057	2.4	5.3	279,038	759,174
PA 1-11	Hamilton-Larimer	1.8	5.4	80,749	2.2	2.7	268,088	2.2	5.3	225,385	574,222
PA 1-15	Pennsylvania-Bidwell	2.1	5.4	236,576	2.0	2.7	301,634	2.5	5.3	389,318	927,529
PA 1-17	Pressley Street	2.2	5.4	445,827	2.2	2.7	541,361	1.8	5.3	153,415	1,140,603
PA 1-20	Homewood North	2.2	5.4	802,829	1.5	2.7	617,561	2.5	5.3	1,193,887	2,614,277
PA 1-31	Murray Towers	2.2	5.4	114,946	2.2	2.7	139,578	2.5	5.3	163,920	418,444
PA 1-32	Glen Hazel Family	2.2	5.4	649,543	1.8	2.7	624,561	2.1	5.3	522,578	1,796,682
PA 1-40	Mazza Pavilion (Brookline)	2.0	5.4	43,068	2.1	2.7	68,909	2.5	5.3	78,347	190,325
PA 1-41	Caliguiri Plaza (Allentown)	2.1	5.4	175,261	2.2	2.7	261,355	2.5	5.3	293,077	729,693
PA 1-44	Finello Pavilion (South Oakland)	2.2	5.4	124,173	2.2	2.7	150,782	2.5	5.3	174,105	449,060
PA 1-45	Morse Gardens	2.1	5.4	116,647	2.2	2.7	165,250	2.5	5.3	203,123	485,020
PA 1-46	Carrick Regency	2.2	5.4	110,153	2.2	2.7	133,758	2.5	5.3	179,909	423,820
PA 1-47	Gualtieri Manor	2.2	5.4	61,397	2.2	2.7	74,553	2.5	5.3	69,424	205,373
	Total of all Sites			**11,285,575**			**11,367,051**			**14,474,877**	**37,127,504**

Honeywell

Housing Authority of the City of Pittsburgh

Pittsburgh, PA

Savings Calculations and Cost Estimates

ECM: Low Flow Faucet Restrictors & Shower Heads

Annual Gallons Saved per Year= dG = (Qe-Qn) x M x R x 365
Annual Gas Savings per Year= Gas = TS x % x Cw x dT x Mcf/Btu x Eff.
Annual Electric Savings per Year= Elec = TS x % x Cw x dT x kWh/Btu

Where:
dT= Temperature rise in water heater
Cw= Heat capacity of water, Btu/Gallon/Deg.F
M=Minutes per Day per Resident
TS= Total gallons saved per site per year
%= Percent of water used that is hot water
Qe= Existing fixture flow, GPM
Qn= New fixture flow, GPM
R= Number of actual residents: Total possible residents x Occupancy %

Handbook of Water Use and Conservation - Amy Vickers
Showers - 8.2 min. per Shower, 5.3 min. per day per person Pg. 88
Faucets - 8.1 min. per day per person Pg. 103

Housing Authority of the City of Pittsburgh

Honeywell

Pittsburgh, PA

Savings Calculations and Cost Estimates

ECM: **Retrofit Bathrooms with New 1.0 GPF Assisted Flush Water Closets**

HA Site #	Site Name	Annual Savings				Savings % of Total			
		Natural Gas - MCF	Electric - kWh	Water - Mgals	Sewer - Mgals	Natural Gas - MCF	Electric - kWh	Water - Mgals	Sewer - Mgals
PA 1-01	Addison Terrace			1,592	1,592			3.03%	0.00%
PA 1-04	Arlington Heights			2,443	2,443			18.29%	0.00%
PA 1-05	Allegheny Dwellings			702	702			6.80%	0.00%
PA 1-09	Northview Heights			1,936	1,936			7.88%	0.00%
PA 1-09H	Northview High Rise			176	176			6.44%	0.00%
PA 1-11	Hamilton-Larimer			1,216	1,216			34.98%	0.00%
PA 1-15	Pennsylvania-Bidwell			1,043	1,043			22.81%	0.00%
PA 1-17	Pressley Street			2,014	2,014			32.03%	0.00%
PA 1-20	Homewood North			640	640			3.92%	0.00%
PA 1-31	Murray Towers			516	516			14.12%	0.00%
PA 1-32	Glen Hazel Family			764	764			6.93%	0.00%
PA 1-40	Mazza Pavilion (Brookline)			63	63			4.75%	0.00%
PA 1-41	Caliguiri Plaza (Allentown)			1,040	1,040			30.13%	0.00%
PA 1-45	Morse Gardens			372	372			12.25%	0.00%
PA 1-46	Carrick Regency			490	490			17.13%	0.00%
PA 1-47	Gualtieri Manor			129	129			8.42%	0.00%
				15,135	**15,135**			**9.40%**	**0.00%**

Honeywell

Housing Authority of the City of Pittsburgh

Pittsburgh, PA

Savings Calculations and Cost Estimates

ECM: **Retrofit Bathrooms with New 1.0 GPF Assisted Flush Water Closets**

Water Savings Calculations:

New Water Closet flow, GPF: **1.2**

HA Site #	Site Name	# of Water Closets at gpf rate shown				Average Existing gpf	Flushes per day per Resident	Annual Flushes	Annual Gallons Saved
		gpf	number	gpf	number				
PA 1-01	Addison Terrace	1.6	707			1.6	7.1	**3,979,509**	1,591,804
PA 1-04	Arlington Heights	3.8	145			3.8	7.1	**939,464**	2,442,607
PA 1-05	Allegheny Dwellings	1.6	313			1.6	7.1	**1,755,217**	702,087
PA 1-09	Northview Heights	1.6	552			1.6	7.1	**5,214,626**	2,085,850
PA 1-09H	Northview High Rise	1.6	125			1.6	7.1	**439,772**	175,909
PA 1-11	Hamilton-Larimer	4.1	60			4.1	7.1	**413,603**	1,215,994
PA 1-15	Pennsylvania-Bidwell	3.2	125			3.2	7.1	**521,539**	1,043,079
PA 1-17	Pressley Street	3.7	219			3.7	7.1	**822,070**	2,014,073
PA 1-20	Homewood North	1.6	178			1.6	7.1	**1,599,359**	639,743
PA 1-31	Murray Towers	3.6	71			3.6	7.1	**219,592**	516,040
PA 1-32	Glen Hazel Family	1.8	238			1.8	7.1	**1,272,831**	763,699
PA 1-40	Mazza Pavilion (Brookline)	1.8	33			1.8	7.1	**104,956**	62,973
PA 1-41	Caliguiri Plaza (Allentown)	3.9	108			3.9	7.1	**392,612**	1,040,422
PA 1-45	Morse Gardens	2.6	73			2.6	7.1	**272,108**	371,880
PA 1-46	Carrick Regency	3.2	70			3.2	7.1	**241,010**	490,053
PA 1-47	Gualtieri Manor	2.6	33			2.6	7.1	**93,001**	128,652
	Total of all Sites		**3,050**		-			**$ 18,281,269**	**15,284,865**

Honeywell

Housing Authority of the City of Pittsburgh

Pittsburgh, PA

Savings Calculations and Cost Estimates

ECM: Seal Building Envelope Air Leaks.

HA Site #	Site Name	Annual Savings				Savings % of Total			
		Natural Gas - MCF	Electric - kWh	Water - Mgals	Sewer - Mgals	Natural Gas - MCF	Electric - kWh	Water - Mgals	Sewer - Mgals
PA 1-01	Addison Terrace	1,676	17,919			2.99%	0.42%		
PA 1-02	Bedford Dwellings	288	3,075			0.55%	0.10%		
PA 1-04	Arlington Heights	358	3,829			3.12%	0.57%		
PA 1-05	Allegheny Dwellings	636	7,255			3.70%	0.31%		
PA 1-09H	Northview High Rise	63	585			1.02%	0.13%		
PA 1-15	Pennsylvania-Bidwell	345	3,688			3.07%	0.55%		
PA 1-17	Pressley Street	539	4,321			4.11%	0.30%		
PA 1-20	Homewood North	739	7,904			3.10%	0.85%		
PA 1-31	Murray Towers	56	674			0.84%	0.16%		
PA 1-40	Mazza Pavilion (Brookline)	14	154			0.57%	0.06%		
PA 1-41	Caliguiri Plaza (Allentown)	131	1,161			3.12%	0.14%		
PA 1-44	Finello Pavilion (South Oakland	65	668			4.08%	0.14%		
PA 1-46	Carrick Regency	132	1,170			5.37%	0.18%		
		5,042	**52,403**			1.77%	0.23%		

Housing Authority of the City of Pittsburgh

Honeywell

Pittsburgh, PA

Savings Calculations and Cost Estimates

ECM: Seal Building Envelope Air Leaks.

HA Site #	Site Name	Present Annual Heating Usages		CFM Saved	Calculated Annual Savings				
		MCFs	KWhs		Htg. Eff.	Gas MCFs	Htg.kWh	EER	Clg.kWh
PA 1-01	Addison Terrace	48,812	-	**8,570**	75%	1,676	-	9	17,919
PA 1-02	Bedford Dwellings	41,774	-	**1,471**	75%	288	-	9	3,075
PA 1-04	Arlington Heights	9,308	-	**1,831**	75%	358	-	9	3,829
PA 1-05	Allegheny Dwellings	16,009	-	**3,470**	80%	636	-	9	7,255
PA 1-09H	Northview High Rise	4,979	-	**280**	65%	63	-	9	585
PA 1-15	Pennsylvania-Bidwell	9,326	-	**1,764**	75%	345	-	9	3,688
PA 1-17	Pressley Street	11,137	-	**2,755**	75%	539	-	12	4,321
PA 1-20	Homewood North	20,267	-	**3,780**	75%	739	-	9	7,904
PA 1-31	Murray Towers	5,388	-	**323**	85%	56	-	9	674
PA 1-40	Mazza Pavilion (Brookline)	2,228	-	**82**	83%	14	-	10	154
PA 1-41	Caliguiri Plaza (Allentown)	3,527	-	**740**	83%	131	-	12	1,161
PA 1-44	Finello Pavilion (South Oakland	1,291	-	**355**	80%	65	-	10	668
PA 1-46	Carrick Regency	2,235	-	**746**	83%	132	-	12	1,170
	Total	**237,125**	**-**			**5,042**	**-**		**52,403**

***MCF Saved Calcs** MCF/yr. = cfm x Ca x DDh x 24 / 1030000 / Eh

***kWh Saved Calcs** Heating kWh/yr. = dcfm x Ca x DDh x 24 / 3413 / Eh
Cooling kWh/yr. = dcfm x Ca x DDc x 24 / 3413 / Ec

Where:
dcfm= Change in Infiltration Rate, Cu. Ft./ Min.
Eh= Heating Efficiency
EER= Energy Efficiency Ratio, Btu/kWh
DDh= Heating Degree Days per Year
DDc= Cooling Degree Days per Year
Ca= Heat capacity factor for air

Housing Authority of the City of Pittsburgh

Honeywell

Pittsburgh, PA

Savings Calculations and Cost Estimates

ECM: Roof Replacement with Added Insulation

HA Site #	Site Name	Annual Savings				Savings % of Total			
		Natural Gas MCF	Electric - kWh	Water - Mgals	Sewer - Mgals	Natural Gas - MCF	Electric - kWh	Water - Mgals	Sewer - Mgals
PA 1-02	Bedford Dwellings	-	-			0.00%	0.00%		
PA 1-04	Arlington Heights	123	1,319			1.07%	0.20%		
PA 1-09	Northview Heights	425	4,548			0.76%	0.11%		
PA 1-20	Homewood North	219	2,336			0.92%	0.25%		
PA 1-31	Murray Towers	12	146			0.18%	0.03%		
		779	8,349			0.27%	0.04%		

	Solid Area U Value	Absor. Factor
New Roof	0.026	
New Façade		

Cooling Design Tempurature Daily Range= Deg.F

HA Site #	Site Name	Existing Roof			Existing Façade			Heating	Cooling
		SF	U Value	Absor. Factor	SF	U Value	Absor. Factor	COP/Eff.	EER
PA 1-02	Bedford Dwellings	110000	0.062					75%	9
PA 1-04	Arlington Heights	28770	0.050					75%	9
PA 1-09	Northview Heights	283381	0.050					75%	9
PA 1-20	Homewood North	50944	0.050					75%	9
PA 1-31	Murray Towers	6000	0.039					85%	9
		567,465			-				

Housing Authority of the City of Pittsburgh

Honeywell

Pittsburgh, PA

Savings Calculations and Cost Estimates

ECM: Roof Replacement with Added Insulation

		Heating MBtus Saved				Cooling MBtus Saved		
HA Site #	Site Name	Roof *	Façade*	Total MCF Saved	Total kWh Saved	Roof*	Façade*	Total kWh Saved
PA 1-02	Bedford Dwellings	543,193	-	703	-	67,655	-	7,517
PA 1-04	Arlington Heights	95,324	-	123	-	11,873	-	1,319
PA 1-09	Northview Heights	938,934	-	1,215	-	116,944	-	12,994
PA 1-20	Homewood North	168,796	-	219	-	21,023	-	2,336
PA 1-31	Murray Towers	10,572	-	12	-	1,317	-	146
		2,044,837	**-**	**2,623**	**-**	**254,684**	**-**	**28,298**

***Heating MBH Saved Calcs** Roof MBH/yr.= DDh x 24 / 1000 x A x dU
Facade MBH/yr.= DDh x 24 / 1000 x A x dU

***Cooling MBH Saved Calcs** Roof MBH/yr.= DDc x 24 / 1000 x A x dU
Facade MBH/yr.= DDc x 24 / 1000 x A x dU

Where:
DDh= Heating Degree Days per Year
DDc= Cooling Degree Days per Year
dU= Change in Heat Transmission (U) Value
A= Total Area, sf

Housing Authority of the City of Pittsburgh

Honeywell

Pittsburgh, PA

Savings Calculations and Cost Estimates

ECM: Provide and Install Limiting Thermostats

HA Site #	Site Name	Annual Savings				Savings % of Total			
		Natural Gas - MCF	Electric - kWh	Water - Mgals	Sewer - Mgals	Natural Gas - MCF	Electric - kWh	Water - Mgals	Sewer - Mgals
PA 1-04	Arlington Heights	1,194	14,973			10.39%	2.22%		
PA 1-09	Northview Heights	5,678	88,252			10.14%	2.20%		
PA 1-11	Hamilton-Larimer	318	-			15.89%	0.00%		
PA 1-20	Homewood North	1,715	-			7.19%	0.00%		
PA 1-32	Glen Hazel Family	2,294	-			17.35%	0.00%		
PA 1-40	Mazza Pavilion (Brookline)	437	-			17.25%	0.00%		
PA 1-41	Caliguiri Plaza (Allentown)	893	30,433			21.27%	3.73%		
PA 1-44	Finello Pavilion (South Oaklan	452	19,733			28.34%	4.02%		
PA 1-45	Morse Gardens	835	19,469			27.84%	3.39%		
PA 1-46	Carrick Regency	755	15,161			30.74%	2.33%		
PA 1-47	Gualtieri Manor	453	7,751			32.14%	2.68%		
		15,022	**195,772**			5.28%	0.86%		

Housing Authority of the City of Pittsburgh

Honeywell

Pittsburgh, PA

Savings Calculations and Cost Estimates

ECM: Provide and Install Limiting Thermostats

HA Site #	Site Name	Present Modified* Gas Heating MCF/yr	Present Modified* Electric Heating kWh/yr	Present Modified* Electric Cooling kWh/yr	% of Cooling Controlled by Tenant Tstats	Indoor Temp. Heating	Indoor Temp. Cooling	Gas Savings MCF/yr	Electric Htg Savings kWh/yr	Electric Clg Savings kWh/yr
PA 1-04	Arlington Heights	9,486	-	62,618	100%	75	74	1,194	-	14,973
PA 1-09	Northview Heights	48,596	-	397,647	100%	75	74	6,118	-	95,085
PA 1-11	Hamilton-Larimer	1,893	-	19,858	0%	76	74	318	-	-
PA 1-20	Homewood North	20,429	-	76,634	0%	74	74	1,715	-	-
PA 1-32	Glen Hazel Family	10,931	-	186,049	0%	77	74	2,294	-	-
PA 1-40	Mazza Pavilion (Brookline)	2,082	-	33,545	0%	77	74	437	-	-
PA 1-41	Caliguiri Plaza (Allentown)	3,547	-	165,286	77%	78	74	893	-	30,433
PA 1-44	Finello Pavilion (South Oakland	1,346	-	98,241	84%	80	74	452	-	19,733
PA 1-45	Morse Gardens	2,487	-	119,734	68%	80	74	835	-	19,469
PA 1-46	Carrick Regency	2,250	-	91,887	69%	80	74	755	-	15,161
PA 1-47	Gualtieri Manor	1,348	-	55,891	58%	80	74	453	-	7,751

***Modified by changes created by Lighting, Envelope, Window, Door, Roof, Façade,Ventilation,AHU and Ht.Recovery ECMs**

Heating Degree Days @ 60=	4606	Cooling Degree Days @ 70=	292
Heating Degree Days @ 65=	5829	Cooling Degree Days @ 65=	726
DD/Deg.F=	245	DD/Deg.F=	87
% reduction per Deg.F=	4%	% reduction per Deg.F=	12%
Target indoor Temp.=	72	Target indoor Temp.=	76

Housing Authority of the City of Pittsburgh

Honeywell

Pittsburgh, PA

Savings Calculations and Cost Estimates

ECM: Replace Automatic Self-Contained Thermostatic Radiator Control Valves

HA Site #	Site Name	Annual Savings				Savings % of Total			
		Natural Gas - MCF	Electric - kWh	Water - Mgals	Sewer - Mgals	Natural Gas - MCF	Electric - kWh	Water - Mgals	Sewer - Mgals
PA 1-15	Pennsylvania-Bidwell	2,723				24.23%			
PA 1-31	Murray Towers	435				6.53%			
	Totals	3,157				1.11%			

HA Site #	Site name	Quantity of New Radiator Valves	Present Modified* Heating MCF, Gas	Indoor Temp. Heating	MCF Saved
PA 1-15	Pennsylvania-Bidwell	120	9,270	80	2,723
PA 1-31	Murray Towers	68	5,177	75	435

***Modified by changes created by Lighting, Envelope, Window, Door, Roof, Façade,Ventilation,AHU,Tstat and Ht.Recovery ECMs**

Heating Degree Days @ 60=	4606
Heating Degree Days @ 65=	5829
DD/Deg.F=	245
% reduction per Deg.F=	4%
Target indoor Temp.=	73

Housing Authority of the City of Pittsburgh

Honeywell

Pittsburgh, PA

Savings Calculations and Cost Estimates

ECM: Replace Existing Heating/Cooling with Geothermal HVAC

HA Site #	Site Name	Annual Savings				Savings % of Total			
		Natural Gas MCF	Electric - kWh	Water - Mgals	Sewer - Mgals	Natural Gas - MCF	Electric - kWh	Water - Mgals	Sewer - Mgals
PA 1-04	Arlington Heights	8,636	(417,721)			75.16%	-61.88%		
PA 1-09	Northview Heights	37,771	(1,913,397)			67.43%	-47.61%		
PA 1-20	Homewood North	17,592	(848,033)			73.78%	-91.50%		
	Totals	63,999	(3,179,151)			22.49%	-13.98%		

WSHP Cooling EER @ 75F= 18.5 WSHP Heating COP @ 45F = 4.2

HA Site #	Site Name	Gas Modified* Heating Usage MCF/yr.	Electric Modified* Heating Usage kWh/yr.	Electric Modified* Cooling Usage kWh/yr.	% of Bldg Sq.Ft. in System	Existing Cooling EER	Existing Heating Eff.	New Electric Cooling kWh/yr.	Electric Heating kWh/yr.
PA 1-04	Arlington Heights	8,291.6	-	47,645	100%	9	70.0%	23,178	417,048
PA 1-09	Northview Heights	42,918.0	-	302,563	100%	9	70.0%	147,193	2,159,232
PA 1-20	Homewood North	18,714.8	-	76,634	100%	9	75.0%	37,281	941,515

*Modified by changes created by Lighting, Envelope, Window, Door, Roof, Façade,Ventilation,AHU,Tstat Radiator Valve and Ht.Recovery ECMs

Honeywell

Housing Authority of the City of Pittsburgh

Pittsburgh, PA

Savings Calculations and Cost Estimates

ECM: Replace Existing Heating/Cooling with Geothermal HVAC

HA Site #	Site Name	Modified** Gas DHW Usage MCF/yr.	Electric DHW Usage kWh/ yr.	Existing AFUE	% of DHW Provided by WSHP	MCF saved	DHW KWh Added	Fluid Cooler Amps @ 200v	Hours/Year
PA 1-04	Arlington Heights	460		80%	75%	344.7	19,816		
PA 1-09	Northview Heights	1,680		80%	50%	840.2	48,298		
PA 1-20	Homewood North	715		82%	50%	357.7	21,073		

**Modified by changes created by Aerator, Showerhead and Washer ECMs

Honeywell

Housing Authority of the City of Pittsburgh

Pittsburgh, PA

Savings Calculations and Cost Estimates

ECM: Replace Old Space and Domestic Hot Water Boilers with Higher Efficiency Boilers

		Annual Savings				Savings % of Total			
HA Site #	Site Name	Natural Gas - MCF	Electric - kWh	Water - Mgals	Sewer - Mgals	Natural Gas MCF	Electric - kWh	Water - Mgals	Sewer - Mgals
PA 1-45	Morse Gardens	216				7.19%			
	Totals	216	-			0.08%			

		Existing Boilers				New Boilers		
HA Site #	Site Name	Total MBH Output	Estimated Existing Efficiency	Boiler Quantity	Modified* Existing Heating MCFs	Total MBH Output	New Boiler Efficiency	MCFs Saved
PA 1-45	Morse Gardens	1440	80%	1	1652	1440	92%	215.5
		1440		1		1440		215.5

*Modified by changes created by Lighting, Envelope, Window, Door, Roof, Façade,Ventilation,AHU,Tstat Radiator Valve and Ht.Recovery ECMs

Housing Authority of the City of Pittsburgh

Pittsburgh, PA

Savings Calculations and Cost Estimates

Honeywell

ECM: Adjust Ventilation Rates

HA Site #	Site Name	Annual Savings				Savings % of Total			
		Natural Gas - MCF	Electric - kWh	Water - Mgals	Sewer - Mgals	Natural Gas - MCF	Electric - kWh	Water - Mgals	Sewer - Mgals
PA 1-31	Murray Towers	925	-			13.91%	0.00%		
PA 1-40	Mazza Pavilion (Brookline)	479	-			18.90%	0.00%		
		1,404	-			0.49%	0.00%		

Outside Air Readjustment Analysis

Heating Eff.= 80% Cooling SEER= 10

HA Site #	Site Name	Current Total MUA CFM	Proposed Total MUA CFM	% Air Conditioned	Current MUA MCF	Current Htg MUA kWh	Current Clg MUA kWh	MCF Saved	Htg kWh Saved	Clg kWh Saved
PA 1-31	Murray Towers	8,445	3400	0%	1,548	-	-	925	-	-
PA 1-40	Mazza Pavilion (Brookline)	4,110	1500	0%	754	-	-	479	-	-
		12,555	4,900		2,302	-	-	1,404	-	-

Housing Authority of the City of Pittsburgh

Honeywell

Pittsburgh, PA

Savings Calculations and Cost Estimates

ECM: Replace Existing Gas Fired Rooftop Corridor Ventilation Units

		Annual Savings				Savings % of Total			
HA Site #	Site Name	Natural Gas - MCF	Electric - kWh	Water - Mgals	Sewer - Mgals	Natural Gas - MCF	Electric - kWh	Water - Mgals	Sewer - Mgals
PA 1-31	Murray Towers	103	(13,243)			1.55%	-3.06%		
PA 1-40	Mazza Pavilion (Brookline)	60	(6,445)			2.35%	-2.72%		
	Totals	163	(19,688)			0.06%	-0.09%		

			Current Ventilation Units				New Ventilation Units			
HA Site #	Site Name	CFM	Heating Efficiency	MCF per Year*	Cooling kW per Ton	kWh per Year*	Heating Efficiency	MCF per Year*	Cooling kW per Ton	kWh per Year*
PA 1-31	Murray Towers	8445	0.75	1,652		-	0.8	1,548	1	13,243
PA 1-40	Mazza Pavilion (Brookline)	4110	0.75	804		-	0.81	744	1	6,445
	Totals	12,555		2,456		-		2,293		19,688

***MCF per Year Calcs** MCF/yr. = cfm x Ca x H x dT / Eh / 1030000

***kWh per Year Calcs** kWh/yr. = cfm x Ca x Ec x H x dT / 12000

Where:

Ca= Heat capacity factor for air
dT= Change in Temperature, Deg.F
cfm= Airflow Cubic Feet per Minute
H= Hours of Operation at Design Capacity per Year
Eh= Heating Efficiency
Ec= Cooling Efficiency, kW/Ton

Honeywell

Housing Authority of the City of Pittsburgh

Pittsburgh, PA

Savings Calculations and Cost Estimates

ECM: Install Heat Recovery Exchangers on Ventilations Units

		Annual Savings				Savings % of Total			
HA Site #	Site Name	Natural Gas - MCF	Electric - kWh	Water - Mgals	Sewer - Mgals	Natural Gas - MCF	Electric - kWh	Water - Mgals	Sewer - Mgals
PA 1-31	Murray Towers	308	2,666			4.63%	0.62%		
PA 1-40	Mazza Pavilion (Brookline)	136	1,176			5.36%	0.50%		
	Totals	444	3,842			0.16%	0.02%		

HA Site #	Site Name	CFM	Heating Efficiency	MCF per Year*	Cooling kW per Ton	kWh per Year*	Heat Exchanger Efficiency	MCF Saved	kWh Saved
PA 1-31	Murray Towers	3,400	0.81	616	1	5,332	50%	308	2,666
PA 1-40	Mazza Pavilion (Brookline)	1,500	0.81	272	1	2,352	50%	136	1,176
	Totals	4,900		887		7,684		444	3,842

***MCF per Year Calcs** MCF/yr. = cfm x Ca x H x dT / Eh / 1030000

***kWh per Year Calcs** kWh/yr. = cfm x Ca x Ec x H x dT / 12000

Where:

DDh= Heating Degree Days per Year
DDc= Cooling Degree Days per Year
Ca= Heat capacity factor for air
dT= Change in Temperature, Deg.F
cfm= Airflow Cubic Feet per Minute
H= Hours of Operation at Design Capacity per Year
Eh= Heating Efficiency
Ec= Cooling Efficiency, kW/Ton

Housing Authority of the City of Pittsburgh

Honeywell

Pittsburgh, PA

Savings Calculations and Cost Estimates

ECM: Insulate Exterior Duct Runs of Make Up Air Handling Unit

		Annual Savings				Savings % of Total			
HA Site #	Site Name	Natural Gas - MCF	Electric - kWh	Water - Mgals	Sewer - Mgals	Natural Gas - MCF	Electric - kWh	Water - Mgals	Sewer - Mgals
PA 1-31	Murray Towers	20	212			0.31%	0.05%		
		20	212			0.01%	0.00%		

MAU Heating Temp: 85
MAU Cooling Temp: 70
Heating Efficiency: 70.0%
EER: 10

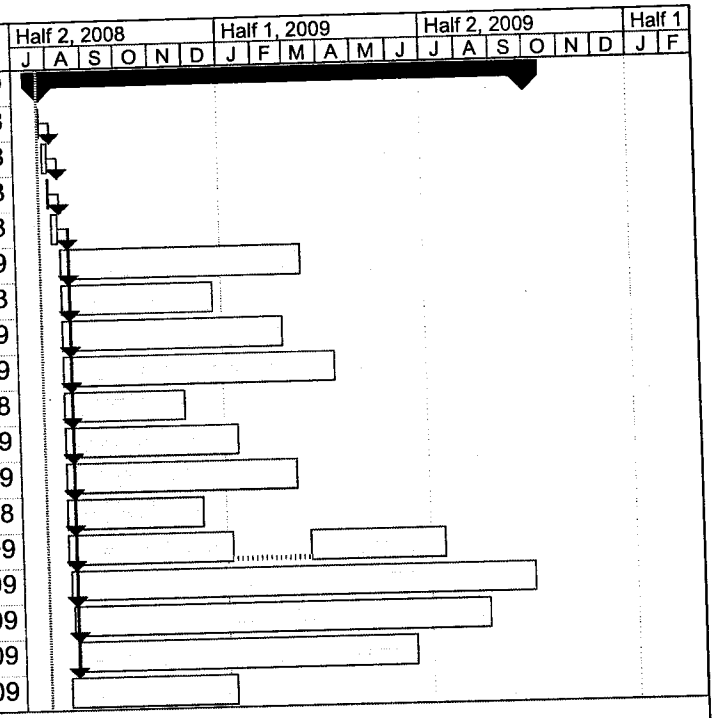
HA Site #	Site Name	Total Surface Area Sq.Ft.	Present U-Factor	Current MCFs	Current kWh	New U-Factor	Heating MCFs Saved	Cooling kWhs Saved
PA 1-31	Murray Towers	100	1	22.8	236.0	0.1	20.5	212
		100					20.5	212.4

*MCF Saved Calcs MCF/yr. = A x dU x H x dT / Bmcf / Eh

*kWh Saved Calcs kWh/yr. = A x dU x H x dT / K / EER

Where:
dU= Change in Heat Transmission (U) Value
H= Equivalent Hours of Operation at Design Capacity per Year
A= Total SF of Duct Surface
dT= Change in Temperature, Deg.F
EER= Energy Efficiency Ratio, MBtu/kWh
Eh= Heating Efficiency
Bmcf= Btus per MCF of natural gas= 1,040,000
K= Watts per Kilowatt= 1000

ID	Task Name	Duration	Start	Finish
1	**HACP Construction Period**	**310 days**	**Fri 7/25/08**	**Thu 10/1/09**
2	Contract Execution	1 day	Fri 7/25/08	Fri 7/25/08
3	Financing Approval	4 days	Mon 7/28/08	Thu 7/31/08
4	Notice to Proceed	1 day	Fri 8/1/08	Fri 8/1/08
5	Mobilization	5 days	Mon 8/4/08	Fri 8/8/08
6	Lighting Retrofit	155 days	Mon 8/11/08	Fri 3/13/09
7	Water Retrofit	97 days	Mon 8/11/08	Tue 12/23/08
8	Building Envelope (Sealant)	141 days	Mon 8/11/08	Mon 2/23/09
9	Roof Insulation	175 days	Mon 8/11/08	Fri 4/10/09
10	Roof Replacement - Murray Towers	78 days	Mon 8/11/08	Wed 11/26/08
11	Limiting Thermostats	111 days	Mon 8/11/08	Mon 1/12/09
12	Radiator Control Valves	149 days	Mon 8/11/08	Thu 3/5/09
13	Refrigerator Replacement	88 days	Mon 8/11/08	Wed 12/10/08
14	Morse Gardens - Boiler Installation	191 days	Mon 8/11/08	Mon 7/13/09
15	Northview Geothermal(465 units)	297 days	Wed 8/13/08	Thu 10/1/09
16	Arlington Heights Geothermal (143 units)	266 days	Fri 8/15/08	Fri 8/21/09
17	Homewood North Geothermal (127 units)	216 days	Tue 8/19/08	Tue 6/16/09
18	Replace Rooftop Ventillation Units	107 days	Mon 8/11/08	Tue 1/6/09



Project: HACP Schedule F (compressed) 23-Jul-08 R1
Date: Wed 7/23/08

Task
Split
Progress
Milestone
Summary
Project Summary
External Tasks
External Milestone
Deadline

SCHEDULE G

STANDARDS OF COMFORT

The temperature setpoints of 72 Degrees Fahrenheit for heating and 76 Degrees Fahrenheit for cooling have been used in calculating energy savings. Any future changes or modifications to these operating parameters will result in a baseline adjustment made in accordance with the applicable provisions of Section 14 of the Energy Services Agreement.

Where lighting modifications are implemented, lighting industry recognized equivalent lighting will be used to replace existing lighting. The lighting retrofit to be implemented will not decrease the designed lumen output in any area.

The maximum temperature setpoints for domestic hot water supply will be 135 Degrees Fahrenheit and for domestic hot water return will be 120 Degrees Fahrenheit.

SCHEDULE H
SUPPORT SERVICES

SUPPORT SERVICES AGREEMENT

Proposal Number: HA-
Date: July 30, 2008
Agreement Number:

By and between:

HONEYWELL International Inc., acting through and on behalf of
Its Automation and Controls Solutions Division
950 Keynote Circle
Brooklyn Heights, Ohio 44131

Housing Authority of the City of Pittsburgh
200 Ross Street
9th Floor
Pittsburgh, PA 15219

Services will be provided for the ECMs at the Premises as set forth in Schedule A of the Agreement.

HONEYWELL shall provide Services in accordance with the attached work scope documents and terms and conditions, which form a part of this Agreement.

☒ **Energy Auditing and Analysis Services**

☒ **Energy Guarantee Special Provisions**

The annual price of **Seventy Two Thousand Three Hundred Forty Two Dollars and No Cents ($72,342.00)**, shall be payable in accordance with Article 3 herein. Service shall commence on upon completion of the Work or the first (1st) day after the expiration of the 14 months following the commencement date as identified in the Notice to Proceed ("Effective Date").

This proposal and the pages attached shall become an Agreement only upon signature below by HONEYWELL and HACP. The Terms and Conditions of this Agreement Document shall apply to Schedule H Support Services agreement.

SUBMITTED BY: _____
(SALES REPRESENTATIVE SIGNATURE)

HONEYWELL International Inc.

Signature: Eugene A Virostko 7/30/08
(Type in Name) Eugene A. Virostko
Title: Project Manager
Date:

CLIENT: **Housing Authority of the City of Pittsburgh**

Signature: 7/29/08
(Type in Name) A. Fulton Meachem Jr.
Title: Executive Director
Date:

SCHEDULE H
SUPPORT SERVICES

GENERAL PROVISIONS

ARTICLE 1. DEFINITIONS

1.1 "Equipment" means the equipment covered by the Services to be performed by HONEYWELL under this Agreement, and is identified in the respective work scope attachments and schedules under the "List of Covered Equipment".

1.2 "Services" means those services and obligations to be undertaken by HONEYWELL in support of HACP pursuant to this Agreement, as more fully detailed in the attached work scope document(s), which are incorporated herein.

ARTICLE 2. COVERAGE

2.1 HACP agrees to provide access to all Equipment covered by this Agreement. HONEYWELL will be free to start and stop all primary equipment incidental to the operation of the mechanical, control, automation, and life safety system(s) as arranged with HACP'S representative.

2.2 RESERVED.

2.3 HONEYWELL will not reload software, nor make repairs or replacements necessitated by reason of negligence or misuse of the Equipment by persons other than HONEYWELL or its employees, or caused by lightning, electrical storm, or other violent weather or by any other cause beyond HONEYWELL'S control. HONEYWELL will provide such services at HACP'S request and at an additional charge. HACP shall be entitled to receive HONEYWELL'S then current preferred-HACP labor rates for such services.

2.4 HONEYWELL may install diagnostic devices and/or software at HONEYWELL'S expense to enhance system operation and support. Upon termination of this Agreement, HONEYWELL may remove these devices and return the system to its original operation. HACP agrees to provide, at its sole expense, connection to the switched telephone network for the diagnostic devices and/or software.

2.5 HONEYWELL and HACP will review the Services delivered under this Agreement on an annual basis, unless otherwise noted.

2.6 RESERVED.

2.7 In the event that the system or any Equipment component thereof is altered, modified, changed or moved by anyone other than Honeywell, this Agreement may be adjusted in accordance with ESA, Section 14.2. HONEYWELL shall not be responsible for any damages resulting from such non-Honeywell alterations, modifications, changes or movement.

2.8 RESERVED.

2.9 RESERVED.

2.10 RESERVED.

2.11 **Working Hours**

2.11.1 All non-emergency services under this Agreement will be performed during the hours of 8:00 a.m. - 4:30 p.m. local time Monday through Friday, excluding federal holidays. If for any reason HACP requests HONEYWELL to furnish any such labor or services outside of the hours of 8:00 a.m. - 4:30 p.m. local time Monday through Friday (or on federal holidays), any overtime or other additional expense occasioned thereby, such as repairs or material costs not included in this Agreement, shall be billed to and paid by HACP.

2.11.2 HACP will notify HONEYWELL of any malfunction in the system(s) or Equipment covered under this Agreement in accordance with ESA Section 11.2; however, in no event will Honeywell have any responsibility to repair or correct the malfunction after the expiration of the warranty.

ARTICLE 3. PRICE AND TERM

3.1 HACP shall pay or cause to be paid to HONEYWELL the full price for the Services as specified on the first page of this Agreement. HONEYWELL shall submit monthly invoices to HACP for Services performed during the prior billing period, and payment shall be due within thirty (30) days after HACP'S receipt of each such acceptable invoice. Undisputed payments for Services past due more than thirty (30) days shall accrue interest from the due date to the date of payment at the rate of one and one-half percent (1.5%) per month, compounded monthly. HACP shall pay all attorney and/or collection fees reasonably incurred by HONEYWELL in collecting any undisputed past due amounts.

3.2 **Term and Price Adjustment**. The initial term of this Agreement will begin on the Effective Date and continue for a period of 12 years. HONEYWELL may annually adjust the amounts charged for the Services provided by the rate of 3%.

3.3 RESERVED.

ARTICLE 4. TERMINATION

4.1 HACP may terminate this Agreement after giving HONEYWELL sixty (60) days advance written notice.

4.2 HONEYWELL may terminate this Agreement for cause (including, but not limited to, HACP'S failure to make payments as agreed in Section 3.1) after giving HACP sixty (60) days advance written notice.

4.3 **Cancellation** - This Agreement may be canceled or modified by mutual agreement of the parties in the event HONEYWELL installed equipment on HACP'S premises is destroyed or substantially damaged or in the event HACP'S premises are destroyed. In the event of such cancellation, neither party shall be liable for damages or subject to any penalty, except that HACP will remain liable for Services rendered to the date of cancellation.

ARTICLE 5. GENERAL TERMS AND CONDITIONS

5.1 **RESERVED.**

5.2 **Assignment and Delegation**

5.2.1 HACP may not assign its rights or delegate its obligations under this Agreement, in whole or in part, without the prior written notice to HONEYWELL. HONEYWELL may assign its right to receive payment to a third party, but only with prior written notice to HACP.

5.3. **Insurance Obligations**

5.3.1 **HONEYWELL shall maintain Commercial General and Automobile Liability Insurance applicable to the Services for not less than the following limits of liability:**

Commercial General Liability		
Combined Single Limit	$3,000,000	Each Occurrence
	$10,000,000	Product & Completed Operations Aggregate
Commercial Automobile Liability		
Combined Single Limit	$1,000,000	Each Occurrence
Workers' Compensation	Statutory	

5.3.2 **HACP shall be responsible for maintaining its own liability and property insurance.**

5.4 **Hazardous Materials**

5.4.1 **See, ESA Section 34.**

5.5 **Warranties and Limitation of Liability**

5.5.1 **See, ESA Sections 6.1 through 6.3.**

5.5.3 HONEYWELL shall not be liable for damages caused by delay or interruption in Services due to fire, flood, corrosive substances in the air, strike, lockout, dispute with workmen, inability to obtain material or services, commotion, war, acts of God or any other cause beyond HONEYWELL'S reasonable control. Should any part of the system or any Equipment be damaged by fire, water, lightning, acts of God, third parties or any other cause beyond the control of HONEYWELL, any repairs or replacement shall be paid for by HACP.

5.6 **Indemnity and Limitation of Liability**

5.6.1 **See, ESA Sections 15.2 and 15.3.** Such indemnity obligation is valid only to the extent HACP gives HONEYWELL prompt notice in writing of any such claims and permits HONEYWELL, through counsel of its choice, to answer the claims and defend any related suit. IN NO EVENT SHALL EITHER PARTY BE LIABLE FOR ANY SPECIAL, INCIDENTAL, INDIRECT, SPECULATIVE, REMOTE, OR CONSEQUENTIAL DAMAGES ARISING FROM, RELATING TO, OR CONNECTED WITH THE SERVICES, EQUIPMENT, MATERIALS, OR ANY GOODS PROVIDED HEREUNDER.

ARTICLE 6. MISCELLANEOUS

6.1 EXTENT OF AGREEMENT: This Agreement represents the entire Agreement between HACP and HONEYWELL for the Services described herein and supersedes all prior negotiations, representations or Agreements between the Parties related to the Services described herein.

6.2 None of the provisions of this Agreement shall be modified, altered, changed or voided by any subsequent Purchase Order or other document unilaterally issued by HACP that relates to the subject matter of this Agreement. This Agreement may be amended only by written instrument signed by both Parties.

6.3 This Agreement shall be governed by the law of the Commonwealth of Pennsylvania.

6.4 Any provision or part of this Agreement held to be void or unenforceable under any laws or regulations shall be deemed stricken, and all remaining provisions shall continue to be valid and binding upon HONEYWELL and HACP, who agree that this Agreement shall be reformed to replace such stricken provision or part thereof with a valid and enforceable provision that comes as close as possible to expressing the intention of the stricken provision.

ARTICLE 7. PATENT INDEMNITY

7.1 HONEYWELL shall, at its expense, defend or, at its option, settle any suit that may be instituted against HACP for alleged infringement of any United States patents related to the hardware manufactured and provided by HONEYWELL under this Agreement, provided that a) such alleged infringement consists only in the use of such hardware by itself and not as part of, or in combination with, any other devices, parts or software not provided by HONEYWELL hereunder, b) HACP gives HONEYWELL immediate notice in writing of any such suit and permits HONEYWELL, through counsel of its choice, to answer the charge of infringement and defend such suit, and c) HACP gives HONEYWELL all needed information, assistance and authority, at HONEYWELL'S expense, to enable HONEYWELL to defend such suit.

7.2 If such a suit has occurred, or in HONEYWELL'S opinion is likely to occur, HONEYWELL may, at its election and expense: a) obtain for HACP the right to continue using such equipment; b) replace, correct or modify it so that it is not infringing; or c) remove such equipment and grant HACP a credit therefore, as depreciated.

SCHEDULE H
SUPPORT SERVICES

7.3 In the case of a final award of damages in any such suit, HONEYWELL will pay such award. HONEYWELL shall not, however, be responsible for any settlement made without its written consent.

7.4 THIS ARTICLE STATES HONEYWELL'S TOTAL LIABILITY AND HACP'S SOLE REMEDY FOR ANY ACTUAL OR ALLEGED INFRINGEMENT OF ANY PATENT BY THE HARDWARE MANUFACTURED AND PROVIDED BY HONEYWELL HEREUNDER. IN NO EVENT SHALL HONEYWELL BE LIABLE FOR ANY INDIRECT, SPECIAL OR CONSEQUENTIAL DAMAGES RESULTING FROM ANY SUCH ACTUAL OR ALLEGED INFRINGEMENT, EXCEPT AS SET FORTH IN THIS ARTICLE 7.

ARTICLE 8. APPROPRIATIONS AND ESSENTIAL USE

8.1 HACP reasonably believes that sufficient funds can be obtained to make all payments for the initial term, as described in Paragraph 3.2. of the Agreement. In the event no funds or insufficient funds are appropriated and budgeted for the acquisition, retention or operation of the Equipment and Services under the Agreement, then HACP shall, not less than sixty (60) days prior to the end of such applicable fiscal period, in writing, notify HONEYWELL (and its assignee, if any) of such occurrence. The Agreement shall thereafter terminate and be rendered null and void on the last day of the fiscal period for which appropriations were made without penalty, liability or expense to HACP of any kind, except as to HACP'S obligation to pay for services performed prior to receipt of notice of termination by Honeywell. In the event of such termination, HACP agrees to peaceably surrender possession of any Equipment owned by HONEYWELL to HONEYWELL (or its assignee, if any). HONEYWELL (or its assignee, if any) may exercise all available legal and equitable rights and remedies in retaking possession of any Equipment provided and owned by HONEYWELL under this Agreement.

8.2 Actual energy savings achieved by Honeywell shall and must be sufficient to cover any and all fees to be paid by HACP with respect to Support Service to be provided by Honeywell pursuant to this Agreement, though the Parties agree that annual reconciliation of savings will occur in the year that follows each year of Support Services payments.

SCHEDULE H
SUPPORT SERVICES

ENERGY GUARANTEE SPECIAL PROVISIONS

These Special Provisions are incorporated herein by reference and made a part of the Honeywell International Inc., Automation and Control Solutions Agreement.

1.1 Client Responsibilities – During the term of this Agreement, for all Equipment covered by the Energy Savings Guarantee of this Agreement, the HACP shall perform on-going maintenance and accomplish component replacement and Equipment repairs in accordance with manufacturer's standards and practices and take all reasonable measures to insure the Equipment is operating at full efficiency. Component replacement and equipment repairs must be accomplished in a timely fashion. Additionally, HACP shall direct all users of the equipment to operate it at all times in accordance with applicable manufacturer's specifications, Honeywell specifications, and the requirements of Schedules B and D contained herein. For all non-Honeywell maintenance actions, HACP shall document and make available to Honeywell maintenance dates and tasks accomplished, the start date and duration of all deficient equipment operation and the subsequent corrective action and/or repair dates. Failure of the HACP to operate the equipment per the specifications, repair any deficiencies in a timely manner, and perform the ongoing maintenance functions in accordance with the standards and practices during the Guarantee period will allow Honeywell to request an adjustment of the Guarantee as provided for under ESA, Section 14.2 and 14.3.

HACP shall replace any failed equipment or component no longer warranted by Honeywell or a Honeywell subcontractor, with equipment or components of equal or greater efficiency value than installed by Honeywell, for the full contract guarantee term.

List of Equipment subject to this provision: Equipment provided or modified as per Schedule A – Scope of Work.

1.2 Client Provided Documentation – It will be the responsibility of the HACP to provide to the M&V specialist:

1. Verification that equipment installed to perform the ECMs has been properly maintained, including but NOT limited to provision of maintenance records.
2. Current status of the buildings (i.e., occupancy level and use, hours of operation, etc.).
3. Records of HACP initiated changes in equipment setpoints, start/stop conditions, usage patterns.
4. Records of HACP initiated changes in operation of mechanical systems, which may impact the ECMs.
5. Records regarding addition or deletion of equipment or building structure, which may impact the ECMs or the building energy consumption.
6. Actual utility bills as required, utility summary data, and access to utility accounts, preferably via Internet access to the applicable utility / utilities.
7. Records and applicable documentation for all electric, water, sewer, and gas utility meter replacements.
8. Records and applicable documentation for all reported and repaired water or gas leaks.
9. Records pertaining to Resident Paid Utility Allowance submissions, and certifications of consumption included therein.

1.3 Remote Diagnostics – If applicable, HACP shall allow Honeywell to perform remote diagnostics on all equipment associated with the Energy Savings Guarantee for operational compliance with the manufacturer's specifications, Honeywell specifications, and the requirements of Schedule D contained herein.

SCHEDULE H
SUPPORT SERVICES

Energy Auditing and Analysis Services

1.1 Scope – HONEYWELL will implement an energy auditing and analysis (EA&A) service for HACP'S facilities. The intent of these services is to satisfy the on-going monitoring requirements defined in Schedule D of this contract. HONEYWELL will perform the services checked below:

EA&A Service #1: ☐ Included ☒ Not Included.
Energy Advisory Report – **HONEYWELL** will provide a report advisory and qualitative in its description. Its intent is to report deficiencies in the current operations of each ECM and observations of site conditions and their possible negative impact on the ECMs that are described in Schedule D. This service will assist in the persistence of energy savings by reporting on changing site conditions, while the determination of the quantity of realized savings is performed under a separate task described in Schedule B and Schedule D. This service does not use utility bill data and the results will not be reconciled to utility account performance. It will be the responsibility of the HACP to investigate and correct the reported deficiencies. It will be the responsibility of the HACP to provide to the M&V specialist the eight (8) categories of support documentation listed in 'Energy Guarantee Special Provisions' included in this Schedule H:

Scope of ECMs covered by Energy Advisory Reporting is: This service is limited to ECMs using measurement and verification methods (M&V) Options A, Option B, or Option D, where on-going instrumented measurements will **not** be made. This service is excluded for Option C monitored ECMs. For HUD specific projects, Options A, B, and D are further coordinated with and defined in Options 1, 2, and 3 in Schedule D and E.
Energy Advisory reports will be submitted: ☐ _____ basis.

EA&A Service #2: ☒ Included ☐ Not Included.
Engineered Calculation Based Cost Avoidance Report – HONEYWELL will analyze HACP'S energy use and costs for a specific Energy Conservation Measure or Site via a *Retrofit Isolation Method* (RIM) against an estimated baseline determined by engineering calculation as defined by Option A, B, or D defined in Schedule D. Since this method does not use utility account data, with the exception of current utility rate schedules, the results from RIM methods will not be reconciled to utility account performance by HONEYWELL. EA&A Service #2 and #3 are mutually exclusive.

Scope of ECMs covered by Engineered Calculation Based Cost Avoidance Reporting is: This service is limited to ECMs using measurement and verification (M&V) methods Options A, B, or D, as defined in Schedule D. Baseline data used as the basis for cost avoidance calculations is defined in Schedule D.

Engineered Calculation Based Cost Avoidance Reports will be submitted: ☒ Annual basis.

EA&A Service #3: ☒ Included ☐ Not Included
Utility Account Based Cost Avoidance Reports – HONEYWELL will analyze HACP'S energy use, rate structures, and costs against an established baseline as defined by Option C in Schedule B and Schedule D. This "established baseline," per Schedule I, will be mutually agreed to by both parties. HONEYWELL will use energy auditing software or custom spreadsheets to track monthly facility costs, energy consumption, and energy savings and to quantify and report on changes in energy usage due to changes from the baseline period. Baseline adjustments will include but not be limited to billing period length, weather, production, occupancy, building load, conditioned building area, equipment operation, and scheduling. EA&A Service #2 and #3 are mutually exclusive.

Scope of ECMs covered by Utility Account Based Cost Avoidance Reporting is: per meter/site list in Schedule D.1.4.1. Baseline data used as the basis for cost avoidance calculations is defined in Schedules D and I.

Utility Account Based Cost Avoidance Report will be submitted: ☒ Annual basis.

SCHEDULE H
SUPPORT SERVICES

1.2 It is understood that there is no requirement for Honeywell to perform evaluations of energy purchasing alternatives or perform rate negotiations under this contract. Switching from the respective electric and natural gas local distribution companies (LDCs) to the respective marketers/brokers/suppliers (SUPPLIERs) for the commodity portion of gas and electricity will be the result of Contract(s) between HACP and SUPPLIER(s). Honeywell does not assure the provision of gas or electricity, and all incentives and payments associated with the Contract(s) between HACP and SUPPLIER(s) are the responsibility of the Parties to that Contract.

1.3 It is understood that all energy rebates and/or refunds are the result of an agreement between HACP and the utility company and HONEYWELL assumes no responsibility for obtaining said rebates and/or refunds.

1.4 **Performance Review** – A review of the Services provided within this Agreement will be performed by HONEYWELL on an annual basis upon HACP request. HONEYWELL and HACP will discuss work performed since the last review and progress against recommendations to further improve performance of the Equipment while lowering overall operating cost.

SCHEDULE I

BASELINE DEVELOPMENT

1.1 **Baseline Utility Data** - The following tables describe the baseline HA Paid Utility data, consumption and costs. The accuracy of this data is limited to the accuracy as it was provided to Honeywell. By execution of this contract, all parties agree this information is true and correct, and to the adjustments made to the raw data.

Baseline Housing Authority Paid Utilities:

Year Ending		Dominion/Equitable	Duquesne	PWSA
2004		Natural Gas - MCF	Electric - kWh	Water - Mgals
HA Site #	Site Name	MCF/yr.	kWh/yr.	Mgal/yr.
PA 1-01	Addison Terrace	62,129	4,006,000	43,970
PA 1-02	Bedford Dwellings	68,807	3,711,680	342,702
PA 1-04	Arlington Heights	10,911	679,600	17,234
PA 1-05	Allegheny Dwellings	18,156	2,283,600	12,193
PA 1-09	Northview Heights	63,004	4,240,980	25,390
PA 1-09H	Northview High Rise	-	-	-
PA 1-11	Hamilton-Larimer	15,728	1,016,800	66,962
PA 1-15	Pennsylvania-Bidwell	10,854	693,000	4,350
PA 1-17	Pressley Street	9,201	1,519,200	5,854
PA 1-20	Homewood North	11,392	919,282	16,662
PA 1-31	Murray Towers	5,039	451,680	3,363
PA 1-32	Glen Hazel Family	135,656	1,031,100	11,200
PA 1-40	Mazza Pavilion (Brookline)	1,788	274,640	732
PA 1-41	Caliguiri Plaza (Allentown)	4,413	485,118	4,007
PA 1-44	Finello Pavilion (South Oakland)	1,479	284,464	18,407
PA 1-45	Morse Gardens	3,366	378,018	3,371
PA 1-46	Carrick Regency	2,900	403,656	2,135
PA 1-47	Gualtieri Manor	1,302	191,272	1,411
		426,126	**22,570,090**	**579,943**

Year Ending		Dominion/Equitable	Duquesne	PWSA
2005		Natural Gas - MCF	Electric - kWh	Water - Mgals
HA Site #	Site Name	MCF/yr.	kWh/yr.	Mgal/yr.
PA 1-01	Addison Terrace	49,702	4,332,400	57,563
PA 1-02	Bedford Dwellings	58,723	2,963,360	318,489
PA 1-04	Arlington Heights	12,194	650,781	13,487
PA 1-05	Allegheny Dwellings	17,290	2,411,911	9,286
PA 1-09	Northview Heights	63,120	4,532,295	33,397
PA 1-09H	Northview High Rise	-	-	-
PA 1-11	Hamilton-Larimer	7,092	938,800	78,085
PA 1-15	Pennsylvania-Bidwell	11,755	600,700	3,924
PA 1-17	Pressley Street	15,231	1,296,900	5,032
PA 1-20	Homewood North	50,571	938,910	14,256
PA 1-31	Murray Towers	4,589	426,880	3,643
PA 1-32	Glen Hazel Family	14,086	1,025,838	12,535
PA 1-40	Mazza Pavilion (Brookline)	1,619	213,120	1,622
PA 1-41	Caliguiri Plaza (Allentown)	4,197	444,230	2,937
PA 1-44	Finello Pavilion (South Oakland)	1,602	278,756	16,305
PA 1-45	Morse Gardens	2,904	320,764	3,049
PA 1-46	Carrick Regency	2,497	410,206	3,420
PA 1-47	Gualtieri Manor	1,583	186,360	2,026
		318,754	**21,972,211**	**579,055**

Year Ending		Dominion/Equitable	Duquesne	PWSA
2006		Natural Gas - MCF	Electric - kWh	Water - Mgals
HA Site #	Site Name	MCF/yr.	kWh/yr.	Mgal/yr.
PA 1-01	Addison Terrace	56,487	4,526,400	56,010
PA 1-02	Bedford Dwellings	29,122	2,952,949	223,217
PA 1-04	Arlington Heights	11,367	694,669	9,344
PA 1-05	Allegheny Dwellings	16,196	2,241,207	9,485
PA 1-09	Northview Heights	60,590	4,623,020	23,120
PA 1-09H	Northview High Rise	-	-	-
PA 1-11	Hamilton-Larimer	19,154	1,054,800	63,510
PA 1-15	Pennsylvania-Bidwell	11,102	708,960	5,446
PA 1-17	Pressley Street	14,874	1,503,300	7,976
PA 1-20	Homewood North	9,567	922,217	18,034
PA 1-31	Murray Towers	4,038	421,440	3,961
PA 1-32	Glen Hazel Family	12,358	1,329,444	9,329
PA 1-40	Mazza Pavilion (Brookline)	1,306	222,480	1,625
PA 1-41	Caliguiri Plaza (Allentown)	3,985	463,536	3,417
PA 1-44	Finello Pavilion (South Oakland)	1,701	304,064	16,128
PA 1-45	Morse Gardens	2,727	315,784	2,688
PA 1-46	Carrick Regency	1,973	470,053	3,030
PA 1-47	Gualtieri Manor	1,339	175,664	1,149
		257,886	**22,929,987**	**457,468**

Three Year Average		Dominion/Equitable	Duquesne	PWSA
		Natural Gas - MCF	Electric - kWh	Water - Mgals
HA Site #	Site Name	MCF/yr.	kWh/yr.	Mgal/yr.
PA 1-01	Addison Terrace	56,106	4,288,267	52,514
PA 1-02	Bedford Dwellings	52,217	3,209,330	294,803
PA 1-04	Arlington Heights	11,491	675,017	13,355
PA 1-05	Allegheny Dwellings	17,214	2,312,239	10,321
PA 1-09	Northview Heights	62,238	4,465,432	27,302
PA 1-09H	Northview High Rise	-	-	-
PA 1-11	Hamilton-Larimer	13,991	1,003,467	69,519
PA 1-15	Pennsylvania-Bidwell	11,237	667,553	4,573
PA 1-17	Pressley Street	13,102	1,439,800	6,287
PA 1-20	Homewood North	23,843	926,803	16,317
PA 1-31	Murray Towers	4,555	433,333	3,656
PA 1-32	Glen Hazel Family	54,034	1,128,794	11,021
PA 1-40	Mazza Pavilion (Brookline)	1,571	236,747	1,326
PA 1-41	Caliguiri Plaza (Allentown)	4,198	464,295	3,454
PA 1-44	Finello Pavilion (South Oakland)	1,594	289,095	16,947
PA 1-45	Morse Gardens	2,999	338,189	3,036
PA 1-46	Carrick Regency	2,456	427,972	2,861
PA 1-47	Gualtieri Manor	1,408	184,432	1,529
		334,255	**22,490,763**	**538,822**

Adjustments:

Use Current Rates
Separate Northview usage between Heights and Highrise
Remove Auburn Towers usage from Hamilton Larimer
Remove 2004 from average
Add Ventilation Heating MCFs to Murray and Mazza

Remove Water Usage Due to Baseline Anomolies

Adjusted Base		Dominion/Equitable Natural Gas - MCF			Duquesne Electric - kWh			PWSA Water - Mgals			Total
HA Site #	Site Name	MCF/yr.	Cost/yr.	$ per MCF	kWh/yr.	Cost/yr.	$ per kWh	Mgal/yr.	Cost/yr.	$ per Mgals	Cost/yr.
PA 1-01	Addison Terrace	56,106	$ 1,114,862	$ 19.87	4,288,267	$ 488,005	$ 0.1138	52,514	$ 486,808	$ 9.27	$ 2,089,674
PA 1-02	Bedford Dwellings	52,217	$ 1,037,590	$ 19.87	3,209,330	$ 365,222	$ 0.1138			$ -	$ 1,402,811
PA 1-04	Arlington Heights	11,491	$ 228,332	$ 19.87	675,017	$ 76,817	$ 0.1138	13,355	$ 123,801	$ 9.27	$ 428,949
PA 1-05	Allegheny Dwellings	17,214	$ 342,053	$ 19.87	2,312,239	$ 263,133	$ 0.1138	10,321	$ 95,679	$ 9.27	$ 700,864
PA 1-09	Northview Heights	56,014	$ 1,113,030	$ 19.87	4,018,889	$ 457,350	$ 0.1138	24,572	$ 227,782	$ 9.27	$ 1,798,162
PA 1-09H	Northview High Rise	6,224	$ 123,670	$ 19.87	446,543	$ 50,817	$ 0.1138	2,730	$ 25,309	$ 9.27	$ 199,796
PA 1-11	Hamilton-Larimer	1,999	$ 39,716	$ 19.87	143,352	$ 16,314	$ 0.1138	3,476	$ 32,222	$ 9.27	$ 88,252
PA 1-15	Pennsylvania-Bidwell	11,237	$ 223,279	$ 19.87	667,553	$ 75,968	$ 0.1138	4,573	$ 42,396	$ 9.27	$ 341,642
PA 1-17	Pressley Street	13,102	$ 260,345	$ 19.87	1,439,800	$ 163,849	$ 0.1138	6,287	$ 58,284	$ 9.27	$ 482,477
PA 1-20	Homewood North	23,843	$ 473,784	$ 19.87	926,803	$ 105,470	$ 0.1138	16,317	$ 151,258	$ 9.27	$ 730,512
PA 1-31	Murray Towers	6,651	$ 132,166	$ 19.87	433,333	$ 49,313	$ 0.1138	3,656	$ 33,888	$ 9.27	$ 215,367
PA 1-32	Glen Hazel Family	13,222	$ 262,732	$ 19.87	1,128,794	$ 128,457	$ 0.1138	11,021	$ 102,168	$ 9.27	$ 493,356
PA 1-40	Mazza Pavilion (Brookline)	2,532	$ 50,314	$ 19.87	236,747	$ 26,942	$ 0.1138	1,326	$ 12,294	$ 9.27	$ 89,549
PA 1-41	Caliguiri Plaza (Allentown)	4,198	$ 83,423	$ 19.87	464,295	$ 52,837	$ 0.1138	3,454	$ 32,015	$ 9.27	$ 168,276
PA 1-44	Finello Pavilion (South Oakland)	1,594	$ 31,677	$ 19.87	289,095	$ 32,899	$ 0.1138			$ -	$ 64,576
PA 1-45	Morse Gardens	2,999	$ 59,588	$ 19.87	338,189	$ 38,486	$ 0.1138	3,036	$ 28,144	$ 9.27	$ 126,217
PA 1-46	Carrick Regency	2,456	$ 48,812	$ 19.87	427,972	$ 48,703	$ 0.1138	2,861	$ 26,525	$ 9.27	$ 124,039
PA 1-47	Gualtieri Manor	1,408	$ 27,980	$ 19.87	184,432	$ 20,988	$ 0.1138	1,529	$ 14,170	$ 9.27	$ 63,138
		284,508	$ 5,653,351	$ 19.87	21,630,648	$ 2,461,568	$ 0.1138	161,029	$ 1,492,741	$ 9.27	$ 9,607,659

The Base Year for energy usage is a three year average of the usage from 2004 through 2006, as shown on the previous pages. This time period was chosen as the baseline in accordance with HUD guidelines. The above baseline energy usage is for the Housing Authority paid utilities, broken down by Site, with adjustments for anomalies included. The detailed data can be found in the IGA document.

Tenant Paid Utilities Baseline:

Annual Utilities Totals by Site
Existing Tenant Paid Utility Allowances

Annual Site Totals		Duquesne Electric - kWh	
HA Site #	Site Name	kWh/yr.	Cost/yr.
PA 1-41	Caliguiri Plaza (Allentown)	350,623.4	$ 48,672
PA 1-44	Finello Pavilion (South Oakland)	202,282.7	$ 28,080
PA 1-45	Morse Gardens	235,996.5	$ 32,760
PA 1-46	Carrick Regency	222,511.0	$ 30,888
PA 1-47	Gualtieri Manor	104,512.7	$ 14,508
		1,115,926	$ 154,908

The values listed above reflect the current utility allowances, use and cost.

Combined HA Paid and Tenant Paid Baseline:

Total Utilities for Entire Authority — **Includes HA and Tenant Paid Utilities**

Adjusted Baseline		Dominion/Equitable			Duquesne			PWSA			Total
		Natural Gas - MCF			Electric - kWh			Water - Mgals			
HA Site #	Site Name	MCF/yr.	Cost/yr.	$ per MCF	kWh/yr.	Cost/yr.	$ per kWh	Mgal/yr.	Cost/yr.	$ per Mgals	Cost/yr.
PA 1-01	Addison Terrace	56,106	$ 1,114,862	$ 19.87	4,288,267	$ 482,859	$ 0.1138	52,514	$ 486,808	$ 9.27	$ 2,084,529
PA 1-02	Bedford Dwellings	52,217	$ 1,037,590	$ 19.87	3,209,330	$ 361,371	$ 0.1138	-	$ -	$ -	$ 1,398,960
PA 1-04	Arlington Heights	11,491	$ 228,332	$ 19.87	675,017	$ 76,007	$ 0.1138	13,355	$ 123,801	$ 9.27	$ 428,139
PA 1-05	Allegheny Dwellings	17,214	$ 342,053	$ 19.87	2,312,239	$ 260,358	$ 0.1138	10,321	$ 95,679	$ 9.27	$ 698,089
PA 1-09	Northview Heights	56,014	$ 1,113,030	$ 19.87	4,018,889	$ 452,527	$ 0.1138	24,572	$ 227,782	$ 9.27	$ 1,793,339
PA 1-09H	Northview High Rise	6,224	$ 123,670	$ 19.87	446,543	$ 50,281	$ 0.1138	2,730	$ 25,309	$ 9.27	$ 199,260
PA 1-11	Hamilton-Larimer	1,999	$ 39,716	$ 19.87	143,352	$ 16,141	$ 0.1138	3,476	$ 32,222	$ 9.27	$ 88,080
PA 1-15	Pennsylvania-Bidwell	11,237	$ 223,279	$ 19.87	667,553	$ 75,167	$ 0.1138	4,573	$ 42,396	$ 9.27	$ 340,841
PA 1-17	Pressley Street	13,102	$ 260,345	$ 19.87	1,439,800	$ 162,121	$ 0.1138	6,287	$ 58,284	$ 9.27	$ 480,750
PA 1-20	Homewood North	23,843	$ 473,784	$ 19.87	926,803	$ 104,358	$ 0.1138	16,317	$ 151,258	$ 9.27	$ 729,400
PA 1-31	Murray Towers	6,651	$ 132,166	$ 19.87	433,333	$ 48,793	$ 0.1138	3,656	$ 33,888	$ 9.27	$ 214,847
PA 1-32	Glen Hazel Family	13,222	$ 262,732	$ 19.87	1,128,794	$ 127,102	$ 0.1138	11,021	$ 102,168	$ 9.27	$ 492,002
PA 1-40	Mazza Pavilion (Brookline)	2,532	$ 50,314	$ 19.87	236,747	$ 26,658	$ 0.1138	1,326	$ 12,294	$ 9.27	$ 89,265
PA 1-41	Caliguiri Plaza (Allentown)	4,198	$ 83,423	$ 19.87	814,918	$ 100,952	$ 0.1138	3,454	$ 32,015	$ 9.27	$ 216,390
PA 1-44	Finello Pavilion (South Oakland)	1,594	$ 31,677	$ 19.87	491,377	$ 60,632	$ 0.1138	-	$ -	$ -	$ 92,309
PA 1-45	Morse Gardens	2,999	$ 59,588	$ 19.87	574,185	$ 70,840	$ 0.1138	3,036	$ 28,144	$ 9.27	$ 158,572
PA 1-46	Carrick Regency	2,456	$ 48,812	$ 19.87	650,483	$ 79,078	$ 0.1138	2,861	$ 26,525	$ 9.27	$ 154,414
PA 1-47	Gualtieri Manor	1,408	$ 27,980	$ 19.87	288,945	$ 35,275	$ 0.1138	1,529	$ 14,170	$ 9.27	$ 77,425
		284,508	$ 5,653,351	$ 19.87	22,746,575	$ 2,590,519	$ 0.1138	161,029	$ 1,492,741	$ 9.27	$ 9,736,611

Note: the Final, combined Baseline costs do not necessarily add up from the HA Paid dollars and Tenant Paid dollars, due to different utility rates used. However, they do line up from a utility usage standpoint.

1.2 Allowable Utility Expense Levels (Resident Paid) - The following tables describe the existing Utility Allowances, the increased baseline Allowable Utility Expense Levels, and the Post Retrofit Utility Allowances, consumption and costs, that will be used as the basis for calculating the cost savings achieved by reducing the Resident Paid Allowances as a result of implementing this program. It is the responsibility of the Housing Authority to apply for the increases and decreases to their Utility Allowances and/or Occupancy levels, prior to and following the implementation of the Energy Conservation Measures. Should these increased or decreased allowances not be in effect prior to, or after, project installation, customer agrees that Honeywell shall not be held liable for any cost savings not realized. By execution of this contract, all parties agree that these calculations are reasonable based on the HUD recommended consumption levels, at the occupancy levels stated, and is not arbitrary or capricious in any way.

Existing/Baseline Allowances:

Existing Allowances Summary

Annual Allowances, Totals by Site

Site Totals		Gas		Electric		Water		Sewer		
Site #	Site Name	MCF/yr.	$/yr.	kWh/yr.	$/yr.	Mgals/yr.	$/yr.	Mgals/yr.	$/yr.	Total $/yr.
PA 1-41	Caliguiri Plaza (Allentown)	-	$ -	350,623.4	$ 48,672	-	$ -	-	$ -	$ 48,672
PA 1-44	Finello Pavilion (South Oakland)	-	$ -	202,282.7	$ 28,080	-	$ -	-	$ -	$ 28,080
PA 1-45	Morse Gardens	-	$ -	235,996.5	$ 32,760	-	$ -	-	$ -	$ 32,760
PA 1-46	Carrick Regency	-	$ -	222,511.0	$ 30,888	-	$ -	-	$ -	$ 30,888
PA 1-47	Gualtieri Manor	-	$ -	104,512.7	$ 14,508	-	$ -	-	$ -	$ 14,508
		-	$ -	1,115,926	$ 154,908	-	$ -	-	$ -	$ 154,908

Existing Monthly Tenant Paid Allowances by # of Bedrooms

				Gas		Electric		Water		Sewer	
Site #	Site Name	# of Bedrooms	# of Units	MCF/mo.	$/mo.	kWh/mo.	$/mo.	M gal/mo.	$/mo.	M gal/mo.	$/mo.
PA 1-41	Caliguiri Plaza (Allentown)	Eff	-	-	$ -	280.9	$ 39.00	-	$ -	-	$ -
		1	104	-	$ -	280.9	$ 39.00	-	$ -	-	$ -
		5	-	-	$ -	-	$ -	-	$ -	-	$ -
PA 1-44	Finello Pavilion (South Oakland)	Eff	-	-	$ -	280.9	$ 39.00	-	$ -	-	$ -
		1	60	-	$ -	280.9	$ 39.00	-	$ -	-	$ -
		5	-	-	$ -	-	$ -	-	$ -	-	$ -
PA 1-45	Morse Gardens	Eff	-	-	$ -	280.9	$ 39.00	-	$ -	-	$ -
		1	70	-	$ -	280.9	$ 39.00	-	$ -	-	$ -
		5	-	-	$ -	-	$ -	-	$ -	-	$ -
PA 1-46	Carrick Regency	Eff	-	-	$ -	280.9	$ 39.00	-	$ -	-	$ -
		1	66	-	$ -	280.9	$ 39.00	-	$ -	-	$ -
		5	-	-	$ -	-	$ -	-	$ -	-	$ -
PA 1-47	Gualtieri Manor	Eff	4	-	$ -	280.9	$ 39.00	-	$ -	-	$ -
		1	27	-	$ -	280.9	$ 39.00	-	$ -	-	$ -
		5	-	-	$ -	-	$ -	-	$ -	-	$ -

Post EPC Allowances (Details of these calculations can be found in the IGA document.):

Summary of Allowances after Energy Retrofit Savings are applied

Annual Allowances at 100% Occupancy, Totals by Site

Site Totals

Site #	Site Name	Gas MCF/yr.	Gas $/yr.	Electric kWh/yr.	Electric $/yr.	Water Mgal/yr.	Water $/yr.	Sewer Mgal/yr.	Sewer $/yr.	Current Occupancy	Total $/yr.
PA 1-41	Caliguiri Plaza (Allentown)	-	$ -	306,660	$ 43,665	-	$ -	-	$ -	97.12%	$ 43,665
PA 1-44	Finello Pavilion (South Oakland)	-	$ -	171,471	$ 24,571	-	$ -	-	$ -	100.00%	$ 24,571
PA 1-45	Morse Gardens	-	$ -	222,762	$ 31,253	-	$ -	-	$ -	100.00%	$ 31,253
PA 1-46	Carrick Regency	-	$ -	193,659	$ 27,602	-	$ -	-	$ -	93.94%	$ 27,602
PA 1-47	Gualtieri Manor	-	$ -	75,624	$ 11,218	-	$ -	-	$ -	80.65%	$ 11,218
		-	$ -	970,175	$ 138,307	-	$ -	-	$ -		$ 138,307

Post Energy Retrofit Monthly Tenant Paid Allowances by # of Bedrooms

Site #	Site Name	# of Bedrooms	# of Units	Gas MCF/mo.	Gas $/mo.	Electric kWh/mo.	Electric $/mo.	Water Mgal/mo.	Water $/mo.	Sewer Mgal/mo.	Sewer $/mo.
PA 1-41	Caliguiri Plaza (Allentown)	Eff	0	-	$ -	245.7	$ 35	-	$ -	-	$ -
		1	104	-	$ -	245.7	$ 35	-	$ -	-	$ -
		5	0	-	$ -	-	$ -	-	$ -	-	$ -
PA 1-44	Finello Pavilion (South Oakland)	Eff	0	-	$ -	238.2	$ 34	-	$ -	-	$ -
		1	60	-	$ -	238.2	$ 34	-	$ -	-	$ -
		5	0	-	$ -	-	$ -	-	$ -	-	$ -
PA 1-45	Morse Gardens	Eff	0	-	$ -	265.2	$ 37	-	$ -	-	$ -
		1	70	-	$ -	265.2	$ 37	-	$ -	-	$ -
		5	0	-	$ -	-	$ -	-	$ -	-	$ -
PA 1-46	Carrick Regency	Eff	0	-	$ -	244.5	$ 35	-	$ -	-	$ -
		1	66	-	$ -	244.5	$ 35	-	$ -	-	$ -
		5	0	-	$ -	-	$ -	-	$ -	-	$ -
PA 1-47	Gualtieri Manor	Eff	4	-	$ -	203.3	$ 30	-	$ -	-	$ -
		1	27	-	$ -	203.3	$ 30	-	$ -	-	$ -
		5	0	-	$ -	-	$ -	-	$ -	-	$ -

1.3 Baseline Utility Rates - The following table describes the utility rates used for savings calculations. These utility rates do not necessarily reflect the rates shown with the baseline utility data in section 1.1. The rates shown below are intended to reflect the most current rates derived from utility information submitted to Honeywell by the Housing Authority.

Gas Rate — Dominion/Equitable

$ **19.87** per MCF for all MCF

Electric Rate — Duquesne

$ **0.1138** per kWh

Water Rate — PWSA

$ **9.27** $/Mgal

Housing Authority Paid and Residential Utilities:
Final Rates used:

Summary of Final Utility Rates:

Gas	$	**19.87**	per MCF
Electric	$	**0.1138**	per kWh
Water	$	**9.27**	per 1000 Gallons

1.4 **Baseline Occupancy Data** - The following table describes the occupancy rates used for savings calculations. During the Performance Period, Baseline consumptions may be adjusted with current occupancy data gathered during each Performance Year, to accurately reflect achievable savings. By execution of this Contract, all parties agree this Baseline data is true and correct.

Occupancy Levels

HA Site #	Site Name	# of Units	# of Vacant Units	As of Date	Actual % of Units Occupied	# of Actual Residents
PA 1-01	Addison Terrace	691	151	31-Oct-07	78.1%	1,536
PA 1-02	Bedford Dwellings	420	29	31-Oct-07	93.1%	1,067
PA 1-04	Arlington Heights	143	8	31-Oct-07	94.4%	363
PA 1-05	Allegheny Dwellings	282	20	31-Oct-07	92.9%	677
PA 1-09	Northview Heights	465	82	31-Oct-07	82.4%	1,848
PA 1-09H	Northview High Rise	91	20	31-Oct-07	78.0%	170
PA 1-11	Hamilton-Larimer	30	2	31-Oct-07	93.3%	160
PA 1-15	Pennsylvania-Bidwell	120	5	31-Oct-07	95.8%	201
PA 1-17	Pressley Street	211	10	31-Oct-07	95.3%	317
PA 1-20	Homewood North	127	4	31-Oct-07	96.9%	581
PA 1-31	Murray Towers	68	1	31-Oct-07	98.5%	85
PA 1-32	Glen Hazel Family	128	4	31-Oct-07	96.9%	491
PA 1-40	Mazza Pavilion (Brookline)	30	3	31-Oct-07	90.0%	41
PA 1-41	Caliguiri Plaza (Allentown)	104	3	31-Oct-07	97.1%	152
PA 1-44	Finello Pavilion (South Oakland)	60	-	31-Oct-07	100.0%	90
PA 1-45	Morse Gardens	70	-	31-Oct-07	100.0%	105
PA 1-46	Carrick Regency	66	4	31-Oct-07	93.9%	93
PA 1-47	Gualtieri Manor	31	6	31-Oct-07	80.6%	36
		3,137	**364**		**88.4%**	**8,011**

1.5 **Raw Baseline Utility Data** - The preceding data was generated from the detailed files included with the IGA, which include raw baseline HA Paid Utility data, Tenant Paid Utilities data, Occupancy data consumption and costs, and Utility Rate data. The accuracy of this data is limited to the accuracy as it was provided to Honeywell. By execution of this contract, all parties agree that this raw baseline HA Paid Utility data is true and correct, is made a part of this agreement, and to any adjustments made.

Honeywell

Schedule J - Project Acceptance Procedure:

Consistent with Work Acceptance-Table A, below, as portions of the Project near completion, the Honeywell Project Manager will start the Project Close-Out Process. The Honeywell Project Manager shall use the Scope-of-Work (SOW) listed in Schedule A as the basis for the Close-Out Process and shall demonstrate to the Owner's Representative that each separate item of the SOW is substantially complete. The sign off process will be by portion of the Scope of Work, by building/site/Equipment Unit or by individual Energy Conservation Measure (ECM) as listed in Table A below. After each portion of the Scope of Work has been demonstrated and a "Punch List" detailing minor deficiencies, if any, is generated, the Owner's Representative shall execute the Partial Acceptance Certificate to acknowledge substantial completion and Honeywell will complete the "Punch List" within two weeks. Execution of this Delivery and Acceptance Certificate signifies the start of the warranty provided in the Agreement for this portion of the Work.

Schedule of Acceptance: The acceptance process will be performed according to the following acceptance schedule:

Work Acceptance - Table A.

Scope of Work	Acceptance By:
Lighting	Floor/Bldg.
Refrigerator Replacement	Bldg.
Water Retrofit	Floor/Bldg.
Building Envelope Improvements	Bldg.
Roof Foaming	Bldg.
Limiting Thermostats	Floor/Bldg.
Temperature Regulating Valves	Floor/Bldg.
Boiler Replacement	Equipment Unit
Ground Source Heat Pump Systems	Unit/Building
Replace Rooftop MUA Unit	Equipment Unit

Support Services: Honeywell will start the Support Services in accordance with the Service Agreement per Schedule H when the Final Acceptance Certificate is signed.

Honeywell

PARTIAL ACCEPTANCE CERTIFICATE

Project Name _____

Agreement Effective Date: _____

Scope-of-Work (SOW) Item, Bldg. /Energy Conservation Measure (ECM):_____

To: Honeywell International Inc.

Reference is made to the above listed Agreement between the undersigned and Honeywell International Inc. and to the Scope of Work as defined in Schedule A herein. In connection therewith, we confirm to you the following:

1. The Scope of Work (SOW) Item/ Energy Conservation Measure (ECM) referenced above and also listed in Schedule A of the Agreement has been demonstrated to the satisfaction of the Owner's Representative as being substantially complete
2. All of the Work has been delivered to and received by the undersigned and that said Work has been examined and /or tested and is in good operating order and condition and is in all respects satisfactory to the undersigned and as represented, and that said Work has been accepted by the undersigned and complies with all terms of the Agreement. Consequently, you are hereby authorized to invoice for the Payment, as defined in Schedule C, Company's Compensation.

Owner Name: _____

By: _____
(Authorized Signature)

_____
(Printed Name and Title)

_____
(Date)

Honeywell

FINAL ACCEPTANCE CERTIFICATE

Project Name _____

Agreement Effective Date: _____

To: Honeywell International Inc.

Reference is made to the above listed Agreement between the undersigned and Honeywell International Inc. and to the Scope of Work as defined in Schedule A herein. In connection therewith, we confirm to you the following:

1. The Complete Scope of Work (SOW) as listed in Schedule A of the Agreement has been demonstrated to the satisfaction of the Owner's Representative as being substantially complete.

2. All of the Work has been delivered to and received by the undersigned and that said Work has been examined and /or tested and is in good operating order and condition and is in all respects satisfactory to the undersigned and as represented, and that said Work has been accepted by the undersigned and complies with all terms of the Agreement. Consequently, you are hereby authorized to invoice for the Final Payment consistent with Schedule C, Company's Compensation.

Owner Name: _____

By: _____
(Authorized Signature)

_____
(Printed Name and Title)

_____
(Date)

Appendix A
Housing Authority of the City of Pittsburgh
Request for Proposal – 600-85-06

HOUSING AUTHORITY OF THE CITY OF PITTSBURGH

REQUEST FOR PROPOSALS for COMPREHENSIVE ENERGY PERFORMANCE SERVICES RFP# 600-85-06

Due
January 19, 2007
2:00 P.M.

To: LaTammie McClung, Esq.
Contracting Officer
201 Kirkpatrick Street
Pittsburgh, PA 15219

HOUSING AUTHORITY OF THE CITY OF PITTSBURGH

REQUEST FOR PROPOSALS
for
COMPREHENSIVE ENERGY PERFORMANCE SERVICES

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SECTION I
INTRODUCTION

The Housing Authority of the City of Pittsburgh ("HACP") hereby requests proposals from qualified and interested Energy Services Companies ("ESCO"s) that are capable of providing comprehensive energy management and energy-related capital improvement services through an Energy Performance Contract ("EPC") that will improve the energy and water efficiency of HACP's developments and/or properties. A third party firm has completed an Energy Audit that meets the requirements of the U.S. Department of Housing and Urban Development ("HUD") under 24 C.F.R §965 et seq. Through this Request for Proposals ("RFP"), HACP seeks to implement cost-effective energy conservation measures under an EPC.

HACP is a municipal corporation, formed under the United States Housing Act of 1937, charged with providing decent, affordable housing for low-income persons. HACP is governed by a seven-member Board of Commissioners which establishes goals, approves policy and budgets, and provides general direction to the HACP Executive Staff. HACP is regulated and funded by the U.S. Department of Housing and Urban Development. HACP procures, executes, manages and oversees all operational contracts and operates its finances in a way that is fiscally responsible and maintains a budget for operational cost including utility cost. HACP provides affordable housing comprised of traditional public housing, scattered sites and Section 8. HACP currently houses more than 20,000 residents more than 6,000 public housing units.

A detailed scope of services is provided in Section III of this Request for Proposals. HACP is contemplating the award of one contract in the form of **Attachment A** through this solicitation process. Any questions regarding this Request for Proposals should be in writing and e-mailed to Ms. LaTammie McClung, Esq., Contracting Officer at McClungL@hacp.org and Mr. Will McDanel, Project Manager at will.mcdanel@hacp.org and also directed to:

LaTammie D. McClung, Esq.
Contracting Officer
Housing Authority of the City of Pittsburgh
201 Kirkpatrick Street
Pittsburgh, PA 15219
412.456.5248
412.456.5007 fax

Following are the Key Dates associated with this Request for Proposals:

Deadline for Submission of Proposals	**January 19, 2007 @ 2:00 PM** To: LaTammie D. McClung, Esq. Contracting Officer Housing Authority of the City of Pittsburgh 201 Kirkpatrick Street Pittsburgh, PA 15219

Pre-Submission Meeting

January 5, 2007 @ 11:00 A.M.
200 Ross Street, 9th Floor Boardroom
Pittsburgh, PA 15219

SECTION II
INTENT

It is the intent of HACP to conduct energy-related capital improvements by implementing a performance-based, guaranteed cost savings Energy Performance Contract. The findings of a Comprehensive Energy Audit of certain HACP owned and managed facilities are set forth in **Attachment B** dated September 30, 2006. The EPC will be comprised of sites and facilities determined by HACP to be most advantageous to incorporate into an EPC. The EPC will have the following characteristics:

- The Energy Performance Contract must comply with U. S. Department of Housing & Urban Development regulations as defined in 24 CFR 990 and 24 CFR 965.
- The EPC should have duration of no more than twenty (20) years.
- Only proposals based on a guaranteed savings agreement will be considered.
- The cost savings or guarantee(s) provided by the ESCO selected pursuant to this RFP must be sufficient to offset all project costs, including annual maintenance and monitoring fees for the duration of the EPC. Each proposal should clearly define arrangements for acquisition, financing and ownership of equipment to be installed as part of this project that responsibly maximize the net economic benefit to HACP or reduces its risk.

SECTION III
SCOPE OF SERVICES

The ESCO selected as a result of this RFP shall provide the following comprehensive energy management and energy-related capital improvement services:

1. The energy efficiency scope of work shall cover lighting, heating and cooling systems, hot water systems, controls, windows, appliances, water measures including plumbing upgrades, building insulation, roofs, elevators, solar powered lights that will illuminate addresses and other energy savings measures the ESCO deems financially viable.

2. Preparing design and specification of energy efficient equipment and systems.

3. Procurement, installation and commissioning of new energy efficient equipment.

4. Preventive and emergency maintenance and servicing of the equipment installed.

5. Staff training related to routine maintenance and daily operation of equipment installed as part of the energy performance agreement.

6. Resident educational training of energy conservation measures affecting dwelling space. ESCO must arrange resident educational training through a designated Housing Authority staff member.

7. The ESCO shall identify and secure financing for the project through a competitive process approved by HACP.

8. The ESCO shall identify financial incentives and rate reductions available from companies supplying fuel oil, natural gas, electricity and transmission and distribution services that complies with HUD's requirements.

9. The ESCO shall prepare reports ranking all energy related measures by project, listing the estimated pay back period, construction cost, energy usage and cost savings, the proposed metering configuration, proposed verification methodology and application of weather adjustments.

10. ESCO must provide monitoring and verification services of energy conservation equipment installed as part of the energy performance contract for the duration of the EPC.

11. ESCO must provide quarterly and annual reports during the duration of the energy performance agreement. Each report must include detailed information on conservation measures performance and savings calculations for each energy conservation measure.

12. ESCO must secure insurance from a major insurance carrier prior to execution of the EPC that will insure the energy savings proposed by the ESCO.

13. ESCO must provide assistance, upon request, in preparing and providing various reports and documentation to the U.S. Department of Housing & Urban Development.

14. Specific standards of comfort will be defined and must be maintained throughout the term of the contract. A registered professional architect/engineer must, at a minimum, review and approve design work done under the EPC resulting from this RFP.

15. The ESCO is required to work with HACP personnel in order to coordinate construction and provide appropriate training HACP staff and residents on how to operate the systems. No equipment shall be installed which would necessitate HACP hiring additional personnel unless contract negotiations produce an explicit exemption from this provision.

16. All specifications and drawings must be provided to HACP for its review and approval prior to installation. Upon final approval, the ESCO must provide final Mylar, reproducible "as built", and (3) sets of record drawings of all existing and modified conditions associated with this project, conforming to typical engineering standards. These should include architectural, mechanical, structural and control drawings and operating manuals. Moreover, if these drawings are produced on a computer, the ESCO will also provide to HACP a copy of the file and one licensed version of the program used to produce the drawing.

17. At least three (3) maintenance manuals per complex will be provided for all equipment provided under the EPC. Manuals are subject to HACP's approval.

18. The ESCO shall provide to HACP at least three (3) copies of record product data.

19. Upon the completion of the final contract, the ESCO shall provide to HACP a single comprehensive schedule of necessary preventative maintenance for all installations for the five-(5) years (Years 21 through 25) following the closeout of the EPC.

SECTION IV
GENERAL REQUIREMENTS

An Offeror may be a business corporation, partnership, firm, joint venture or other legal entity duly organized under the laws of any state and authorized to do business in the City of Pittsburgh, financially sound and able to provide the services being procured by HACP.

If an Offeror has been debarred, suspended or otherwise lawfully precluded from participating in any public procurement activity, such firm shall disclose that information in its offer, which may be sufficient ground for disqualification. If the selected firm fails to disclose such information and HACP discovers it thereafter, then HACP could terminate the contract.

Each Offeror must be in good standing with the Authority, and any Federal, State or Municipality that has or has had a contracting relationship with the Offeror. Therefore, if a Federal, State or Municipal entity has terminated any contract with an Offeror for deficiencies or defaults, the Offeror must disclose such termination and the facts and circumstances involved. The Authority will consider such facts and circumstances during its evaluation of the Offeror's proposal.

SECTION V
CONTENT OF RESPONSE DOCUMENTS

Offerors submitting Proposals should fully read and comprehend the **Instructions to Offerors Non-Construction in Attachment C** and ***General Conditions Non-Construction*** in **Attachment D.** Proposals received without all of the required information may be rejected. Offerors must submit one original plus five (5) copies of their proposal. Proposals must include, in the same order as below and using the forms attached hereto, the following information, exhibits and schedules:

A. General Information

1. Letter of Interest (Cover letter)
2. Type of Organization; Corporation, Partnership, Joint Venture or Sole Proprietorship.
3. Description of the Offeror's range of services that would be provided to HACP under this ESCO.
4. Description of Offeror's capacity to complete the services described in this RFP including staff resources, financial resources, etc.
5. Organizational Certifications:
   (a) Copies of Certificate of Incorporation, Partnership Agreement, Joint Venture or other organizational document.
   (b) A corporate resolution signed by the Secretary of the Corporation and notarized, certifying the name of the individual(s) authorized to sign the offer, the contract and any amendments thereto.

B. General Approach

(1) **Project Summary** – Based on the information provided in this RFP, provide a proforma Project Summary detailing:

a. Anticipated energy measures to be taken.
b. Anticipated schedule for implementing the energy measures.
c. Projected hard costs for implementing the energy measures.
d. Projected soft costs associated with the energy measures.
e. Projected ESCO costs associated with the energy measures.
f. Projected annual energy savings.

(2) **Performance Agreement Financing** – Describe methods of financing your firm has engaged in for Energy Performance Contracts. Include other financing approaches or sources that may be beneficial to HACP for implementing an Energy Performance Contract

C. Previous Related Experience

Describe how Offeror is qualified to provide the requested services. Provide information about Offeror's past experience of same or similar services. Such listing shall include at least the following information:

1. Provide name of the prior clients, where authorized to release such information, and description of work related to the requested scope of services.

2. Name, title and a current telephone number of a contact person for each reference provided. The identified party must be one who has first-hand knowledge regarding the particular matter.

3. Describe the firm's prior experience with project of similar size and scope with other public housing agencies and/or similar organizations.

4. Describe the firm's financial stability and ability to provide adequate backing of guaranteed savings over a minimum twenty-(20) year contract. Please provide a copy of the Firm's most recent financial statement(s).

5. Describe the firm's capacity as it relates to size and available resources to implement capital improvements under an EPC. This shall include the Firm's size and available resources.

6. Describe in a clear and concise manner the firm's technical approach in delivering services required to design, install and maintain the proposed energy efficiency improvements over a twenty-(20) period.

7. Please provide information on at least two-(2) projects for which the firm has secured twenty-(20) year financing and has or is implementing and/or managing under an EPC. This information should include HUD's letter approving the transaction.

D. Proposed Staffing and Sub-consultants Responsibilities and Qualifications

Provide the following information relative to the proposed staffing and sub-consultants for this contact:

1. Provide relevant background information regarding each identified Staff member that briefly and accurately describes his or her employment history and relevant experience providing services similar to those described in this Request for Proposals.

2. Description of the Scope of Services for at least two (2) projects in which the Staff and/or sub-consultant has provided services similar to those described in this Request for Proposals.

3. Please identify any subcontractor with whom the ESCO has an identity of interest.

E. Staff Availability

1. Describe the availability of the Staff proposed and the percentage of time that will be provided for each component.

F. Certifications and Representations of Offerors

Each Offeror must complete the Certifications and Representations of Offerors provided in **Attachment E.**

G. Minority and Women Business Participation

Provide a written plan that describes ways the Offeror will utilize MBE/WBE businesses to comply with HACP and City of Pittsburgh's goal of 17% Minority owned and 6% woman owned business participation. Also, complete the table provided in **Attachment F** and include with your proposal.

H. Section 3 Participation

Provide a written plan that describes ways the Offeror will assist the HACP to comply with HUD's Section 3 requirements for hiring HACP residents and/or local disadvantaged individuals and businesses. A copy of HUD's Section 3 requirement is provided in **Attachment G**.

I. Financial Terms

(1) HACP seeks to structure the EPC such that payments to finance the total project cost, plus payments for ongoing incremental project maintenance shall be paid in full by the value of measured energy savings resulting from the project. The Offeror may propose any underlying project financing mechanism so long as it meets the objectives above and complies with HUD and State laws, rules and regulations. Therefore, describe methods of financing that your firm has engaged in for Energy Performance Contracts. Include other financing approaches or resources that may be beneficial to HACP for implementing an Energy Performance Contract

(2) HACP may participate in the competitive bidding and selection of all construction contractors. Please note that the four-(4) primes rule in Pennsylvania may apply to the selection of construction contractors meaning separate bids for the General, Electrical, Plumbing and HVAC construction contracts. Construction bids will be reviewed with HACP and contractor selection will be jointly determined between the ESCO and HACP. HACP shall approve the bid documents and any subsequent addenda required prior to release. If the Offeror is intending to provide a portion or all of the construction utilizing its own personnel, the process by which the assurance of a competitive construction cost will be insured shall be described in detail in your proposal. None of the ESCOs expenses and/or overheads shall be included in any way as part of the construction bids. A signed certification statement shall be required from the ESCO stating this is true.

(3) For the purpose of calculating the overhead and profit percentages below, the unburdened construction cost shall be defined as the value of the construction bids received from the construction contractors without any additional mark-up by the ESCOs.

(4) Describe in detail the estimated costs associated with the following cost elements:
(a) Design and specifications (A/E)
(b) Project Administration
(c) Cost of Risk such as insurance and bonds.
(d) Construction Management
(e) Staff and Resident Training
(f) Yearly Monitoring and Verification Services including quarterly/annual reporting

J. Fee Proposal

Each ESCO shall provide in a sealed envelope a Fee Proposal setting forth the fees and/or income the ESCO will receive as a result of this project.

K. Firm Demographics

Provide demographic description of all employees of your firm using the table provided in **Attachment H.**

SECTION VI
EVALUATION CRITERIA

The Evaluation Committee will evaluate and will score each proposal that is submitted as a complete response. It is noted that the proposed Fee will be evaluated separately. Responses may receive a maximum score of one hundred (100) points subdivided as follows:

Experience of Firm: **Maximum 15 points**
Offeror's demonstrated experience in providing services described in this RFP including experience with other public housing agencies or other similar organizations. Experience with similar projects will be understood to include development of energy performance contracts to furnish energy services in institutional or commercial facilities of similar size, systems and use.

Experience of Staff Assigned: **Maximum 15 points**
Staff assigned to this engagement has significant experience with work of similar size and scope. The Evaluation Committee will evaluate the documented technical and project administration skills, licensure, certification and experience of the proposed project team. Only those individuals proposed to work directly on the subject project should be included in the proposal. Consistency of staff in the example projects and the proposed team will be given favorable consideration.

Capacity: **Maximum 10 points**
Offeror's demonstrated ability to provide the resources (staffing, equipment, etc.) necessary for the timely and efficient performance of the scope of services.

Technical Approach: **Maximum 15 points**
This criterion will be evaluated based on the quality and comprehensiveness of the technical approach, compliance with HUD requirements, description of the energy baseline methodology, description of measurement and verification methodology, and the preliminary assessment of the energy efficiency opportunities in the sample facilities.

Financial Terms & Viability: **Maximum 30 points**
Consideration will be given to proposals that responsibly maximize the net economic benefit to the HACP over the term of the energy services agreement, and that responsibly minimize the risk to the HACP in connection with the proposed transaction. The savings or guarantees provided by the ESCO selected pursuant to this RFP would fully offset the project costs involved for HACP.

Overhead costs will be evaluated for the value brought to HACP by the proposed approach to project implementation. The percentage of non-HUD incentives that will be given to HACP will be considered in evaluation of the financial benefits of the proposal plus the financial viability and sustainability to perform services described in Request for Proposal and subsequent services necessary for a minimum twenty-(20) year Energy Performance Contract.

Maximum 10 points

MBE/WBE Participation:
The Firm's demonstrated experience and/or commitment to assist HACP in meeting its requirement and goals related to Minority/Women Business subcontracting and employment opportunities.

Maximum 5 points

Section 3 Participation:
Firm demonstrated experience and/or commitment to assist HACP in meeting its requirements and goals related to Section 3.

SECTION VII
PROCUREMENT AND AWARD PROCESS

Pursuant to 24 C.F.R. Section 85.36 (d)(3), energy audit services are being procured as described in Section III of this solicitation. The following instructions are intended to aid Offerors in the preparation of their Proposals:

A. Pre-Submission Conference

A pre-submission conference will be conducted on **January 5, 2007 at 11:00 A.M. at 200 Ross Street, 9th Floor Boardroom, Pittsburgh, PA 15219.** Nothing discussed or expressed at the Pre-Submission Conference will change, alter, amend or otherwise modify the terms of this Solicitation unless a subsequent written amendment (addendum) is issued. Verbal responses by HACP's representatives shall not constitute an amendment or change to this Solicitation.

Material issues raised and addressed at the Pre-Submission Conference shall be answered solely through an addendum to this Solicitation. Likewise, ambiguities and defects of this Solicitation raised at the Pre-Submission Conference shall be corrected by a written amendment only, which, if issued, shall form an integral part hereof.

All prospective respondents are strongly encouraged to attend the Pre-Submission Conference. Failure to attend will not excuse the legal contractual duty imposed by this Solicitation and the subsequent contract on each respondent to familiarize itself with the request for proposals.

Each firm shall submit in writing to the Contracting Officer to request additional information as follows:

1. Describe any items, information, reports or the like, if any, that the Proposer will require from the HACP in order to comply with the Scope of Services.
2. Identify any revisions to the Contract that the Proposer will require in order to provide the services identified herein. Proposers are required to submit requests for revisions to the Contract, if any, to the HACP in writing at the time of proposal submission.

B. Amendments to Solicitation

Any and all amendments to this Solicitation shall be sent by certified mail, return receipt requested, and/or by fax, to all potential Offerors who attend the Pre-Submission Conferences and/or receive the solicitation materials.

Notwithstanding any information that may be contained in the Solicitation and amendments thereto, Offerors are responsible for obtaining all information required thus enabling them to submit Responses.

C. Submission of Proposals and/or Amendments to Proposals; Deadlines

Responses may be hand-delivered or sent by certified or registered mail, return receipt requested, to the following address:

LaTammie D. McClung, Esquire
Contracting Officer
Housing Authority of the City of Pittsburgh
201 Kirkpatrick Street
Pittsburgh, PA 15219

Proposals must be received at the above address no later than **January 19, 2007 at 2:00 P.M.** regardless of the selected delivery mechanism.

Each Response will be date-time stamped immediately upon its receipt at HACP to document its timeliness. Any Proposal received after the specified deadline shall be automatically rejected and will be returned unopened except as identified in the Instructions to Offerors attached hereto.

Any amendments to a response must be received before the specified response due date and time established for the delivery of the original Proposal except as identified in the Instructions to Offerors attached hereto.

D. Evaluation and Award Process

HACP staff will review each Proposal to determine if it was complete and if it was responsive to this Request for Proposals. HACP may allow an Offeror to correct minor deficiencies in its Proposal that do not materially affect the Proposal.

All Proposals determined to be complete and responsive will be provided to an HACP Evaluation Committee. HACP's Evaluation Committee will evaluate the Proposals utilizing the criteria established in Section V of this Request for Proposals. The top ranked ESCOs will be invited to the second phase of the selection process.

HACP reserves the right to interview ESOs in the competitive range, request additional information from selected Offerors and/or negotiate terms and conditions with selected Offerors.

HACP will perform a responsibility determination of the highest ranked Offeror which may include reference and financial background checks.

HACP will award a contract to the highest-ranked Offeror determined to be responsive and responsible and whose offer is in the best interest of HACP.

HACP shall not be responsible for and will not reimburse any Offeror for any cost(s) associated with preparing a proposal.

A proposal submitted by an ESCO does not constitute a contract, nor does it confer any rights on the ESCO to the award of a contract. A letter or other notice of Award or of the intent to Award shall not constitute a contract. A contract is not created until all required signatures are affixed to the contract.

Prior to contract execution of any professional service contracts of $25,000.00 or greater, the selected firm may be required to appear before and present a Minority and Woman Owned Business participation plan to the City of Pittsburgh MBE/WBE Review Board for approval. Any HACP contract of $50,000.00 or more is subject to approval by the HACP Board of Commissioners.

HOUSING AUTHORITY OF THE CITY OF PITTSBURGH

Request for Proposals
For
Comprehensive Energy Performance Services

Attachment A.
Professional Services Contract

PROFESSIONAL SERVICE CONTRACT
FOR

_____

This Agreement is made as of _____ between HOUSING AUTHORITY OF THE CITY OF PITTSBURGH, a body corporate and politic created under the provisions of the Housing Authorities Law, as amended, having its principal office at 200 Ross Street, Pittsburgh, Pennsylvania 15219 ("**Authority**"), and _____a Pennsylvania Corporation, having its principal office at _____, Pittsburgh, PA 152__("**Contractor**").

PREAMBLE

Authority requires _____ and Contractor desires to provide _____ to Authority, all upon the terms and subject to the conditions hereinafter set forth.

AGREEMENT

In consideration of the mutual covenants and promises set forth herein, the parties hereto, intending to be legally bound hereby, agree as follows:

1. **Engagement**. Authority hereby engages Contractor to render the following services set forth on **Exhibit A** (the "**Services**").

Contractor hereby accepts such engagement and covenants that Contractor will devote and will cause its employees to devote their best efforts, knowledge and skill to the performance of the Services and such additional services as may be mutually agreed upon by Authority and Contractor.

It is understood that the Contractor's Services shall be rendered at such times and places as directed by Authority.

Authority may at any time make changes to the Services to be performed. If any such change causes an increase or decrease in the rates or the time required for performance of the Services, Authority shall make an equitable adjustment in the rates and the time required for performance of the Services, and shall modify this Agreement accordingly.

2. **Contractor Conflicts**. Contractor agrees that neither Contractor nor its employees shall, directly or indirectly, engage in any activity, which would detract from Contractor's ability or its employees' ability to apply their best efforts, knowledge and skill to the performance of the Services. Contractor is charged with the responsibility to promptly disclose to Authority any situations that may create possible conflicts of interest so that appropriate action can be taken to address such situations. No member, official, or employee of Authority, during his or her tenure or for one year thereafter, shall have any interest in this Agreement or the proceeds thereof.

Contractor may not participate in the award or administration of a contract supported by Federal funds if a conflict of interest, real or apparent, would be involved.

In the event Contractor is or becomes aware of a conflict of interest and fails to disclose the conflict to Authority; the Authority may immediately terminate this Agreement pursuant to paragraph 7(ii)(b) hereof.

3. **Compensation**. In full compensation for the Services to be rendered by Contractor to Authority hereunder, Authority agrees to pay Contractor for the Services in accord with the Fee Schedule set forth on **Exhibit B;** however, the compensation of fees for services and any reimburseable expenses shall not exceed _____. No work or expenses for which an additional cost or fee will be charged by Contractor shall be furnished without the prior written consent of Authority.

Contractor shall submit monthly invoices to Authority, which invoices shall include an itemization of the hours expended by Contractor and Contractor's employees and the nature of the Services performed and shall be prepared in a form reasonably satisfactory to Authority.

Authority shall use its reasonable business efforts to process and pay each such invoice within 30 days of its receipt.

4. **Term**. The commencement date for performing the Services shall be _____ through _____ unless sooner terminated as provided herein.

5. **Contractor's Obligations.** Contractor shall comply with the following:

(a) If requested, Contractor will submit monthly written narrative progress reports to the Authority. Contractor shall retain all records in connection with this Agreement or the Services provided herein for a period of three years after all payments required herein are made and all other pending matters are closed.

(b) This Agreement is subject to and incorporates herein the provisions of the U. S. Department of Housing and Urban Development regulations and the sections of the Code of Federal Regulations that are applicable to said program.

(c) The rules and regulations of the Office of Management and Budget (OMB) Circular A-133 apply. If the Contractor is a non-profit organization incorporated or registered to do business in Pennsylvania under the laws of the Commonwealth of Pennsylvania, Contractor shall provide a copy of its annual Audit or Review, whichever is required to the Pennsylvania Bureau of Charitable Organizations.

(d) If Contractor is a Subrecipient or pass-through entity, Contractor must comply with applicable regulations pertaining to this Agreement.

6. **Insurance**. Contractor will obtain and maintain (a) workers' compensation insurance and (b) liability insurance with a limit of not less than $100,000 per occurrence with insurers reasonably acceptable to Authority. Authority will be named as an additional insured on each of such liability policies. Contractor will deliver to Authority certificates evidencing such policies prior to the commencement of the Services, and will deliver evidence of the renewal or replacement of such policies at least 30 days prior to the expiration thereof. Each of such policies will contain a waiver of the insurer's rights of subrogation against Authority.

7. **Termination**.

(i) The Authority may terminate this Agreement for convenience upon 30 days' prior written notice to the Contractor.

(ii) This Agreement shall terminate automatically without notice upon the occurrence of any of the following events:

(a) A material breach of this Agreement by Contractor;

(b) Contractor or Contractor's employees engaging in conduct materially injurious to the Authority or to itself/themselves, including but not limited to acts of dishonesty or fraud, commission of a felony or a crime of moral turpitude, or alcohol or substance abuse;

(c) Contractor's refusal to substantially perform the Services;

(d) Contractor becomes insolvent or makes a general assignment for the benefit of creditors; or

(e) Contractor files a petition in bankruptcy or such petition is filed against Contractor.

Authority shall be liable only for payment for Services rendered prior to the effective date of termination. If this Agreement is terminated pursuant to subparagraphs (a) or (c) Authority may take over the Services and prosecute the same to completion by contract or otherwise, and Contractor shall be liable for any additional costs incurred by Authority. Authority may withhold any payments to Contractor, for the purpose of set-off or partial payment, as the case may be, of amounts owed to Authority by Contractor.

8. **Acceptance of the Services**. Authority has the right to review and/or require correction of any Services provided by Contractor. Contractor shall make any required corrections to any Service within 10 days at no additional charge. The payment of any invoice by Authority does not indicate acceptance of Services provided. Further, the Authority reserves the right at any time to reject or disapprove any Service provided. If Contractor fails to make the necessary corrections within a reasonable time after notice to do so from the Authority, or if the submission of any corrected Service remains unacceptable, the Authority may immediately terminate this Agreement pursuant to paragraph 7(ii)(a) hereof or reduce the hourly rate to reflect the reduced value of the Services provided.

9. **Confidential Information**. Contractor agrees that Contractor will not knowingly reveal to a third party or use for Contractor's own benefit, either during or after the term of this Agreement, without the prior written consent of Authority, any confidential information pertaining to the business and affairs of Authority, its officers, employees and directors obtained while working with Authority except for information clearly established to be in the public record.

10. **Representation and Warranties of Contractor**. Contractor hereby represents and warrants to Authority that Contractor is not a party to or otherwise subject to or bound by any contract, agreement or understanding which would limit or otherwise adversely affect

Contractor's ability to perform the Services or which would be breached by Contractor's execution and delivery of this Agreement or by the performance of the Services.

11. **Indemnification**. Contractor agrees to indemnify and hold Authority harmless from any and all claims, damages, liabilities, costs and expenses (collectively "Claims") arising out of or in connection with Contractor's or its employees' performance of the Services on behalf of Authority.

12. **Independent Contractor**. Contractor shall perform the Services hereunder as an independent contractor and not as an agent or employee of the Authority. Contractor shall be responsible for paying any and all required Federal, state or local taxes arising from the performance of the Services. Contractor agrees to remove any employee from the performance of the Services at the request of Authority.

13. **Copyright**. No material produced in whole or in part under this Agreement shall be subject to copyright in the United States or in any other country. Authority shall have unrestricted authority to publish, disclose, distribute, and otherwise use, in whole or in part, any reports, data, or other materials and documentation prepared by Contractor under this Agreement.

14. **Inspections; Work Product**. Pursuant to 24 CFR 85.36(i)(10) and (11), access shall be given by Contractor to Authority, the United States Department of Housing and Urban Development, the Comptroller General of the United States, or any of their duly authorized representatives, to any books, documents, papers, and records of Contractor which are directly pertinent to this Agreement for the purpose of making an audit, examination, excerpts, and transcriptions. All required records shall be retained for three years after Authority makes final payment and all other pending matters on which Contractor performed Services are closed.

All work product produced by Contractor, including Contractor's employees, in accordance with this Agreement shall become the sole property of Authority in perpetuity. "**Work product**" shall include all records and other documents resulting from the Services performed under this Agreement. It is understood that Authority may reproduce any such work product without modifications and distribute such work product without incurring obligations for additional compensation to Contractor.

15. **Return of Authority Property**. Promptly after termination of this Agreement, Contractor shall return and shall cause its employees to return to Authority all property of the Authority then in Contractor's possession, including without limitation papers, documents, records, files, computer disks and confidential information, and shall neither make nor retain copies of the same. Authority's obligation to make final payment to Contractor following termination, including without limitation accrued but unpaid fees under paragraph 3 hereof, shall be contingent upon Contractor's compliance with this paragraph.

16. **Third Party Solicitation**. Contractor warrants that Contractor has not retained any company, firm or person to solicit or secure this Agreement and has not paid or agreed to pay any company, firm or person any fee, commission, percentage, brokerage fee, gifts, or any other consideration, contingent upon or resulting from the award or making of this Agreement.

17. **Release**. Prior to final payment under this Agreement, or prior to settlement upon termination of this Agreement, and as a condition precedent thereto, Contractor shall execute and deliver to Authority a final release ("**Release**"), in a form acceptable to Authority, of

all claims against Authority by Contractor under and by virtue of this Agreement, other than such claims, if any, as may be specifically excepted by Contractor in stated amounts set forth therein.

18. **Disputes.** All disputes arising under or relating to this Agreement shall be resolved in accordance with this paragraph. All claims by Contractor shall be made in writing and submitted to Authority. Within 60 days after receipt of any claim Authority shall render a written decision concerning such claim. Unless Contractor, within 30 days after receipt of Authority's decision, notifies Authority in writing that Contractor takes exception to such decision, the decision shall be final and conclusive.

Provided Contractor has (a) given written notice within the time specified in this section 18, (b) excepted Contractor's claim relating to such decision from the Release and (c) brought suit against Authority not later than one year after receipt of final payment, or if final payment has not been made, not later than one year after Authority has made a written request to Contractor to submit a final voucher and deliver the Release, whichever is earlier, then Authority's decision shall not be final and conclusive, but the dispute shall be determined on the merits only by a state or federal court located in Allegheny County, Pennsylvania.

19. **Notices**. All notices or other communications to either party by the other shall be deemed given when made in writing and deposited with the United States Postal Service addressed as follows:

If to Authority: Housing Authority of the City of Pittsburgh
200 Ross Street
Pittsburgh, PA 15219
Attn.: Contracting Officer

If to Contractor:

20. **Compliance with Law.** Contractor shall comply with all Federal, State and Local laws, regulations ordinances and codes relating to the operation and activities of Authority and all Services performed pursuant to this Agreement, including, but not limited to completing the following items which shall be attached as exhibits:

(a) Non-Debarment Certificate (Exhibit C)

(b) Certification re: Lobbying (Exhibit D)

(c) Disclosure of lobbying activity (Exhibit E)

(f) Conflict of Interest (Exhibit F)

21. **Transfer by Contractor.** Contractor shall not transfer all or any part of its rights or obligations herein to any person or legal entity.

22. **Miscellaneous**. The invalidity or unenforceability of any provision hereof shall in no way affect the validity or enforceability of any other provision. This Agreement embodies the entire Agreement between the parties hereto and supersedes any and all prior or contemporaneous, oral or written understandings, negotiations, or communications on behalf of such parties. This Agreement may be executed in several counterparts, each of which shall be deemed original, but all of which together shall constitute one and the same instrument. The waiver by either party of any breach or violation of any provision of this Agreement shall not operate or be construed as a waiver of any subsequent breach or violation hereof. This Agreement is executed in and shall be governed by and construed in accordance with the laws of the Commonwealth of Pennsylvania. This Agreement may only be amended by written agreement of both parties hereto. This Agreement shall inure to the benefit of the Authority, its successors and assigns.

SIGNATURE PAGE TO
PROFESSIONAL SERVICES CONTRACT

HOUSING AUTHORITY OF THE OF PITTSBURGH

By: _____

Contracting Officer

By: _____

Title: _____

EXHIBIT A

SCOPE OF SERVICES

Contractor shall provide the following services

EXHIBIT B
FEE SCHEDULE

Authority shall compensate Contractor as follows

EXHIBIT C

CERTIFICATION REGARDING LOBBYING

I, Eugene A. Virotko Project Manager, Hereby Certify on
(Name and Title of Authorized Official)

Behalf of Honeywell International Inc. that
(Subcontractor)

(1) No Federal appropriated funds have been paid or will be paid, by or on behalf of the undersigned, to any person for influencing or attempting to influence an officer or employee of an agency. A Member of Congress, and officer or employee of Congress, or an employee of a Member of Congress in connection with the awarding of any Federal contract, the making of any Federal grant, the making of any Federal loan, the entering into of any cooperative agreement, and the extension, continuation, renewal, amendment, or modification of any Federal contract, grant, loan or cooperative agreement.

(2) If any funds other than Federal appropriated funds have been paid or will be paid to any person for influencing or attempting to influence an officer or employee of any agency, a Member of Congress, an officer or employee of Congress, or an employee of a Member of Congress in connection with this Federal contract, grant, loan, or cooperative agreement, the undersigned shall complete and submit Standard Form-LLL " Disclosure Form to Report Lobbying", in accordance with its instructions.

(3) The undersigned shall require that the language of this certification be included in the award documents for all subawards at all tiers (including subcontracts, subgrants, and contracts under grants, loans, and cooperative agreements) and that all subrecipients shall certify and disclose accordingly.

This certification is a material representation of fact upon which reliance was placed when this transaction was made or entered into. Submission of this certification is a prerequisite for making or entering into this transaction imposed by Section 1352, Title 31, U.S. Code. Any person who fails to file the required certification shall be subject to a civil penalty of not less than $10,000 and not more than $100,000 for each such failure.

Eugene A. Virotko Project Manager 7/30/08
Signature and Title of Authorized Official

Approved by OMB
0348-0046

DISCLOSURE OF LOBBYING ACTIVITIES

CONTINUATION SHEET

Reporting Entity:_____ Page_____ of_____

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Standard Form LLL (1/96)

INSTRUCTIONS FOR COMPLETION OF SF-LLL DISCLOSURE OF LOBBY ACTIVITIES

This disclosure form shall be completed by the reporting entity, whether subawardee or prime Federal recipient, at the initiation or receipt of a covered Federal action, or a material change to a previous filing, pursuant to title 31 U.S.C. section 1352. The filing of a form is required for each payment or agreement to make payment of any lobby entity for influencing or attempting to influence an officer or employee of any agency, a Member of Congress, an officer or employee of Congress, or an employee of a Member of Congress in connection with a covered Federal action. Use the SF-LLL-A Continuation Sheet for additional information in the space on the form is inadequate. Complete all items that apply for both the initial filing and material change reports. Refer to the implementing guidance published by the Office of Management and Budget for additional information.

1. Identify the type of covered Federal action for which lobby activity is and/or has been secured to influence the outcome of a covered Federal action.

2. Identify the status of the covered Federal action.

3. Identify the appropriate classification of this report. If this is a follow up report caused by a material change to the information previously reported, enter the year and quarter in which the change occurred. Enter the date of the last previously submitted report by this reporting entity for this covered Federal action.

4. Enter the full name, address, city, state and zip code of the reporting entity. Include Congressional District if known. Check the appropriate classification of the reporting entity that designates if it is, or expects to be a prime or a subaward recipient. Identify the tier of the subawardee, e.g., the first subawardee of the prime is in the 1st tier. Subawards include but are not limited to subcontracts, subgrants and contract awards under grants.

5. If the organization filing the report in item 4 checks "Subawardee" then enter the full name, address, city, state and zip code of the prime Federal recipient. Include Congressional District, if known.

6. Enter the name of the Federal agency making the award or loan commitment. Include at least one organizational level below agency name, if known. For example, Department of Transportation, United States Coast Guard.

7. Enter the Federal program name or description for the covered Federal action (item 1). If known, enter the full Catalog of Federal Domestic Assistance (CFOA) number for grants, cooperation agreements, loans, and loan commitments.

8. Enter the most appropriate Federal identifying number available for the Federal action identified in item 1 (e.g., Request for Proposal (RFP) number, Invitation for Bid (IFB) number: grant announcement number: the contract, grant or loan award number, the application/proposal control number assigned by the Federal agency. Include prefixes e.g. RFP-DE-90-00).

9. For a covered Federal action where there has been an award or loan commitment by the Federal agency, enter the Federal amount of the award/loan commitment for the prime entity identified in item 4 or 5.

10. (a) Enter the full name, address, city, state and zip code of the lobbying entity engaged by the reporting entity identified in item 4 to influence the covered Federal action.

    (b) Enter the full names of the individual (s) performing services, and include full address if different form 10 (a). Enter Last Name, First Name, and Middle Initial (MI).

11. Enter the amount of compensation paid or reasonably expected to be paid by the reporting entity (item 4) to the lobbying entity (item 10). Indicate whether the payment has been made (actual or will be made 9planned). Check all boxes that apply. If this is a material change report, enter the cumulative amount of payment made or planned to be made.

12. Check the appropriate box (es). Check all boxes that apply. If payment is made through an in-kind contribution, specify the nature and value of the in-kind payment.

13. Check the appropriate box (es). Check all boxes that apply. If other, specify nature.

14. Provide a specific and detailed description of the services that the lobbyist has performed, or will be expected to perform, and the date (s) of any services rendered. Include all preparatory and related activity, not just time spent in actual contact with Federal Official (s) or employee (s) contacted of the officer (s) employee (s) or Member (s) of Congress that were contacted.

15. Check whether or not a SF-LLL-A Continuation Sheet (s) is attached.

16. The certifying individual shall sign and date the form, print his/her name, title, and telephone number.

Public reporting burden for this collection of information is estimated to average 30 minutes per response. Including time for reviewing instructions, searching existing data sources, gathering and maintaining the data needed, and completing and reviewing the collection of information. Send comments regarding the burden estimate or any other respect of this collection of information, including suggestions for reducing this burden, to the Office of Management and Budget. Paperwork Reduction Project (0348-004-5), Washington, D.C. 20503.

CERTIFICATION OF PROPOSER

REGARDING DEBARMENT SUSPENSION AND OTHER RESPONSIBILITY MATTERS

Eugene A. Virostko

(Proposer) Honeywell Int., Inc. **certifies to the best of it knowledge and belief, that it and its principals:**

1. **Are not presently debarred, suspended, proposed for debarment, declared ineligible or voluntarily excluded from covered transactions by any Federal department or agency;**

2. **Have not within a three year period preceding this bid been convicted of or had civil judgment rendered against them for commission of fraud or a criminal offense in connection with obtaining, attempting to obtain or performing a public (Federal, State or Local) transaction or contract under a public transaction: violation of Federal or State antitrust statutes or commission of embezzlement, thief, forgery, bribery, falsification or destruction of records, making false statements or receiving stolen property;**

3. **Are not presently indicted for or otherwise criminally or civilly charged by a governmental entity (Federal, State or Local) with commission of any of the offenses emmerated in paragraph (2) of this certification: and**

4. **Have not within a three year period preceding this bid had one or more public transaction (Federal, State or Local) terminated for cause or default.**

If the Proposer is unable to certify to any of the statements in this certification, the Proposer shall attach an explanation to this certification.

Eugene A. Virostko

(Proposer) Honeywell Int. Inc. **CERTIFIES OR AFFIRMS THE TRUTHFULNESS AND ACCURACY OF THE CONTENTS OF THE STATEMENTS SUBMITTED ON OR WITH THIS CERTIFICATION AND UNDERSTANDS THAT THE PROVISIONS OF 31 U.S.C. SECTIONS 3801 ET SEQ. ARE APPLICABLE THERETO.**

Eugene A. Virostko Project Manager 7/30/08

Signature and Title of Authorized Official

Exhibit E
Disclosure of Lobbying Activities

Complete this form to disclose lobbying activities pursuant to 31 U.S.C. 1352

Public Reporting Burden for this collection of information is estimated to average 30 minutes per response, including the time for reviewing instructions, researching existing data sources, gathering and maintaining the date needed and completing and reviewing the collection of information. Please do not return your completed form to the Office of Management and Budget sent it to the address provided by the sponsoring agency.

1. Type of Federal Action:	2. Status of Federal Action:	3. Report Type:
____a. contract ____b. grant ____c. cooperative agreement ____d. loan ____e. loan guarantee ____f. loan insurance	____a. bid/offer/application ____b. initial award ____c. post-award	____a. initial filing ____b. material change For Material Change Only year_____quarter_____ date of last report_____

4. Name and Address of Reporting Entity:	5. If reporting entity in No. 4 if Subawardee,enter name and address of Prime.
____Prime____Subawardee Tier_____,if known: Congressional District, if known:	Congressional District, if known:
6. Federal Department/Agency:	6. Federal Program Name/Description: CFDA Number, if applicable:
8. Federal Action Number, if known:	9. Award Amount, if known: $
10a. Name and Address of Lobbying Registrant (If individual, last name, first name, MI):	b. Individuals performing services (Include address if different from No. 10a) (last name, first name, MI):

I. Information requested through this form is authorized by Sec 319, Pub L. 101-121, 103 Stat. 750, as amended by Sec. 10: Pub. L. 104-65, Stat 700 (31 U.S.C. 1352). This disclosure of lobbying activities is a material representation of fact upon which reliance was placed by the above when this transaction was made entered into. This disclosure is required pursuant to 31 U.SA.C. 1352. This information will be reported to the Congress semiannually and will be available for public inspection. Any person who fails to file the required disclosure shall be subject to a civil penalty of not less than $10,000 and not more than $100,000 for each such failure.	Signature_____ Print Name_____ Title:_____ Telephone No.:_____ Date: _____

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Standard Form LLL (1/96)

CONFLICTS OF INTEREST

Eugene A. Virostko Honeywell Int. Inc. ("Contractor") certifies that:

1. No employee, officer, or agent of the Housing Authority of the CityofPittsburgh("HACP") participated in the selection, or in the award or administration of the Contractor's Agreement with HACP which would involve a conflict of interest, real or apparent. A conflict would arise when (i) a HACP employee, officer or agent, (ii) any member of his or her immediate family, (iii) his or her parents (iv) his or her business associates or (v) an organization that employs, or is about to employ, any of the foregoing, receives a payment from the Contractor or any affiliate thereof, or has a financial or other interest in the Contractor or the Contractor's Agreement with HACP.

2. Contractor shall not enter into any contract, subcontract or agreement with any officer, agent or employee of HACP during his or her tenure nor for one year thereafter shall any officer, agent or employee of HACP have any interest, direct or indirect, in the Contract Agreement, including the proceeds thereof.

Date: 7/30, ~~2006~~ 2008

CONTRACTOR

By: Eugene A. Virostko Honeywell Int. Inc.

Name: Eugene A. Virostko

Title: Project Manager

HOUSING AUTHORITY OF THE CITY OF PITTSBURGH

Request for Proposals
For
Comprehensive Energy Performance Services

Attachment B
Comprehensive Audit Report

3.0 UTILITY ANALYSIS & SITE ASSESSMENTS

The Housing Authority of the City of Pittsburgh owns and maintains twenty-three housing developments plus scattered sites, all of which are included in this analysis. Most of the sites are three story walk-up and row house communities or high rises. More specific construction information for each development is found in Section 3.2.

Table 3-1 lists the number of dwellings at each site and the resident population per the data provided by the HACP. The general demographic makeup of each site is also listed.

The Housing Authority of the City of Pittsburgh - Site Demographics Table 3-1

Region	Site Designation	Site Name	Number of Units	Population[1]	Development Demographics
Region I	PA 28-01	Addison Terrace	781	951	Family
	PA 28-02	Bedford Dwellings	420	586	Family
	PA 29-13	Addison Towers High Rise	885	264	Family
	PA 28-15	Pennsylvania Bidwell	120	112	Elderly
	PA 28-17	Pressley Street	212	198	Elderly
Region II	PA 28-05	Allegheny Dwellings	282	348	Family
	PA 28-09	Northview High Rise	579	1371	Elderly
	PA 28-11	Auburn Towers/Hamilton Larimer	324	201	Family/Elderly
	PA 28-12	Garfield Heights	326	1063	Family
	PA 28-20	Homewood North	135	305	Family
Region III	PA 28-04	Arlington Heights	150	181	Family
	PA 28-07	St. Clair Village	456	634	Family
	PA 28-22, 28-39, 28-43, 28-51	Scattered Sites	223	403	Family
	PA 28-31	Murray Towers	70	67	Elderly
	PA 28-32	Glen Hazel – Low Rise	143	271	Family
	PA 28-33	Glen Hazel – High Rise	97	91	Elderly
	PA 28-40	Mazza Pavilion	30	26	Elderly
	PA 28-41	Caliguiri Plaza	104	96	Elderly
	PA 28-42	Sunnyside / Renova	18	30	Family
	PA 28-44	Finello Pavilion	60	53	Elderly
	PA 28-45	Morse Gardens	70	74	Elderly
	PA 28-46	Carrick-Regency	66	61	Elderly
	PA 28-47	Guialtieri Manor	31	28	Elderly
	PA 28-57	Glen Hazel – Disabled Units	6	8	Family
	PA 28-62	Broadhead Manor	64	22	Family

3.1 Site Utility Data Analysis

This section discusses the utility data for the sites addressed in this report. The HACP has its electric service provided by Duquesne Light and natural gas service provided by three different gas companies: Dominion, Equitable and Columbia Gas. Water and sewer services are provided by three different water companies: Pittsburgh Water Sewer Authority, Wilkinsburg-Penn Joint Municipal Water and Pennsylvania American Water companies.

Presently all electricity and natural gas utilities are housing authority paid at all sites except for the sites which are indicated below as resident paid. Table 3-2 summarizes how utilities are billed at each site.

The Housing Authority of the City of Pittsburgh – Utility Organization Table 3-2

Region	Site Designation	Site Name	Utility	Provider	Meter Type	Billing Party
Region I	PA 28-01	Addison Terrace	Natural Gas	Dominion	Master Metered	Authority Paid
			Electricity	Duquesne Light	Master Metered	Authority Paid
			Water	PWSA	Master Metered	Authority Paid
			Sewer	PWSA	Master Metered	Authority Paid
	PA 28-02	Bedford Dwellings	Natural Gas	Equitable	Master Metered	Authority Paid
			Electricity	Duquesne Light	Master Metered	Authority Paid
			Water	PWSA	Master Metered	Authority Paid
			Sewer	PWSA	Master Metered	Authority Paid
	PA 29-13	Addison Towers High Rise	Natural Gas	Dominion	Master Metered	Authority Paid
			Electricity	Duquesne Light	Master Metered	Authority Paid
			Water	PWSA	Master Metered	Authority Paid
			Sewer	PWSA	Master Metered	Authority Paid
	PA 28-15	Pennsylvania Bidwell	Natural Gas	Equitable	Master Metered	Authority Paid
			Electricity	Duquesne Light	Master Metered	Authority Paid
			Water	PWSA	Master Metered	Authority Paid
			Sewer	PWSA	Master Metered	Authority Paid
	PA 28-17	Pressley Street	Natural Gas	Equitable	Master Metered	Authority Paid
			Electricity	Duquesne Light	Master Metered	Authority Paid
			Water	PWSA	Master Metered	Authority Paid
			Sewer	PWSA	Master Metered	Authority Paid
Region II	PA 28-05	Allegheny Dwellings	Natural Gas	Equitable	Master Metered	Authority Paid
			Electricity	Duquesne Light	Master Metered	Authority Paid
			Water	PWSA	Master Metered	Authority Paid
			Sewer	PWSA	Master Metered	Authority Paid
	PA 28-09	Northview High Rise	Natural Gas	Dominion	Master Metered	Authority Paid
			Electricity	Duquesne Light	Master Metered	Authority Paid
			Water	PWSA	Master Metered	Authority Paid
			Sewer	PWSA	Master Metered	Authority Paid
	PA 28-11	Auburn Towers/Hamilton Larimer	Natural Gas	Equitable	Master Metered	Authority Paid
			Electricity	Duquesne Light	Master Metered	Authority Paid
			Water	PWSA	Master Metered	Authority Paid
			Sewer	PWSA	Master Metered	Authority Paid

The Housing Authority of the City of Pittsburgh – Utility Organization (Table 3-2 Continued)

Region	Site Designation	Site Name	Utility	Provider	Meter Type	Billing Party
Region II	PA 28-12	Garfield Heights	Natural Gas	Equitable	Master Metered	Authority Paid
			Electricity	Duquesne Light	Master Metered	Authority Paid
			Water	PWSA	Master Metered	Authority Paid
			Sewer	PWSA	Master Metered	Authority Paid
	PA 28-20	Homewood North	Natural Gas	Equitable/Dominion	Master Metered	Authority Paid
			Electricity	Duquesne Light	Master Metered	Authority Paid
			Water	Wilk-Penn/PWSA	Master Metered	Authority Paid
			Sewer	Wilk-Penn/PWSA	Master Metered	Authority Paid
Region III	PA 28-04	Arlington Heights	Natural Gas	Equitable	Master Metered	Authority Paid
			Electricity	Duquesne Light	Master Metered	Authority Paid
			Water	PWSA	Master Metered	Authority Paid
			Sewer	PWSA	Master Metered	Authority Paid
	PA 28-07	St. Clair Village	Natural Gas	Dominion	Master Metered	Authority Paid
			Electricity	Duquesne Light	Master Metered	Authority Paid
			Water	PAWC/PWSA	Master Metered	Authority Paid
			Sewer	PAWC/PWSA	Master Metered	Authority Paid
	PA 28-22, 28-39, 28-43, 28-51	Scattered Sites	Natural Gas	Dominion/Equitable/Columbia	Individual Meter	Resident Paid
			Electricity	Duquesne Light	Individual Meter	Resident Paid
			Water	Wilk-Penn/PAWC/PWSA	Individual Meter	Authority Paid
			Sewer	Wilk-Penn/PAWC/PWSA	Individual Meter	Authority Paid
	PA 28-31	Murray Towers	Natural Gas	Dominion	Master Metered	Authority Paid
			Electricity	Duquesne Light	Master Metered	Authority Paid
			Water	PWSA	Master Metered	Authority Paid
			Sewer	PWSA	Master Metered	Authority Paid
	PA 28-32	Glen Hazel – Low Rise	Natural Gas	Dominion	Individual Meter	Resident Paid
			Electricity	Duquesne Light	Individual Meter	Resident Paid
			Water	PWSA	Master Metered	Authority Paid
			Sewer	PWSA	Master Metered	Authority Paid
	PA 28-33	Glen Hazel – High Rise	Natural Gas	Dominion	Master Metered	Authority Paid
			Electricity	Duquesne Light	Master Metered	Authority Paid
			Water	PWSA	Master Metered	Authority Paid
			Sewer	PWSA	Master Metered	Authority Paid
	PA 28-40	Mazza Pavilion	Natural Gas	Dominion	Master Metered	Authority Paid
			Electricity	Duquesne Light	Master Metered	Authority Paid
			Water	PWSA	Master Metered	Authority Paid
			Sewer	PWSA	Master Metered	Authority Paid

The Housing Authority of the City of Pittsburgh – Utility Organization (Table 3-2 Continued)

Region	Site Designation	Site Name	Utility	Provider	Meter Type	Billing Party
Region III	PA 28-41	Caliguiri Plaza	Natural Gas	Dominion	Individual Meter	Authority Paid
			Electricity	Duquesne Light/Strategic	Individual Meter	Resident Paid
			Water	PWSA	Master Metered	Authority Paid
			Sewer	PWSA	Master Metered	Authority Paid
	PA 28-42	Sunnyside / Renova	Natural Gas	Dominion	Individual Meter	Resident Paid
			Electricity	Duquesne Light	Individual Meter	Resident Paid
			Water	PWSA	Master Metered	Authority Paid
			Sewer	PWSA	Master Metered	Authority Paid
	PA 28-44	Finello Pavilion	Natural Gas	Dominion	Master Metered	Authority Paid
			Electricity	Duquesne Light/Strategic	Individual Meter	Resident Paid
			Water	PWSA	Master Metered	Authority Paid
			Sewer	PWSA	Master Metered	Authority Paid
	PA 28-45	Morse Gardens	Natural Gas	Equitable	Master Metered	Authority Paid
			Electricity	Duquesne Light	Individual Meter	Resident Paid
			Water	PWSA	Master Metered	Authority Paid
			Sewer	PWSA	Master Metered	Authority Paid
	PA 28-46	Carrick Regency	Natural Gas	Equitable	Master Metered	Authority Paid
			Electricity	Duquesne Light	Individual Meter	Resident Paid
			Water	PAWC/PWSA	Master Metered	Authority Paid
			Sewer	PAWC/PWSA	Master Metered	Authority Paid
	PA 28-47	Gualtieri Manor	Natural Gas	Equitable/Columbia	Master Metered	Authority Paid
			Electricity	Duquesne Light	Individual Meter	Resident Paid
			Water	PAWC/PWSA	Master Metered	Authority Paid
			Sewer	PAWC/PWSA	Master Metered	Authority Paid
	PA 28-57	Glen Hazel Disabled Units	Natural Gas	Dominion	Master Metered	Authority Paid
			Electricity	Duquesne Light	Master Metered	Authority Paid
			Water	PWSA	Master Metered	Authority Paid
			Sewer	PWSA	Master Metered	Authority Paid
	PA 28-62	Broadhead Manor	Natural Gas	Equitable	Master Metered	Authority Paid
			Electricity	Duquesne Light	Master Metered	Authority Paid
			Water	PAWC/PWSA	Master Metered	Authority Paid
			Sewer	PAWC/PWSA	Master Metered	Authority Paid

3.1.1 Authority Paid Utility Usage

The first step in identifying current utility usage was to review utility information. Table 3-3 provides utility data that the Housing Authority of the City of Pittsburgh (HACP) pays directly to the utilities as reported to the U.S. Department of Housing and Urban Development (HUD).

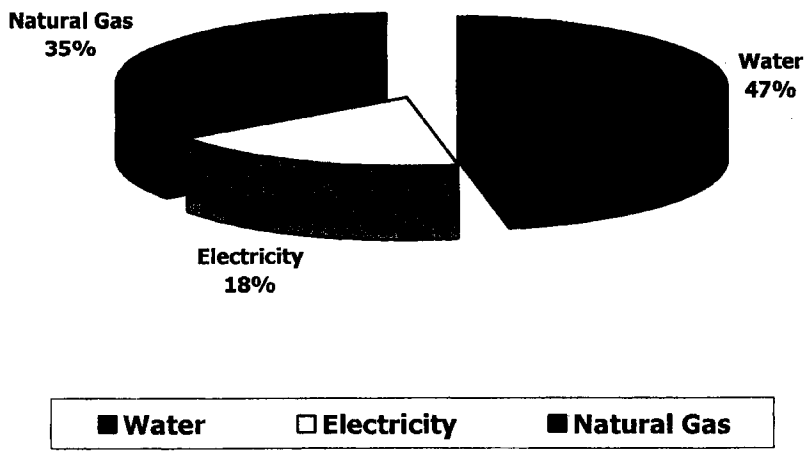
Authority Paid Utility Consumption and Costs (1) Table 3-3

FYE 2005	Water & Sewer	Electricity	Natural Gas	Totals
Utility Consumption (units)	725,919 (1000 gallons)	28,284,848 (kWh)	473,646 (MCF)	
Utility Costs	$6,066,994	$2,356,497	$4,535,295	$12,958,785

(1) Based on a recalculated three year rolling base from actual utility use and spends from 2003, 3004, and 2005.

The main authority paid utility expenditure is water and sewer charges, as you can see from Table 3-4 above and from Figure 3-1 below.

Figure 3-1
Authority Paid Utility Costs



3.1.2 Resident Paid Utility Usage

Utility use at the sites was analyzed to develop an understanding of the usage patterns that exist at each development. Site data for each location was compared to the other sites to carefully determine the potential impact of each facility improvement measures. Table 3-7 shows the 2006 Utility Allowances, per bedroom type, for resident paid Natural Gas, and Electricity.

2006 Utility Allowances Table 3-7

PROJECT NAME	UNIT TYPE	AVERAGE MONTHLY GAS	AVERAGE MONTHLY ELECTRIC	TOTAL MONTHLY ALLOWANCE
28-41 Caliguiri Plaza	0 BR	n/a	$39	$39
	1 BR	n/a	$39	$39
28-44 Finello Pavilion	0 BR	n/a	$39	$39
	1 BR	n/a	$39	$39
28-45 Morse Gardens	0 BR	n/a	$39	$39
	1 BR	n/a	$39	$39
28-46 Carrick Regency	0 BR	n/a	$39	$39
	1 BR	n/a	$39	$39
28-47 Carrick Regency	0 BR	n/a	$39	$39
	1 BR	n/a	$39	$39
28-38 Glen Hazel	1 BR	$122	$26	$148
	2 BR	$153	$32	$184
	3 BR	$185	$36	$221
	4 BR	$230	$43	$273
28-42 Sunnyside - Renova	1 BR	$122	$26	$148
	2 BR	$153	$32	$184
	3 BR	$185	$36	$221
	4 BR	$230	$43	$273
28-42 Scattered Sites	1 BR	$122	$26	$148
	2 BR	$153	$32	$184
	3 BR	$185	$36	$221
	4 BR	$230	$43	$273

3.2 Typical Site Details and Descriptions

The sites are of typical multi-family construction for public housing comprised primarily of poured concrete slabs or basements, block and masonry, with siding or brick, gabled roofs, asphalt shingles, single and double pane windows and solid wood or filled metal doors. The attics are vented and mainly have blown insulation of varying depths typically from zero to fourteen inches. About half of the developments have fairly new central heating and air conditioning systems, while the remaining are heated with free standing natural gas powered ductless heating systems and resident supplied window air-conditioning units.

Lighting in the units is primarily incandescent technology, with some exceptions. Residents have added incandescent table and floor lamps throughout the units, in addition to ceiling fan fixtures.

The following pages contain Tables 3-8 through 3-20 and give a detailed account of the most common occurrences for the mechanical equipment, building envelope, plug loads and lighting per development.

Region 1

Typical Sight Description **Table 3-8**

PA 28-01 Addison Terrace				
Building Envelope:	**Material**	**Depth/Dimension**	**Quantity**	**Operable**
Exterior Walls:	Brick Air Space Block Drywall	4" 1" 6"		
First Story:	Brick			
Second Story:	Brick			
Insulation:	Hollow			
Windows:	Alum Frame/D Glass	27x50.5x23.5 36x50.5x23.5 18x26x11	4 5 1	Y Y Y
Doors:	(2) Metal	35.5x79	1	Y
Lighting:	**# Fixtures**	**Bulbs/Fixture**	**Watts/Bulb**	**Total Wattage**
Bathroom:	CF (1)	2	20	40
Bathroom 2:	CF (1)	1	60	60
Bedroom 1: (191)	CF (1)	2	60	120
Bedroom 2: (381)	CF (1)	1	60	60
Bedroom 3: (130)	CF (1)	1	60	60
Bedroom 4: (22)	CF (1)	1	60	60
Bedroom 5: (12)	CF (1)	1	60	60
Kitchen:	CF (1)	3	40	120
Basement:	CF (4)	4	60	240
Living Room:	CF (1)	2	60	120
Hallway/Stair:	CF (1)	1	60	60
Plug Load				**Quantity**
Electrical Devices:	Lamps, Televisions, VCRs/DVDs, Stereos, Microwave, Computer, Fans, Toasters, Clocks, some window a/c units			15 Average
Water Fixtures:	**Faucets**	**Laundry Tub**	**Showerhead**	**Toilets**
Bathroom:	(2) 2.0 – 2.2 gpm aerator		(2) 2.0 gpm non aerated	(2) 1.6 gpf gravity pa WM
Kitchen:	2.2 gpm aerator			
Appliances:	**Washer/Dryer**	**Ovens/Stoves**	**Refrigerator**	**Misc.**
	Gas – Washer & Dryer hookups	Magic Chef Gas 30"	Frigidaire/Kenmore Electric 28.5"	
Heating/Cooling:	**Furnace**	**A/C Condensers**	**Domestic Hot Water**	**Misc.**
	HW Radiant Hand Valve Control Some Forced Air – Carrier 75K capacity w/thermostatic cnt	None or window AC 5000 BTU	Central	

Region 1

Typical Sight Description **Table 3-8**

PA 28-02 Bedford Dwellings				
Building Envelope:	**Material**	**Depth/Dimension**	**Quantity**	**Operable**
Exterior Walls:	Brick Air Space Block/concrete Furring Plaster	4" 1" 6"/8"		
First Story:	Brick			
Second Story:	Brick			
Insulation				
Windows:	Alum Frame/D Glass	26x50x25 36x50x24 17.5x25.5x12	6 4 1	Y Y Y
Doors:	Metal w/window solid	36x83	2	Y
Lighting:	**# Fixtures**	**Bulbs/Fixture**	**Watts/Bulb**	**Total Wattage**
Bathroom:	Incandescent (1)	2	20	40
Bathroom 2:				
Bedroom 1: (132)	Incandescent (1)	1	60	60
Bedroom 2: (232)	Incandescent (1)	1	60	60
Bedroom 3: (56)	Incandescent (1)	1	60	60
Kitchen:	Incandescent (1)	3	60	180
Porch:	Incandescent (2)	1	60	60
Living Room:	Incandescent (1)	1	100	100
Hallway/Stair:	Incandescent (1)	2	60	120
Plug Load				**Quantity**
Electrical Devices:	Lamps, Televisions, VCRs/DVDs, Stereos, Microwave, Computer, Fans, Toasters, Clocks, some window a/c units			15 Average
Water Fixtures:	**Faucets**	**Laundry Tub**	**Showerhead**	**Toilets**
Bathroom:	2.0 gpm aerator		2.5 gpm non aerated	1.6gpf gravity pa WMI – floor discharge
Kitchen:	2.0 gpm aerator			
Appliances:	**Washer/Dryer**	**Ovens/Stoves**	**Refrigerator**	**Misc.**
	Some units have washer/dryer gas hookup	Hardwick/Kenmore, gas 20" most in fair condition	Frigidaire /Kenmore (some newer models) most fair	
Heating/Cooling:	**Furnace**	**A/C Condensers**	**Domestic Hot Water**	**Misc.**
	Central/baseboard with thermostatic valve	Some units have window ac	Central	

Region 1

Typical Sight Description **Table 3-8**

PA 28-13 Addison Addition (High Rise)				
Building Envelope:	**Material**	**Depth/Dimension**	**Quantity**	**Operable**
Exterior Walls:	Brick Air Space Block Plaster	4" 1" 6" 1"		
First Story:	Brick			
Second Story:	Brick			
Insulation	Solid			
Windows:	Alum Frame/D Glass	27x50.5x23.5 36x50.5x23.5 18x26x11	4 5 1	Y Y Y
Doors:	Steel Hollow	79x33	1	Good Gasketing
Lighting:	**# Fixtures**	**Bulbs/Fixture**	**Watts/Bulb**	**Total Wattage**
Bathroom:	CF (1)	1	60	60
Bathroom 2:	CF (1)	1	60	60
Bedroom 1:	CF (1)	2	60	120
Bedroom 2:	CF (1)	1	60	60
Bedroom 3:				
Kitchen:	CF (1)	3	40	120
Porch:				
Living Room:	CF (1)	2	60	120
Dining Room:				
Hallway/Stair:	CF (1)	1	60	60
Plug Load				**Quantity**
Electrical Devices:	Lamps, Televisions, VCRs/DVDs, Stereos, Microwave, Computer, Fans, Toasters, Clocks, some window a/c units			20 Average
Water Fixtures:	**Faucets**	**Laundry Tub**	**Showerhead**	**Toilets**
Bathroom: (primary bathroom commode and sink. 2nd bathroom commode and shower in basement, some without shower)	(2) 2.0 – 2.2 gpm aerator		(2) 2.0 gpm non aerated	(2) 3.5gpf gravity PA American Stand.
Kitchen:	2.2 gpm aerator			
Appliances:	**Washer/Dryer**	**Ovens/Stoves**	**Refrigerator**	**Misc.**
	Laundry Facilities on Site	Gas – Good - Fair Condition 20"	Electric 24" Whirlpool Good – Fair Condition	
Heating/Cooling:	**Furnace**	**A/C Condensers**	**Domestic Hot Water**	**Misc.**
	Radiant Heat HW Convectors	Some window A/C Units	Central DHW	

Region 1

Typical Sight Description **Table 3-8**

PA 28-15 Pennsylvania Bidwell				
Building Envelope:	**Material**	**Depth/Dimension**	**Quantity**	**Operable**
Exterior Walls:	Brick Air Space Block Plaster	4" 1" 12"		
First Story:	Brick			
Second Story:	Brick			
Insulation	Hollow			
Windows:	Alum Frame/D Glass	35x35x75x16 35x49x23.5	4 2	Y Y
Doors:	Metal	35.75x78.75	1	Y
Lighting:	**# Fixtures**	**Bulbs/Fixture**	**Watts/Bulb**	**Total Wattage**
Bathroom:	Fluorescent (1)	2	20	40
Bedroom 1: (100)	CF (1)	2	25	50
Bedroom 2: (20)	CF (1)	2	25	50
Kitchen:	CF (1)	2	25	50
Living Room:	CF (1)	2	25	50
Dining Room:				
Hallway/Stair:	Fluorescent (1)	2	20	40
Plug Load				**Quantity**
Electrical Devices:	Lamps, Televisions, VCRs/DVDs, Stereos, Microwave, Computer, Fans, Toasters, Can Opener, Clocks, some window a/c units			15 Average
Water Fixtures:	**Faucets**	**Laundry Tub**	**Showerhead**	**Toilets**
Bathroom:	2.0 gpm aerator		2.5 gpm non aerator	Gerber 1.6 gravity floor discharge
Kitchen:	2.0 gpm aerator			
Appliances:	**Washer/Dryer**	**Ovens/Stoves**	**Refrigerator**	**Misc.**
Kitchen		Gas, Magic Chef/ Maytag, 20", Pilot, no range hood, not vented fair - poor	Electric, Kenmore 23" 1994 Good to fair condition	
Basement				
Utility Room				
Heating/Cooling:	**Furnace**	**A/C Condensers**	**Domestic Hot Water**	**Misc.**
	Central, HW Baseboard	Window AC Comfortaire Unit	Central Hot Water	

Region 1

Typical Sight Description **Table 3-8**

PA 28-17 Pressley High Rise				
Building Envelope:	**Material**	**Depth/Dimension**	**Quantity**	**Operable**
Exterior Walls:	Brick Air Space Concrete Plaster	4" 1"		
First Story:	Brick			
Second Story:	Brick			
Insulation	Hollow			
Windows:	Alum Frame/D Glass	34.5 x 48 x 22 34 x 48 x 22 19x35x17.5	6 3 1	Y Y Y
Doors:	Metal (hollow)	35.75x78.75	1	Y
Lighting:	**# Fixtures**	**Bulbs/Fixture**	**Watts/Bulb**	**Total Wattage**
Bathroom:	Fluorescent (1)	2	20	40
Bedroom 1: (182)	CF (1)	1	34	34
Bedroom 2: (15)	CF (1)	2	13	26
Kitchen:	Fluorescent (1)	2	34	68
Porch:				
Living Room:	Fluorescent (1)	2	75	150
Dining Room:				
Hallway/Stair:	Incandescent (1)	3	60	180
Plug Load				**Quantity**
Electrical Devices:	Lamps, Televisions, VCRs/DVDs, Stereos, Microwave, Toasters, Can Opener, Clocks			10 Average
Water Fixtures:	**Faucets**	**Laundry Tub**	**Showerhead**	**Toilets**
Bathroom:	2.0 gpm aerator	2.5 gpm	2.5 gpm non aerator	Briggs 3.5 gpm floor discharge
Kitchen:	2.0 gpm aerator			
Appliances:	**Washer/Dryer**	**Ovens/Stoves**	**Refrigerator**	**Misc.**
Kitchen	n/a	Gas, Magic Chef/ Maytag, 20", most in fair condition	Electric, Kenmore /Frigidaire 23" Most fair condition	
Utility Room	Laundry facilities on each floor			
Heating/Cooling:	**Furnace**	**A/C Condensers**	**Domestic Hot Water**	**Misc.**
	Central, Fan Coil System - Baseboard	Central, Fan Coil System – good condition	Central Hot Water	This high-rise has a large central exhaust for kitchens/bathrooms

Region II

Typical Sight Description **Table 3-8**

PA 28-05 Allegheny Dwellings				
Building Envelope:	**Material**	**Depth/Dimension**	**Quantity**	**Operable**
Exterior Walls:	Brick Air Space Block Plaster All new roof 2 yrs	4" 1" 12"		
First Story:	Brick			
Second Story:	Brick			
Insulation	Hollow			
Windows:	Alum Frame/D Glass	28x54x24 18x54 27x51x23 26.5x38.5x17 17.5x38x17	2 1 2 5 1	Y Y Y Y Y
Doors:	Metal hollow	31.5x79	1	Y (poor gasketing)
Lighting:	**# Fixtures**	**Bulbs/Fixture**	**Watts/Bulb**	**Total Wattage**
Bathroom:	Incandescent (1)	2	60	120
Bathroom 2:	Incandescent (1)	2	60	120
Bedroom 1: (78)	Incandescent (1)	3	60	180
Bedroom : (204)	Incandescent (1)	2	60	120
Kitchen:	Incandescent (1)	3	60	180
Living Room:	Incandescent (1)	2 -3	60	120 - 180
Hallway/Stair:	Incandescent (1)	2	60	120
Plug Load				**Quantity**
Electrical Devices:	Televisions, VCRs/DVDs, Stereos, Microwave, Hoods, Fans, Toasters, Clocks, some window a/c units			10 Average
Water Fixtures:	**Faucets**	**Laundry Tub**	**Showerhead**	**Toilets**
Bathroom:	(2) 2.0 gpm aerator	5.0+	(2) 2.5 gpm non aerated	(2) 1.6gpf gravity pa WMI
Kitchen:	2.0 gpm aerator			
Appliances:	**Washer/Dryer**	**Ovens/Stoves**	**Refrigerator**	**Misc.**
	Some units have Washers/Dryers with gas	Magic Chef Gas 20" Most in Fair Condition	Kenmore/Frigidaire Electric	
Heating/Cooling:	**Furnace**	**A/C Condensers**	**Domestic Hot Water**	**Misc.**
	Central - Baseboard	No central – some window a/c resident owned	Rudd LoBoy Electric 30 - 40 gal good condition	

Region II

Typical Sight Description **Table 3-8**

PA 28-09 Northview Heights (High Rise and Town Houses)				
Building Envelope:	**Material**	**Depth/Dimension**	**Quantity**	**Operable**
Exterior Walls:	Brick Air Space Block Plaster	4" 1" 12"		
First Story:	Brick			
Second Story:	Brick			
Insulation	solid			
Windows:	Alum Frame/D Glass	40.5x49x23 32x35x17 36 x 24 68x49x34x23 32x38.5x20	2 2 2 1 1	Y Y Y Y Y
Doors:	Metal w/window	32.5 x 78.5	2	Y
Lighting:	**# Fixtures**	**Bulbs/Fixture**	**Watts/Bulb**	**Total Wattage**
Bathroom:	Incandescent (1)	2	75	150
Bathroom 2:	Incandescent (1)	2	75	150
Bedroom 1:	Incandescent (1)	2	75	150
Bedroom 2: (108)	Incandescent (1)	2	75	150
Bedroom 3: (359)	Incandescent (1)	2	75	150
Bedroom 4: (87)	Incandescent (1)	2	75	150
Bedroom 5: (25)	Incandescent (1)	2	60	120
Kitchen:	Incandescent (1)	2	75	150
Basement:	Incandescent (4)	1	75	300
Dining Room:	Incandescent (1)	2	75	150
Hallway/Stair:	Incandescent (1)	2	60	120
Plug Load				**Quantity**
Electrical Devices:	Lamps, Televisions, VCRs/DVDs, Stereo, Microwave, Fans, Toasters, Clocks, Coffee Maker, Window AC Unit			15 Average
Water Fixtures:	**Faucets**	**Laundry Tub**	**Showerhead**	**Toilets**
Bathroom: (2 full bathrooms)	(2) 2.2 gpm aerator	5.0+ no aerator	(2) 2.5 gpm non aerated	(2)1.6 gpf gravity pressure asst WMI
Kitchen:	2.2 gpm aerator			
Appliances:	**Washer/Dryer**	**Ovens/Stoves**	**Refrigerator**	**Misc.**
	Some units have washers and dryers Gas hook ups	Magic Chef Gas 20" Most in fair cond.	Kenmore Electric Most in fair cond.	
Heating/Cooling:	**Furnace**	**A/C Condensers**	**Domestic Hot Water**	**Misc.**
	Central (Baseboard) or Forced air 75K - 100KBtu poor cond. (70% efficiency)	ProTech / Rheem Window Unit 12K capacity	Central/ HiBoys - Gas 40 gal 35-40Btu Most in fair cond.	

Region II

Typical Sight Description **Table 3-8**

PA 28-11 Hamilton Larimer / Auburn Tower				
Building Envelope:	**Material**	**Depth/Dimension**	**Quantity**	**Operable**
Exterior Walls:	Brick Air Space Block Plaster	4" 1" 6"		
First Story:	Brick			
Second Story:	Brick			
Insulation	solid			
Windows:	Alum Frame/D Glass	37x47.5 37x16x16 31x64x31.5	3 3 1	Y Y Y
Doors:	Metal hollow	33.75 x 93	1	Y
Lighting:	**# Fixtures**	**Bulbs/Fixture**	**Watts/Bulb**	**Total Wattage**
Bathroom:	Incandescent (1)	2	60	120
Bedroom 1: (111)	Incandescent (1)	1	60	60
Bedroom 2: (129)	Incandescent (1)	1	60	60
Kitchen:	Incandescent (1)	2	60	120
Porch:				
Living Room:	Incandescent (1)	1	60	60
Dining Room:				
Hallway/Stair:	Incandescent (1)	2	60	120
Plug Load				**Quantity**
Electrical Devices:	Lamps, Televisions, VCRs/DVDs, Stereo, Microwave, Fans, Toasters, Clocks, Coffee Maker, Window AC Unit			17 Average
Water Fixtures:	**Faucets**	**Laundry Tub**	**Showerhead**	**Toilets**
Bathroom:	2.0 gpm aerator		2.5 non aerator	American Stand. 3.5 gpm Floor Discharge
Kitchen:	2.0 gpm aerator			
Appliances:	**Washer/Dryer**	**Ovens/Stoves**	**Refrigerator**	**Misc.**
	Laundry facilities on each floor	Gas, Magic Chef/ Brown 20" most fair condition	Electric, Kenmore 23" Good to fair condition	
Heating/Cooling:	**Furnace**	**A/C Condensers**	**Domestic Hot Water**	**Misc.**
	Central,	Some Window AC Units	Central Hot Water	

Region II

Typical Sight Description Table 3-8

PA 28-12 Garfield Heights				
Building Envelope:	**Material**	**Depth/Dimension**	**Quantity**	**Operable**
Exterior Walls:	Brick Stud Wood Frame Plaster	4" 1" - 1and1/2" 3/4"		
First Story:	Brick			
Second Story:	Brick			
Insulation	solid			
Windows:	Alum Frame/D Glass	70x33 65x44 27.75x52 23.5x36 31.5x52	2 2 1 1 1	Y Y Y Y Y
Doors:	Metal (hollow)	31 x 79	2	Y (good condition)
Lighting:	**# Fixtures**	**Bulbs/Fixture**	**Watts/Bulb**	**Total Wattage**
Bathroom:	Incandescent (1)	2	60	120
Bathroom 2:	Incandescent (1)	2	60	120
Bedroom 1:	Incandescent (1)	2	60	120
Bedroom 2:	Incandescent (1)	2	60	120
Bedroom 3: (229)	Incandescent (1)	2	60	120
Bedroom 4: (65)	Incandescent (1)	2	60	120
Bedroom 5: (32)	Incandescent (1)	2	60	120
Basement:	Incandescent (3)	1	60	180
Kitchen:	Incandescent (1)	2	60	120
Porch:	Incandescent (1)	1	60	60
Dining Room:	Incandescent (1)	1	60	60
Hallway/Stair:	Incandescent (2)	1	60	120
Plug Load				**Quantity**
Electrical Devices:	Lamps, Televisions, VCRs/DVDs, Stereo, Microwave, Fans, Toasters, Clocks, Coffee Maker, Window AC Unit			15 Average
Water Fixtures:	**Faucets**	**Laundry Tub**	**Showerhead**	**Toilets**
Bathroom: (2nd bathroom no shw)	(2) 2.0 gpm aerator	5.0+	2.0 non aerator	(2) WM 1.6 PA
Kitchen:	2.0 gpm aerator			
Appliances:	**Washer/Dryer**	**Ovens/Stoves**	**Refrigerator**	**Misc.**
Kitchen	Most units have Washer and Dryers	Gas, Kenmore 29.5", Pilot	Electric, Kenmore 23"	Freezers in some units
Heating/Cooling:	**Furnace**	**A/C Condensers**	**Domestic Hot Water**	**Misc.**
	Bryant 75K – 100K capacity 80% eff. most good cond.	Most have Window AC Units	Various brands Most Fair Condition 40 gal. 35–38K Btu	

Region II

Typical Sight Description **Table 3-8**

PA 28-20 Homewood North Townhouses				
Building Envelope:	**Material**	**Depth/Dimension**	**Quantity**	**Operable**
Exterior Walls:	Brick Air Space Studs Drywall	4" 1" 2.5" .5"		
First Story:	Brick			
Second Story:	Brick			
Insulation	solid			
Windows:	Alum Frame/D Glass	46x55 46x46 10x45	1 4 2	Y Y Y
Doors:	Metal hollow	35 x 80	2	Poor Gasketing
Lighting:	**# Fixtures**	**Bulbs/Fixture**	**Watts/Bulb**	**Total Wattage**
Bathroom:	Incandescent (1)	4	60	240
Bathroom 2:	Incandescent (1)	2	60	120
Bedroom 1:	Incandescent (1)	4	60	240
Bedroom 2: (38)	Incandescent (1)	4	60	240
Bedroom 3: (58)	Incandescent (1)	4	60	240
Bedroom 4: (30)	Incandescent (1)	4	60	240
Bedroom 6: (9)	Incandescent (1)	4	60	240
Kitchen:	Fluorescent (1)	2	34	68
Porch:	CF (1)	1	60	60
Living Room:	CF (1)	1	60	60
Dining Room:	CF (1)	2	75	150
Hallway/Stair:	CF (1)	1	60	60
Plug Load				**Quantity**
Electrical Devices:	Lamps, Televisions, VCRs/DVDs, Stereo, Microwave, Computers, Fans, Toasters, Clocks, Coffee Maker, Window AC Unit			20 Average
Water Fixtures:	**Faucets**	**Laundry Tub**	**Showerhead**	**Toilets**
Bathroom: (2nd bathroom , no shower)	(2) 1.5 gpm aerator		2.0 non aerator	(2) WMI 1.6 PA floor discharge
Kitchen:	2.2 gpm aerator			
Appliances:	**Washer/Dryer**	**Ovens/Stoves**	**Refrigerator**	**Misc.**
	Most units have Washers and Dryers – Electric and Gas hook ups	Gas, 30", good - fair condition	Electric, 28" Good to fair condition	
Heating/Cooling:	**Furnace**	**A/C Condensers**	**Domestic Hot Water**	**Misc.**
	Forced Air, Payne Up flow, Manual TStat most Good Cond.	Some units have Window AC Unit	40/ gallon Gas 35K Btu in good cond.	

Region III

Typical Sight Description **Table 3-8**

PA 28-04 Arlington Heights				
Building Envelope:	**Material**	**Depth/Dimension**	**Quantity**	**Operable**
Exterior Walls:	Brick Air Space Block Stud Dry Wall	4" 1" 8" 2.5" .5"		
First Story:	Brick			
Second Story:	Brick			
Insulation	Hollow			
Windows:	Alum Frame/D Glass	23x48x23 25.5x49x23 23x35x17 15x35.5x17 26x35.5x17	3 2 3 1 2	Y Y Y Y Y
Doors:	Steel (hollow)	35.5 x 79	1	No gasketing (poor)
Lighting:	**# Fixtures**	**Bulbs/Fixture**	**Watts/Bulb**	**Total Wattage**
Bathroom:	Fluorescent (1)	2	20	40
Bedroom 1: (36)	Incandescent (1)	1	60	60
Bedroom 2: (114)	Incandescent (1)	1	60	60
Kitchen:	Incandescent (1)	2	75	150
Living Room:	Incandescent (1)	1	60	60
Hallway/Stair:	Incandescent (1)	1	60	60
Plug Load				**Quantity**
Electrical Devices:	Lamps, Televisions, VCRs/DVDs, Stereo, Computer, Microwave, Toasters, Clocks, Coffee Maker, some Window AC Units			15 Average
Water Fixtures:	**Faucets**	**Laundry Tub**	**Showerhead**	**Toilets**
Bathroom:	2.0 gpm aerator		2.5 non aerator	Gerber 3.5 or American Standard 1.6 gravity, floor discharge
Kitchen:	2.0 gpm aerator			
Appliances:	**Washer/Dryer**	**Ovens/Stoves**	**Refrigerator**	**Misc.**
	Hook ups present (gas)	Gas, Magic Chef/ Kenmore 30", fair – poor condition	Electric, Frigidaire Most in fair condition	
Heating/Cooling:	**Furnace**	**A/C Condensers**	**Domestic Hot Water**	**Misc.**
	Central / Baseboard/ Arlington Boiler (2) like the Peerless Gas Fired Boiler with radiant heat	None some window units	Central Hot Water Boiler 1994 Roypak Insulated 80 series pump	

Region III

Typical Sight Description Table 3-8

PA 28-07 St. Clair Village Town homes				
Building Envelope:	**Material**	**Depth/Dimension**	**Quantity**	**Operable**
Exterior Walls:	Brick Air Space Studs Blue Board/Dry Wall	4" 1" 4" .5"		
First Story:	Brick			
Second Story:	Brick			
Insulation	Hollow			
Windows:	Alum Frame/D Glass Sizes vary based on number of bedrooms - Standard 3 bdrm	30.5 x 70.5 19.5x50x23 29.5 x 59 26x37.5x17 33x23x16 18.5x37.5	1 (block) 2 1 8 2 1	Y Y Y Y Y Y
Doors:	Metal (hollow)	35.5 x 78"	1 - 2	Y – Good to fair
Lighting:	**# Fixtures**	**Bulbs/Fixture**	**Watts/Bulb**	**Total Wattage**
Bathroom:	Incandescent(1)	2	60	120
Bedroom 1:	Incandescent (1)	2	60	120
Bedroom 2: (80)	Incandescent (1)	2	60	120
Bedroom 3: (311)	Incandescent (1)	2	60	120
Bedroom 4: (55)	Incandescent (1)	2	60	120
Kitchen:	Incandescent (2)	3	60	360
Living Room:	Incandescent (1)	1	60	60
Porch:	Incandescent (2)	1	75	150
Basement:	Incandescent (2)	1	100	200
Hallway/Stair:	Incandescent (4)	2	60	240
Plug Load				**Quantity**
Electrical Devices:	Lamps, Televisions, VCRs/DVDs, Stereo, Computer, Microwave, Toasters, Clocks, Coffee Maker, some Window AC Units			15 Average
Water Fixtures:	**Faucets**	**Laundry Tub**	**Showerhead**	**Toilets**
Bathroom:	2.0 gpm aerator		2.5 non aerator	WMI 1.6 gravity, PA, floor discharge
Kitchen:	2.0 gpm aerator			
Appliances:	**Washer/Dryer**	**Ovens/Stoves**	**Refrigerator**	**Misc.**
	Hook ups present (gas)	Electric, Roper /Kenmore 30", good – fair condition	Electric- ,Whirlpool/Frigidaire Most in fair condition	
Heating/Cooling:	**Furnace**	**A/C Condensers**	**Domestic Hot Water**	**Misc.**
	Force Air Goodman / Baseboard Fair Condition 90% eff.	Some window a/c units	Rudd Hi-Boy Gas 40 gallon – Gas – fair condition	

Region III

Typical Sight Description **Table 3-8**

PA 28-31 Murray Towers				
Building Envelope:	**Material**	**Depth/Dimension**	**Quantity**	**Operable**
Exterior Walls:	Brick Air Space Block Studs Blue Board/Dry Wall	4" 1" 6" 2.5" .5"		
First Story:	Brick			
Insulation	Hollow			
Windows:	Alum Frame/D Glass	26 x 48 32.5 x 48 x 22.5	4 5	Y Y
Doors:	No external doors			
Lighting:	**# Fixtures**	**Bulbs/Fixture**	**Watts/Bulb**	**Total Wattage**
Bathroom:	Incandescent (1) Efficiencies contain Fluorescents	2 2	60 34	120 68
Bedroom 1: (30 and – 40 efficiencies	Incandescent (1)	2	60	120
Kitchen:	Incandescent (1)	2 - 3 2	60 34	120 - 180 68
Living Room:	Incandescent (1)	1	60	60
Dining Room:				
Hallway/Stair:	Incandescent (1)	1	60	120
Plug Load				**Quantity**
Electrical Devices:	Lamps, Televisions, VCRs/DVDs, Microwave, Toasters, Fans, Clocks, Coffee Maker, some Window AC Units			10 Average
Water Fixtures:	**Faucets**	**Laundry Tub**	**Showerhead**	**Toilets**
Bathroom:	2.0 gpm aerator		2.5 gpm aerator (2.0 gpm aerator in efficiency units)	Gerber 3.5 gravity fd (in efficiency units 1.6 pa)
Kitchen:	2.2 gpm aerator			
Appliances:	**Washer/Dryer**	**Ovens/Stoves**	**Refrigerator**	**Misc.**
	On Site Laundry Facilities	Gas, HotPoint or Magic Chef 20", fair – poor condition	Electric, GE or Kenmore 28" Good to fair condition	
Heating/Cooling:	**Furnace**	**A/C Condensers**	**Domestic Hot Water**	**Misc.**
	Central, Radiant HWBaseboard from Central Plant	Window AC Comfortaire Unit	Central Hot Water	

Region III

Typical Sight Description **Table 3-8**

PA 28-32 Glen Hazel – Low Rise (Town Homes)				
Building Envelope:	**Material**	**Depth/Dimension**	**Quantity**	**Operable**
Exterior Walls:	Siding Air Space Studs Dry Wall	4" 1" 2.5" .5"		
First Story:	Aluminum Siding			
Second Story:	Aluminum Siding			
Windows:	Alum Frame/D Glass	72x53.5x34 45.5x46x23 34.5x34.5x17 36x47x19 46.5x47x23.5	1 3 1 1 5	
Doors:	Metal, hollow	35.5x80.5 31.5x79.5	1 1	Y Y
Lighting:	**# Fixtures**	**Bulbs/Fixture**	**Watts/Bulb**	**Total Wattage**
Bathroom:	Incandescent (1)	2	60	120
Bathroom 2:	Incandescent (1)	2	60	120
Bedroom 1: (606)	Incandescent (1)	2	60	120
Bedroom 2: (756)	Incandescent (1)	2	60	120
Bedroom 3: (1,266)	Incandescent (1)	2	60	120
Bedroom 4: (1,300)	Incandescent (1)	2	60	120
Bedroom 5:	Incandescent (1)	2	60	120
Kitchen:	Incandescent (1)	2 - 3	60	120 - 180
Porch:	Incandescent (2)	1	60	120
Dining Room:	Incandescent (1)	4	60	240
Hallway/Stair:	Incandescent (4)	4	60	240
Plug Load				**Quantity**
Electrical Devices:	Lamps, Televisions, VCRs/DVDs, Microwave, Toasters, Fans, Clocks, Coffee Maker, some Window AC Units			20+ Average
Water Fixtures:	**Faucets**	**Laundry Tub**	**Showerhead**	**Toilets**
Bathroom: (full bath and powder room)	(2) 2.2 gpm aerator	4.0+	2.0 gpm aerator	(2) WMI 1.6 PA
Kitchen:	2.0 gpm aerator			
Appliances:	**Washer/Dryer**	**Ovens/Stoves**	**Refrigerator**	**Misc.**
	Units are equipped with electric or gas hookups for Washer Dryer	Gas, Magic Chef/ Maytag, 29.5", fair - poor	Electric, Kenmore 28.5" Good to fair condition	
Heating/Cooling:	**Furnace**	**A/C Condensers**	**Domestic Hot Water**	**Misc.**
	Forced Air Bryant 1/3 hp up flow good condition 80% effic.	Window AC Units in some town homes	Rudd or State Select HiBoy 40Gal Gas – Good condition	

Region III

Typical Sight Description Table 3-8

PA 28-33 Glen Hazel – High Rise				
Building Envelope:	**Material**	**Depth/Dimension**	**Quantity**	**Operable**
Exterior Walls:	Laminated Studs Wall Board	4" 2.5" .5"		
First Story:	Brick			
Windows:	Alum Frame/D Glass	70x47x36.5	2	
Doors:	Metal, sliding pane	71x79	2	Y
Lighting:	**# Fixtures**	**Bulbs/Fixture**	**Watts/Bulb**	**Total Wattage**
Bathroom:	Incandescent (1)	2	60	120
Bedroom 1: (90)	Incandescent (1)	2	60	120
Bedroom 2: (7)	Incandescent (1)	2	60	120
Kitchen:	Incandescent (1)	2	60	120
Porch:				
Living Room:				
Dining Room:	Incandescent (1)	1	60	60
Hallway/Stair:	Incandescent (1)	2	60	120
Plug Load				**Quantity**
Electrical Devices:	Lamps, Televisions, VCRs/DVDs, Stereos, Microwave, Coffee Maker Toasters, Fans, Clocks, Window A/C Units			12 Average
Water Fixtures:	**Faucets**	**Laundry Tub**	**Showerhead**	**Toilets**
Bathroom:	2.0 gpm aerator	5.0+	2.5 gpm aerator	3.5 gravity fd
Kitchen:	2.0 gpm aerator			
Appliances:	**Washer/Dryer**	**Ovens/Stoves**	**Refrigerator**	**Misc.**
	On Site laundry facilities	Glenwood GBE22AA Electric, 20" fair – poor condition	Electric, Kenmore 28.5" fair - poor condition	
Heating/Cooling:	**Furnace**	**A/C Condensers**	**Domestic Hot Water**	**Misc.**
	Central Plant, HW Baseboard Radiant heat, Good condition	Window AC Unit most 12K Btu	Central Hot Water	

Region III

Typical Sight Description Table 3-8

PA 28-34 Mazza Pavilion				
Building Envelope:	**Material**	**Depth/Dimension**	**Quantity**	**Operable**
Exterior Walls:	Brick Air space Block Stud Drywall	4" 1" 6" 2.5" .5		
First Story:	Brick			
Second Story:	Stucco			
Insulation	Hollow			
Windows:	Alum Frame/D Glass	47x53.5x23.5 77.5x52.5x37.5	2 2	Y Y
Doors:	No exterior doors			
Lighting:	**# Fixtures**	**Bulbs/Fixture**	**Watts/Bulb**	**Total Wattage**
Bathroom:	Fluorescent (1)	2	15	30
Bedroom 1: (30)				
Kitchen:	Incandescent (1)	2	60	120
Living Room:				
Dining Room:	Incandescent (1)	6	15	90
Hallway/Stair:	Incandescent (1)	1	60	60
Plug Load				**Quantity**
Electrical Devices:	Lamps, Televisions, VCRs/DVDs, Microwave, Toasters, Clocks, Coffee Maker			10 Average
Water Fixtures:	**Faucets**	**Laundry Tub**	**Showerhead**	**Toilets**
Bathroom:	2.0 gpm aerator		2.5 gpm aerator	American Std. 3.5 gravity floor discharge
Kitchen:	2.0 gpm aerator			
Appliances:	**Washer/Dryer**	**Ovens/Stoves**	**Refrigerator**	**Misc.**
	On Site Laundry Room	Gas, Magic Chef/ 20", Pilot	Electric, Kenmore 28"	
Heating/Cooling:	**Furnace**	**A/C Condensers**	**Domestic Hot Water**	**Misc.**
	Central, Singer Incremental (PTAC) HW Boiler Coil, Hand Switch T-State	Central, Singer Incremental – 3 – 4 years old – good condition	Central Hot Water	

Region III

Typical Sight Description **Table 3-8**

PA 28-41 Caliguiri High Rise				
Building Envelope:	**Material**	**Depth/Dimension**	**Quantity**	**Operable**
Exterior Walls:	Finishing (spray-on) Block Air space Block Stud Drywall	 6" 1" 6" 2.5" .5		
Insulation	Hollow			
Windows:	Alum Frame/D Glass	34.5x49 68x49x34	1 3	Y Y
Doors:	Metal (hollow)	35.5x79.5	2	Y (no gasketing)
Lighting:	**# Fixtures**	**Bulbs/Fixture**	**Watts/Bulb**	**Total Wattage**
Bathroom:	Incandescent (1)	2 or 4	60	120 or 240
Bedroom 1: (104)	Incandescent (1)	1	60	60
Kitchen:	Fluorescent (1)	2	34	68
Porch:				
Living Room:	Incandescent (1)	1	40	40
Dining Room:				
Hallway/Stair:	Incandescent (1)	1	60	60
Plug Load				**Quantity**
Electrical Devices:	Lamps, Televisions, VCRs/DVDs, Microwave, Toasters, Clocks			8 Average
Water Fixtures:	**Faucets**	**Laundry Tub**	**Showerhead**	**Toilets**
Bathroom:	2.0 gpm aerator		2.5 non aerator	Elder - American Stand. 3.5 Gravity, Floor Discharge
Kitchen:	2.0 gpm aerator			
Appliances:	**Washer/Dryer**	**Ovens/Stoves**	**Refrigerator**	**Misc.**
	Laundry room on site	Electric, Kenmore/GE 30", good condition	Electric, Kenmore / Kitchenaide Good to fair condition	
Heating/Cooling:	**Furnace**	**A/C Condensers**	**Domestic Hot Water**	**Misc.**
	Central Fan Coil System	Central Fan Coil System	Central Hot Water	

Region III

Typical Sight Description Table 3-8

PA 28-42 Renova/Sunnyside				
Building Envelope:	**Material**	**Depth/Dimension**	**Quantity**	**Operable**
Exterior Walls:	Brick Stud Wood Frame Plaster	4" 1" - 1and1/2" 3/4"		
First Story:	Brick			
Second Story:	Brick			
Insulation	solid			
Windows:	Alum Frame/D Glass	70x33 65x44 27.75x52 23.5x36 31.5x52	2 2 1 1 1	Y Y Y Y Y
Doors:	Metal (hollow)	31 x 79	2	Y (good condition)
Lighting:	**# Fixtures**	**Bulbs/Fixture**	**Watts/Bulb**	**Total Wattage**
Bathroom:	Incandescent (1)	2	60	120
Bathroom 2:	Incandescent (1)	2	60	120
Bedroom 1:	Incandescent (1)	2	60	120
Bedroom 2:	Incandescent (1)	2	60	120
Bedroom 3: (229)	Incandescent (1)	2	60	120
Bedroom 4: (65)	Incandescent (1)	2	60	120
Bedroom 5: (32)	Incandescent (1)	2	60	120
Basement:	Incandescent (3)	1	60	180
Kitchen:	Incandescent (1)	2	60	120
Porch:	Incandescent (1)	1	60	60
Dining Room:	Incandescent (1)	1	60	60
Hallway/Stair:	Incandescent (2)	1	60	120
Plug Load				**Quantity**
Electrical Devices:	Lamps, Televisions, VCRs/DVDs, Stereo, Microwave, Fans, Toasters, Clocks, Coffee Maker, Window AC Unit			15 Average
Water Fixtures:	**Faucets**	**Laundry Tub**	**Showerhead**	**Toilets**
Bathroom: (2nd bathroom no shw)	(2) 2.0 gpm aerator	5.0+	2.0 non aerator	(2) WM 1.6 PA
Kitchen:	2.0 gpm aerator			
Appliances:	**Washer/Dryer**	**Ovens/Stoves**	**Refrigerator**	**Misc.**
Kitchen	Most units have Washer and Dryers	Gas, Kenmore 29.5", Pilot	Electric, Kenmore 23"	Freezers in some units
Heating/Cooling:	**Furnace**	**A/C Condensers**	**Domestic Hot Water**	**Misc.**
	Bryant 75K – 100K capacity 80% eff. most good cond.	Most have Window AC Units	Various brands Most Fair Condition 40 gal. 35–38K Btu	

Region III

Typical Sight Description Table 3-8

PA 28-44 Finello Pavilion (High Rise)				
Building Envelope:	**Material**	**Depth/Dimension**	**Quantity**	**Operable**
Exterior Walls:	Brick Air space Stud Drywall	4" 1" 4" .5		
First Story:	Brick			
Insulation	Hollow			
Windows:	Alum Frame/D Glass	35.5x47x23 39x47.5x23.5 29x46x23	2 1 3	Y Y
Doors:	No exterior doors			
Lighting:	**# Fixtures**	**Bulbs/Fixture**	**Watts/Bulb**	**Total Wattage**
Bathroom:	Incandescent (1)	2	60	120
Bedroom 1: (60)	Incandescent (1)	2	250	500
Kitchen:	Fluorescent (1)	2	34	68
Dining Room:	Incandescent (1)	1	75	75
Hallway/Stair:	Incandescent (1)	1	60	60
Plug Load				**Quantity**
Electrical Devices:	Lamps, Televisions, Stereos, VCRs/DVDs, Microwave, Toasters, Clocks, Fans, Coffee Maker			13 Average
Water Fixtures:	**Faucets**	**Laundry Tub**	**Showerhead**	**Toilets**
Bathroom:	2.0 gpm aerator		2.0 gpm aerator	3.5 Gravity, floor discharge
Kitchen:	2.5 gpm aerator			
Appliances:	**Washer/Dryer**	**Ovens/Stoves**	**Refrigerator**	**Misc.**
	There is a laundry facility on-site	Electric, Hardwick / Glenwood 20", fair – poor condition	Electric, Kenmore or Frigidaire 28" Good to fair condition	
Heating/Cooling:	**Furnace**	**A/C Condensers**	**Domestic Hot Water**	**Misc.**
	Central, Whalen 2 pipe Fan Coil Unit T-Stat Whalen Fair Condition	Whalen 2 pipe Fan Coil Unit Up flow – Fair Condition	Central Hot Water	Individual meters

Region III

Typical Sight Description Table 3-8

PA 28-45 Morse Gardens				
Building Envelope:	**Material**	**Depth/Dimension**	**Quantity**	**Operable**
Exterior Walls:	Brick Air Space Block/Lathe Dry Wall	4" 1" 6"		
First Story:	Brick/Terra Cotta			
Second Story:	Brick			
Insulation	hollow			
Windows:	Alum Frame/D Glass	31x64x32 46x64.5 34x47x24	2 1 2	Y Y
Doors:	Metal (hollow)	35.5 x 83"	1	Y (no gasketing)
Lighting:	**# Fixtures**	**Bulbs/Fixture**	**Watts/Bulb**	**Total Wattage**
Bathroom:	Fluorescent (1)	2	20	40
Bedroom 1: (70)				
Kitchen:	Fluorescent (1)	2	34	68
Porch:				
Living Room:				
Dining Room:	Incandescent (1)	1	60	60
Hallway/Stair:	Incandescent (1)	1	60	60
Plug Load				**Quantity**
Electrical Devices:	Lamps, Televisions, VCRs/DVDs, Microwave, Fans, Toasters, Clocks, Coffee Maker, some Window AC Units			10 Average
Water Fixtures:	**Faucets**	**Laundry Tub**	**Showerhead**	**Toilets**
Bathroom:	2.0 gpm aerator		2.5 non aerator	Briggs 3.5 gravity, floor discharge
Kitchen:	2.0 gpm aerator			
Appliances:	**Washer/Dryer**	**Ovens/Stoves**	**Refrigerator**	**Misc.**
Kitchen		Electric, Glenwood fair – poor condition	Electric, Kenmore Varying condition	
Heating/Cooling:	**Furnace**	**A/C Condensers**	**Domestic Hot Water**	**Misc.**
	Central, HW Baseboard	Fan Coil System – Air cooled on roof some Window AC Unit	Central Hot Water	

Region III

Typical Sight Description Table 3-8

PA 28-46 Carrick Regency				
Building Envelope:	**Material**	**Depth/Dimension**	**Quantity**	**Operable**
Exterior Walls:	Brick Air Space Block Stud Dry Wall	4" 1" 6" 2.5" .5"		
First Story:	Brick			
Second Story:	Brick			
Insulation	hollow			
Windows:	Alum Frame/D Glass End units vary	46.5x58 58x143	2 4	Y Y
Doors:	Metal/Steel (hollow)	35 x78"	1	Y (no gasketing)
Lighting:	**# Fixtures**	**Bulbs/Fixture**	**Watts/Bulb**	**Total Wattage**
Bathroom:	Incandescent (1)	1	60	60
Bedroom 1: (66)	Incandescent (1)	2	60	120
Kitchen:	Fluorescent (1)	2	34	68
Other:	Incandescent (1)	1	75	75
Living Room:				
Dining Room:	Incandescent (1)	1	150	150
Hallway/Stair:	Incandescent (1)	1	60	60
Plug Load				**Quantity**
Electrical Devices:	Lamps, Televisions, VCRs/DVDs, Microwave, Fans, Toasters, Clocks, Coffee Maker			10 Average
Water Fixtures:	**Faucets**	**Laundry Tub**	**Showerhead**	**Toilets**
Bathroom:	2.0 gpm aerator		2.5 gpm aerator	WM or Amer. Stand 1.6 PA Floor Discharge
Kitchen:	2.0 gpm aerator			
Appliances:	**Washer/Dryer**	**Ovens/Stoves**	**Refrigerator**	**Misc.**
Kitchen	Laundry Facility on premises.	Electric, Hotpoint Most in fair condition 20"	Electric, Kenmore 28" Good to fair condition	
Basement				
Utility Room				
Heating/Cooling:	**Furnace**	**A/C Condensers**	**Domestic Hot Water**	**Misc.**
	Central, Fan Coil System, Trane	Central, Fan Coil System	Central Hot Water	

Region III

Typical Sight Description **Table 3-8**

PA 28-47 Gualtieri				
Building Envelope:	**Material**	**Depth/Dimension**	**Quantity**	**Operable**
Exterior Walls:	Brick Air Space Block Stud Dry Wall	4" 1" 6" 2.5" .5"		
First Story:	Brick			
Second Story:	Brick			
Insulation	hollow			
Windows:	Alum Frame/D Glass	35x55x27	4	Y
Doors:	No exterior			
Lighting:	**# Fixtures**	**Bulbs/Fixture**	**Watts/Bulb**	**Total Wattage**
Bathroom:	Incandescent (1)	2	60	120
Bedroom 1: (27)	Incandescent (1)	2	60	120
Kitchen:	Fluorescent (1)	2	34	68
Porch:				
Living Room:				
Dining Room:	Incandescent (1)	1	75	75
Hallway/Stair:	Incandescent (1)	2	60	120
Plug Load				**Quantity**
Electrical Devices:	Lamps, Televisions, VCRs/DVDs, Stereos, Microwave, Fans, Toasters, Clocks, Coffee Maker			15 Average
Water Fixtures:	**Faucets**	**Laundry Tub**	**Showerhead**	**Toilets**
Bathroom:	2.2 gpm aerator		2.5 gpm aerator	Eljer 3.5 gravity, fd
Kitchen:	2.2 gpm aerator			
Appliances:	**Washer/Dryer**	**Ovens/Stoves**	**Refrigerator**	**Misc.**
	On Site Laundry Room	Electric, Magic Chef/ Maytag, 20", Most in good condition	Electric, Kenmore 28.5" Good to fair condition	
Heating/Cooling:	**Furnace**	**A/C Condensers**	**Domestic Hot Water**	**Misc.**
	Central, Fan Coil Whalen 2 pipe, Whalen T-Stat, good condition	Central Fan-Coil, Whalen	Central Hot Water	Some units had Electric Heaters

Region III

Typical Sight Description **Table 3-8**

PA 28-57 Glen Hazel Disabled Units				
Building Envelope:	**Material**	**Depth/Dimension**	**Quantity**	**Operable**
Exterior Walls:	Siding Air Space Studs Dry Wall	4" 1" 2.5" .5"		
First Story:	Aluminum Siding			
Second Story:	Aluminum Siding			
Windows:	Alum Frame/D Glass	72x53.5x34 45.5x46x23 34.5x34.5x17 36x47x19 46.5x47x23.5	1 3 1 1 5	
Doors:	Metal, hollow	35.5x80.5 31.5x79.5	1 1	Y Y
Lighting:	**# Fixtures**	**Bulbs/Fixture**	**Watts/Bulb**	**Total Wattage**
Bathroom:	Incandescent (1)	2	60	120
Bathroom 2:	Incandescent (1)	2	60	120
Bedroom 1: (606)	Incandescent (1)	2	60	120
Bedroom 2: (756)	Incandescent (1)	2	60	120
Bedroom 3: (1,266)	Incandescent (1)	2	60	120
Bedroom 4: (1,300)	Incandescent (1)	2	60	120
Bedroom 5:	Incandescent (1)	2	60	120
Kitchen:	Incandescent (1)	2 - 3	60	120 - 180
Porch:	Incandescent (2)	1	60	120
Dining Room:	Incandescent (1)	4	60	240
Hallway/Stair:	Incandescent (4)	4	60	240
Plug Load				**Quantity**
Electrical Devices:	Lamps, Televisions, VCRs/DVDs, Microwave, Toasters, Fans, Clocks, Coffee Maker, some Window AC Units			20+ Average
Water Fixtures:	**Faucets**	**Laundry Tub**	**Showerhead**	**Toilets**
Bathroom: (full bath and powder room)	(2) 2.2 gpm aerator	4.0+	2.0 gpm aerator	(2) WMI 1.6 PA
Kitchen:	2.0 gpm aerator			
Appliances:	**Washer/Dryer**	**Ovens/Stoves**	**Refrigerator**	**Misc.**
	Units are equipped with electric or gas hookups for Washer Dryer	Gas, Magic Chef/ Maytag, 29.5", fair - poor	Electric, Kenmore 28.5" Good to fair condition	
Heating/Cooling:	**Furnace**	**A/C Condensers**	**Domestic Hot Water**	**Misc.**
	Forced Air Bryant 1/3 hp up flow good condition 80% effic.	Window AC Units in some town homes	Rudd or State Select HiBoy 40Gal Gas – Good condition	

Region III

Typical Sight Description **Table 3-8**

PA 28-62 Broadhead Manor				
Building Envelope:	**Material**	**Depth/Dimension**	**Quantity**	**Operable**
Exterior Walls:	Brick Air Space Block Stud Dry Wall	4" 1" 6" 2.5" .5"		
First Story:	Brick			
Second Story:	Brick			
Insulation	hollow			
Windows:	Alum Frame/D Glass	37x30.5 30x29x18.5 34x26x22 33.5x28 33.5x58 30x32x16	1 2 4 2 2 4	Y
Doors:	Metal Hollow	35x79	2	
Lighting:	**# Fixtures**	**Bulbs/Fixture**	**Watts/Bulb**	**Total Wattage**
Bathroom:	Incandescent (1)	2	60	120
Bedroom 1:	Incandescent (1)	3	60	180
Bedroom 2:	Incandescent (1)	3	60	180
Bedroom 3:				
Bedroom 4:				
Utility Room:	Incandescent (1)	2	60	120
Kitchen:	Incandescent (2)	3	60	180
Porch:	Incandescent (1)	1	60	60
Living Room:	Incandescent (1)	2	60	120
Dining Room:				
Hallway/Stair:	Incandescent (2)	2	60	240
Plug Load				**Quantity**
Electrical Devices:	Lamps, Televisions, VCRs/DVDs, Microwave, Toasters, Fans, Clocks, Coffee Maker, some Window AC Units			20+ Average
Water Fixtures:	**Faucets**	**Laundry Tub**	**Showerhead**	**Toilets**
Bathroom:	2.2 gpm aerator	4.0+	2.5 gpm aerator	3.5 gpm gravity, floor discharge
Kitchen:	2.2 gpm aerator			
Appliances:	**Washer/Dryer**	**Ovens/Stoves**	**Refrigerator**	**Misc.**
Kitchen	Hook up Gas	Gas, Hotpoint Maytag, 30"	Electric, Frigidaire 28.5"	
Heating/Cooling:	**Furnace**	**A/C Condensers**	**Domestic Hot Water**	**Misc.**
	FHA Comfortmaker Up flow 70% Eff	Window AC Unit	Hot Water Gas 40 gal Bradford White Hi-Boy 32K Btu	

Region III

Typical Sight Description **Table 3-8**

PA 28-22, 28-39, 28-43, 28-50, 28-51 Scattered Sites				
Building Envelope:	**Material**	**Depth/Dimension**	**Quantity**	**Operable**
Exterior Walls:	Brick Air Space Block Stud Dry Wall	4" 1" 6" 2.5" .5"		
First Story:	Brick			
Second Story:	Brick			
Insulation	hollow			
Windows:	Alum Frame/D Glass	Window Size varies	(Average 5-12)	Y
Doors:	Metal Hollow	36x83	2	Poor Gasketing
Lighting:	**# Fixtures**	**Bulbs/Fixture**	**Watts/Bulb**	**Total Wattage**
Bathroom:	Incandescent (2)	2	60	240
Bathroom 2:	Incandescent (2)	2	60	240
Bedroom 1:	Incandescent (1)	2	60	120
Bedroom 2:	Incandescent (1)	2	60	120
Bedroom 3:	Incandescent (1)	2	60	120
Bedroom 4:	Incandescent (1)	2	60	120
Other:	Incandescent (4)	4	60	240
Kitchen:	Incandescent (1)	2	60	120
Porch:	Incandescent (2)	1	60	120
Living Room:	Incandescent (1)	2	60	120
Dining Room:	Incandescent (1)	2	60	120
Hallway/Stair:	Incandescent (1)	2	60	120
Plug Load				**Quantity**
Electrical Devices:	Lamps, Televisions, VCRs/DVDs, Microwave, Toasters, Fans, Clocks, Coffee Maker, some Window AC Units			20+ Average
Water Fixtures:	**Faucets**	**Laundry Tub**	**Showerhead**	**Toilets**
Bathroom: Full Bath and Powder room	(2) 2.0 gpm aerator		2.5 aerator	(2) 3.5 gravity, floor discharge
Kitchen:	2.0 gpm aerator			
Appliances:	**Washer/Dryer**	**Ovens/Stoves**	**Refrigerator**	**Misc.**
	Some units have Electric Washer/Dryers – Some Gas	Gas, 30" varying condition	Electric 28" Varying condition	
Heating/Cooling:	**Furnace**	**A/C Condensers**	**Domestic Hot Water**	**Misc.**
	FHA Comfortmaker/Bryant Up flow 90% + Eff Fair condition	Window AC Unit	Rudd/State Select 40 gal – HiBoy Gas Good Condition	

3.3 Occupancy Schedules

The units are occupied in typical residential fashion. The majority of units are occupied in the evening and night, while a number are also occupied during the day. This general occupancy schedule is assumed to occur 365 days a year. The residents have control over dwelling temperature levels within the units via wall-mounted thermostats.

HOUSING AUTHORITY OF THE CITY OF PITTSBURGH

Request for Proposals
For
Comprehensive Energy Performance Services

Attachment C.
Instructions to Offerors Non-Construction

Instructions to Offerors Non-Construction

U.S. Department of Housing and Urban Development
Office of Public and Indian Housing

- 03291 -

1. Preparation of Offers

(a) Offerors are expected to examine the statement of work, the proposed contract terms and conditions, and all instructions. Failure to do so will be at the offeror's risk.

(b) Each offeror shall furnish the information required by the solicitation. The offeror shall sign the offer and print or type its name on the cover sheet and each continuation sheet on which it makes an entry. Erasures or other changes must be initialed by the person signing the offer. Offers signed by an agent shall be accompanied by evidence of that agent's authority, unless that evidence has been previously furnished to the HA.

(c) Offers for services other than those specified will not be considered.

2. Submission of Offers

(a) Offers and modifications thereof shall be submitted in sealed envelopes or packages (1) addressed to the office specified in the solicitation, and (2) showing the time specified for receipt, the solicitation number, and the name and address of the offeror.

(b) Telegraphic offers will not be considered unless authorized by the solicitation; however, offers may be modified by written or telegraphic notice.

(c) Facsimile offers, modifications or withdrawals will not be considered unless authorized by the solicitation.

3. Amendments to Solicitations

(a) If this solicitation is amended, then all terms and conditions which are not modified remain unchanged.

(b) Offerors shall acknowledge receipt of any amendments to this solicitation by

(1) signing and returning the amendment;
(2) identifying the amendment number and date in the space provided for this purpose on the form for submitting an offer,
(3) letter or telegram, or
(4) facsimile, if facsimile offers are authorized in the solicitation. The HA/HUD must receive the acknowledgment by the time specified for receipt of offers.

4. Explanation to Prospective Offerors

Any prospective offeror desiring an explanation or interpretation of the solicitation, statement of work, etc., must request it in writing soon enough to allow a reply to reach all prospective offerors before the submission of their offers. Oral explanations or instructions given before the award of the contract will not be binding. Any information given to a prospective offeror concerning a solicitation will be furnished promptly to all other prospective offerors as an amendment of the solicitation, if that information is necessary in submitting offers or if the lack of it would be prejudicial to any other prospective offerors.

5. Responsibility of Prospective Contractor

(a) The HA shall award a contract only to a responsible prospective contractor who is able to perform successfully under the terms and conditions of the proposed contract. To be determined responsible, a prospective contractor must -

(1) Have adequate financial resources to perform the contract, or the ability to obtain them;
(2) Have a satisfactory performance record;
(3) Have a satisfactory record of integrity and business ethics;
(4) Have a satisfactory record of compliance with public policy (e.g., Equal Employment Opportunity); and
(5) Not have been suspended, debarred, or otherwise determined to be ineligible for award of contracts by the Department of Housing and Urban Development or any other agency of the U.S. Government. Current lists of ineligible contractors are available for inspection at the HA/HUD.

(b) Before an offer is considered for award, the offeror may be requested by the HA to submit a statement or other documentation regarding any of the foregoing requirements. Failure by the offeror to provide such additional information may render the offeror ineligible for award.

6. Late Submissions, Modifications, and Withdrawal of Offers

(a) Any offer received at the place designated in the solicitation after the exact time specified for receipt will not be considered unless it is received before award is made and it -

(1) Was sent by registered or certified mail not later than the fifth calendar day before the date specified for receipt of offers (e.g., an offer submitted in response to a solicitation requiring receipt of offers by the 20th of the month must have been mailed by the 15th);
(2) Was sent by mail, or if authorized by the solicitation, was sent by telegram or via facsimile, and it is determined by the HA/HUD that the late receipt was due solely to mishandling by the HA/HUD after receipt at the HA;
(3) Was sent by U.S. Postal Service Express Mail Next Day Service - Post Office to Addressee, not later than 5:00 p.m. at the place of mailing two working days prior to the date specified for receipt of proposals. The term "working days" excludes weekends and U.S. Federal holidays; or
(4) Is the only offer received.

(b) Any modification of an offer, except a modification resulting from the HA's request for "best and final" offer (if this solicitation is a request for proposals), is subject to the same conditions as in subparagraphs (a)(1), (2), and (3) of this provision.

(c) A modification resulting from the HA's request for "best and final" offer received after the time and date specified in the request will not be considered unless received before award and the late receipt is due solely to mishandling by the HA after receipt at the HA.

(d) The only acceptable evidence to establish the date of mailing of a late offer, modification, or withdrawal sent either by registered or certified mail is the U.S. or Canadian Postal Service postmark both on the envelope or wrapper and on the original receipt from the U.S. or Canadian Postal Service. Both postmarks must show a legible date or the offer, modification, or withdrawal shall be processed as if mailed late. "Postmark" means a printed, stamped, or otherwise placed impression (exclusive of a postage meter machine impression) that is readily identifiable without further action as having been supplied and affixed by employees of the U.S. or Canadian Postal Service on the date of mailing. Therefore, offerors should request the postal clerk to place a hand cancellation bull's-eye postmark on both the receipt and the envelope or wrapper.

(e) The only acceptable evidence to establish the time of receipt at the HA is the time/date stamp of HA on the offer wrapper or other documentary evidence of receipt maintained by the HA.

(f) The only acceptable evidence to establish the date of mailing of a late offer, modification, or withdrawal sent by Express Mail Next Day Service-Post Office to Addressee is the date entered by the post office receiving clerk on the "Express Mail Next Day Service-Post Office to Addressee" label and the postmark on both the envelope or wrapper and on the original receipt from the U.S. Postal Service. "Postmark" has the same meaning as defined in paragraph (c) of this provision, excluding postmarks of the Canadian Postal Service. Therefore, offerors should request the postal clerk to place a legible hand cancellation bull's eye postmark on both the receipt and the envelope or wrapper.

(g) Notwithstanding paragraph (a) of this provision, a late modification of an otherwise successful offer that makes its terms more favorable to the HA will be considered at any time it is received and may be accepted.

(h) If this solicitation is a request for proposals, proposals may be withdrawn by written notice, or if authorized by this solicitation, by telegram (including mailgram) or facsimile machine transmission received at any time before award. Proposals may be withdrawn in person by a offeror or its authorized representative if the identity of the person requesting withdrawal is established and the person signs a receipt for the offer before award. If this solicitation is an invitation for bids, bids may be withdrawn at any time prior to bid opening.

7. Contract Award

(a) The HA will award a contract resulting from this solicitation to the responsible offeror whose offer conforming to the solicitation will be most advantageous to the HA, cost or price and other factors, specified elsewhere in this solicitation, considered.

(b) The HA may
(1) reject any or all offers if such action is in the HA's interest,
(2) accept other than the lowest offer,
(3) waive informalities and minor irregularities in offers received, and (4) award more than one contract for all or part of the requirements stated.

(c) If this solicitation is a request for proposals, the HA may award a contract on the basis of initial offers received, without discussions. Therefore, each initial offer should contain the offeror's best terms from a cost or price and technical standpoint.

(d) A written award or acceptance of offer mailed or otherwise furnished to the successful offeror within the time for acceptance specified in the offer shall result in a binding contract without further action by either party. If this solicitation is a request for proposals, before the offer's specified expiration time, the HA may accept an offer, whether or not there are negotiations after its receipt, unless a written notice of withdrawal is received before award. Negotiations conducted after receipt of an offer do not constitute a rejection or counteroffer by the HA.

(e) Neither financial data submitted with an offer, nor representations concerning facilities or financing, will form a part of the resulting contract.

8. Service of Protest

Any protest against the award of a contract pursuant to this solicitation shall be served on the HA by obtaining written and dated acknowledgment of receipt from the HA at the address shown on the cover of this solicitation. The determination of the HA with regard to such protest or to proceed to award notwithstanding such protest shall be final unless appealed by the protestor.

9. Offer Submission

Offers shall be submitted as follows and shall be enclosed in a sealed envelope and addressed to the office specified in the solicitation. The proposal shall show **the hour and date specified in the solicitation for receipt, the solicitation number, and the name and address of the offeror, on the face of the envelope.**

It is very important that the offer be properly identified on the face of the envelope as set forth above in order to insure that the date and time of receipt is stamped on the face of the offer envelope. Receiving procedures are: date and time stamp those envelopes identified as proposals and deliver them immediately to the appropriate contracting official, and only date stamp those envelopes which do not contain identification of the contents and deliver them to the appropriate procuring activity only through the routine mail delivery procedure.

[Describe bid or proposal preparation instructions here:]

HOUSING AUTHORITY OF THE CITY OF PITTSBURGH

Request for Proposals
For
Comprehensive Energy Performance Services

Attachment D.
General Conditions-Non-Construction

General Conditions for Non-Construction Contracts

U.S. Department of Housing and Urban Development
Office of Public and Indian Housing
Office of Labor Relations
OMB Approval No. 2577-0157 (exp. 11/30/2008)

Public Reporting Burden for this collection of information is estimated to average 0.08 hours per response, including the time for reviewing instructions, searching existing data sources, gathering and maintaining the data needed, and completing and reviewing the collection of information. Send comments regarding this burden estimate or any other aspect of this collection of information, including suggestions for reducing this burden, to the Reports Management Officer, Office of Information Policies and Systems, U.S. Department of Housing and Urban Development, Washington, D.C. 20410-3600; and to the Office of Management and Budget, Paperwork Reduction Project (2577-0180), Washington, D.C. 20503. Do not send this completed form to either of these addressees.

Applicability. This form HUD-5370C has 2 Sections. These Sections must be inserted into non-construction contracts as described below:

1) Non-construction contracts (*without* maintenance) greater than $100,000 - use Section I;
2) Maintenance contracts (including nonroutine maintenance as defined at 24 CFR 968.105) greater than $2,000 but not more than $100,000 - use Section II; and
3) Maintenance contracts (including nonroutine maintenance), greater than $100,000 – use Sections I and II.

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Section I - Clauses for All Non-Construction Contracts greater than $100,000

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1. Definitions

The following definitions are applicable to this contract:

(a) "Authority or Housing Authority (HA)" means the Housing Authority.

(b) "Contract" means the contract entered into between the Authority and the Contractor. It includes the contract form, the Certifications and Representations, these contract clauses, and the scope of work. It includes all formal changes to any of those documents by addendum, Change Order, or other modification.

(c) "Contractor" means the person or other entity entering into the contract with the Authority to perform all of the work required under the contract.

(d) "Day" means calendar days, unless otherwise stated.

(e) "HUD" means the Secretary of Housing and Urban development, his delegates, successors, and assigns, and the officers and employees of the United States Department of Housing and Urban Development acting for and on behalf of the Secretary.

2. Changes

(a) The HA may at any time, by written order, and without notice to the sureties, if any, make changes within the general scope of this contract in the services to be performed or supplies to be delivered.

(b) If any such change causes an increase or decrease in the hourly rate, the not-to-exceed amount of the contract, or the time required for performance of any part of the work under this contract, whether or not changed by the order, or otherwise affects the conditions of this contract, the HA shall make an equitable adjustment in the not-to-exceed amount, the hourly rate, the delivery schedule, or other affected terms, and shall modify the contract accordingly.

(c) The Contractor must assert its right to an equitable adjustment under this clause within 30 days from the date of receipt of the written order. However, if the HA decides that the facts justify it, the HA may receive and act upon a proposal submitted before final payment of the contract.

(d) Failure to agree to any adjustment shall be a dispute under clause Disputes, herein. However, nothing in this clause shall excuse the Contractor from proceeding with the contract as changed.

(e) No services for which an additional cost or fee will be charged by the Contractor shall be furnished without the prior written consent of the HA.

3. Termination for Convenience and Default

(a) The HA may terminate this contract in whole, or from time to time in part, for the HA's convenience or the failure of the Contractor to fulfill the contract obligations (default). The HA shall terminate by delivering to the Contractor a written Notice of Termination specifying the nature, extent, and effective date of the termination. Upon receipt of the notice, the Contractor shall: (i) immediately discontinue all services affected (unless the notice directs otherwise); and (ii) deliver to the HA all information, reports, papers, and other materials accumulated or generated in performing this contract, whether completed or in process.

(b) If the termination is for the convenience of the HA, the HA shall be liable only for payment for services rendered before the effective date of the termination.

(c) If the termination is due to the failure of the Contractor to fulfill its obligations under the contract (default), the HA may (i) require the Contractor to deliver to it, in the manner and to the extent directed by the HA, any work as described in subparagraph (a)(ii) above, and compensation be determined in accordance with the Changes clause, paragraph 2, above; (ii) take over the work and prosecute the same to completion by contract or otherwise, and the Contractor shall be liable for any additional cost incurred by the HA; (iii) withhold any payments to the Contractor, for the purpose of off-set or partial payment, as the case may be, of amounts owed to the HA by the Contractor.

(d) If, after termination for failure to fulfill contract obligations (default), it is determined that the Contractor had not failed, the termination shall be deemed to have been effected for the convenience of the HA, and the Contractor shall been titled to payment as described in paragraph (b) above.

(e) Any disputes with regard to this clause are expressly made subject to the terms of clause titled Disputes herein.

4. Examination and Retention of Contractor's Records

(a) The HA, HUD, or Comptroller General of the United States, or any of their duly authorized representatives shall, until 3 years after final payment under this contract, have access to and the right to examine any of the Contractor's directly pertinent books, documents, papers, or other records involving transactions related to this contract for the purpose of making audit, examination, excerpts, and transcriptions.

(b) The Contractor agrees to include in first-tier subcontracts under this contract a clause substantially the same as paragraph (a) above. "Subcontract," as used in this clause, excludes purchase orders not exceeding $10,000.

(c) The periods of access and examination in paragraphs (a) and (b) above for records relating to:
(i) appeals under the clause titled Disputes;
(ii) litigation or settlement of claims arising from the performance of this contract; or,
(iii) costs and expenses of this contract to which the HA, HUD, or Comptroller General or any of their duly authorized representatives has taken exception shall continue until disposition of such appeals, litigation, claims, or exceptions.

5. **Rights in Data (Ownership and Proprietary Interest)**

The HA shall have exclusive ownership of, all proprietary interest in, and the right to full and exclusive possession of all information, materials and documents discovered or produced by Contractor pursuant to the terms of this Contract, including but not limited to reports, memoranda or letters concerning the research and reporting tasks of this Contract.

6. **Energy Efficiency**

The contractor shall comply with all mandatory standards and policies relating to energy efficiency which are contained in the energy conservation plan issued in compliance with the Energy Policy and Conservation Act (Pub.L. 94-163) for the State in which the work under this contract is performed.

7. **Disputes**

(a) All disputes arising under or relating to this contract, *except for disputes arising under clauses contained in Section III, Labor Standards Provisions*, including any claims for damages for the alleged breach there of which are not disposed of by agreement, shall be resolved under this clause.
(b) All claims by the Contractor shall be made in writing and submitted to the HA. A claim by the HA against the Contractor shall be subject to a written decision by the HA.
(c) The HA shall, with reasonable promptness, but in no event in no more than 60 days, render a decision concerning any claim hereunder. Unless the Contractor, within 30 days after receipt of the HA's decision, shall notify the HA in writing that it takes exception to such decision, the decision shall be final and conclusive.
(d) Provided the Contractor has (i) given the notice within the time stated in paragraph (c) above, and (ii) excepted its claim relating to such decision from the final release, and (iii) brought suit against the HA not later than one year after receipt of final payment, or if final payment has not been made, not later than one year after the Contractor has had a reasonable time to respond to a written request by the HA that it submit a final voucher and release, whichever is earlier, then the HA's decision shall not be final or conclusive, but the dispute shall be determined on the merits by a court of competent jurisdiction.
(e) The Contractor shall proceed diligently with performance of this contract, pending final resolution of any request for relief, claim, appeal, or action arising under the contract, and comply with any decision of the HA.

8. **Contract Termination; Debarment**

A breach of these Contract clauses may be grounds for termination of the Contract and for debarment or denial of participation in HUD programs as a Contractor and a subcontractor as provided in 24 CFR Part 24.

9. **Assignment of Contract**

The Contractor shall not assign or transfer any interest in this contract; except that claims for monies due or to become due from the HA under the contract may be assigned to a bank, trust company, or other financial institution. If the Contractor is a partnership, this contract shall inure to the benefit of the surviving or remaining member(s) of such partnership approved by the HA.

10. **Certificate and Release**

Prior to final payment under this contract, or prior to settlement upon termination of this contract, and as a condition precedent thereto, the Contractor shall execute and deliver to the HA a certificate and release, in a form acceptable to the HA, of all claims against the HA by the Contractor under and by virtue of this contract, other than such claims, if any, as may be specifically excepted by the Contractor in stated amounts set forth therein.

11. **Organizational Conflicts of Interest**

(a) The Contractor warrants that to the best of its knowledge and belief and except as otherwise disclosed, it does not have any organizational conflict of interest which is defined as a situation in which the nature of work under this contract and a contractor's organizational, financial, contractual or other interests are such that:
(i) Award of the contract may result in an unfair competitive advantage; or
(ii) The Contractor's objectivity in performing the contract work may be impaired.
(b) The Contractor agrees that if after award it discovers an organizational conflict of interest with respect to this contract or any task/delivery order under the contract, he or she shall make an immediate and full disclosure in writing to the Contracting Officer which shall include a description of the action which the Contractor has taken or intends to take to eliminate or neutralize the conflict. The HA may, however, terminate the contract or task/delivery order for the convenience of the HA if it would be in the best interest of the HA.
(c) In the event the Contractor was aware of an organizational conflict of interest before the award of this contract and intentionally did not disclose the conflict to the Contracting Officer, the HA may terminate the contract for default.
(d) The terms of this clause shall be included in all subcontracts and consulting agreements wherein the work to be performed is similar to the service provided by the prime Contractor. The Contractor shall include in such subcontracts and consulting agreements any necessary provisions to eliminate or neutralize conflicts of interest.

12. **Inspection and Acceptance**

(a) The HA has the right to review, require correction, if necessary, and accept the work products produced by the Contractor. Such review(s) shall be carried out within 30 days so as to not impede the work of the Contractor. Any product of work shall be deemed accepted as submitted if the HA does not issue written comments and/or required

corrections within 30 days from the date of receipt of such product from the Contractor.

(b) The Contractor shall make any required corrections promptly at no additional charge and return a revised copy of the product to the HA within 7 days of notification or a later date if extended by the HA.

(c) Failure by the Contractor to proceed with reasonable promptness to make necessary corrections shall be a default. If the Contractor's submission of corrected work remains unacceptable, the HA may terminate this contract (or the task order involved) or reduce the contract price or cost to reflect the reduced value of services received.

13. Interest of Members of Congress

No member of or delegate to the Congress of the United States of America or Resident Commissioner shall be admitted to any share or part of this contract or to any benefit to arise there from, but this provision shall not be construed to extend to this contract if made with a corporation for its general benefit.

14. Interest of Members, Officers, or Employees and Former Members, Officers, or Employees

No member, officer, or employee of the HA, no member of the governing body of the locality in which the project is situated, no member of the governing body in which the HA was activated, and no other pubic official of such locality or localities who exercises any functions or responsibilities with respect to the project, shall, during his or her tenure, or for one year thereafter, have any interest, direct or indirect, in this contract or the proceeds thereof.

15. Limitation on Payments to Influence Certain Federal Transactions

(a) Definitions. As used in this clause:

"Agency", as defined in 5 U.S.C. 552(f), includes Federal executive departments and agencies as well as independent regulatory commissions and Government corporations, as defined in 31 U.S.C. 9101(1).

"Covered Federal Action" means any of the following Federal actions:

(i) The awarding of any Federal contract;
(ii) The making of any Federal grant;
(iii) The making of any Federal loan;
(iv) The entering into of any cooperative agreement; and,
(v) The extension, continuation, renewal, amendment, or modification of any Federal contract, grant, loan, or cooperative agreement.

Covered Federal action does not include receiving from an agency a commitment providing for the United States to insure or guarantee a loan.

"Indian tribe" and "tribal organization" have the meaning provided in section 4 of the Indian Self-Determination and Education Assistance Act (25 U.S.C. 450B). Alaskan Natives are included under the definitions of Indian tribes in that Act.

"Influencing or attempting to influence" means making, with the intent to influence, any communication to or appearance before an officer or employee of any agency, a Member of Congress, an officer or employee of Congress, or an employee of a Member of Congress in connection with any covered Federal action.

"Local government" means a unit of government in a State and, if chartered, established, or otherwise recognized by a State for the performance of a governmental duty, including a local public authority, a special district, an intrastate district, a council of governments, a sponsor group representative organization, and any other instrumentality of a local government.

"Officer or employee of an agency" includes the following individuals who are employed by an agency:

(i) An individual who is appointed to a position in the Government under title 5, U.S.C., including a position under a temporary appointment;
(ii) A member of the uniformed services as defined in section 202, title 18, U.S.C.;
(iii) A special Government employee as defined in section 202, title 18, U.S.C.; and,
(iv) An individual who is a member of a Federal advisory committee, as defined by the Federal Advisory Committee Act, title 5, appendix 2.

"Person" means an individual, corporation, company, association, authority, firm, partnership, society, State, and local government, regardless of whether such entity is operated for profit or not for profit. This term excludes an Indian tribe, tribal organization, or other Indian organization with respect to expenditures specifically permitted by other Federal law.

"Recipient" includes all contractors, subcontractors at any tier, and subgrantees at any tier of the recipient of funds received in connection with a Federal contract, grant, loan, or cooperative agreement. The term excludes an Indian tribe, tribal organization, or any other Indian organization with respect to expenditures specifically permitted by other Federal law.

"Regularly employed means, with respect to an officer or employee of a person requesting or receiving a Federal contract, grant, loan, or cooperative agreement, an officer or employee who is employed by such person for at least 130 working days within one year immediately preceding the date of the submission that initiates agency consideration of such person for receipt of such contract, grant, loan, or cooperative agreement. An officer or employee who is employed by such person for less than 130 working days within one year immediately preceding the date of submission that initiates agency consideration of such person shall be considered to be regularly employed as soon as he or she is employed by such person for 130 working days.

"State" means a State of the United States, the District of Columbia, the Commonwealth of Puerto Rico, a territory or possession of the United States, an agency or instrumentality of a State, and a multi-State, regional, or interstate entity having governmental duties and powers.

(b) Prohibition.

(i) Section 1352 of title 31, U.S.C. provides in part that no appropriated funds may be expended by the recipient of a Federal contract, grant, loan, or cooperative agreement to pay any person for influencing or attempting to influence an officer or employee of any agency, a Member of Congress, an officer or employee of Congress, or an employee of a Member of Congress in connection with any of the following covered Federal actions: the awarding of any Federal contract, the making of any Federal grant, the making of any Federal loan, the entering into of any cooperative agreement, and the extension, continuation, renewal, amendment, or modification of any Federal contract, grant, loan, or cooperative agreement.

(ii) The prohibition does not apply as follows:

(1) Agency and legislative liaison by Own Employees.

(a) The prohibition on the use of appropriated funds, in paragraph (i) of this section, does not apply in the case of a payment of reasonable compensation made to an officer or employee of a person requesting or receiving a Federal contract, grant, loan, or cooperative agreement, if the payment is for agency and legislative activities not directly related to a covered Federal action.

(b) For purposes of paragraph (b)(i)(1)(a) of this clause, providing any information specifically requested by an agency or Congress is permitted at any time.

(c) The following agency and legislative liaison activities are permitted at any time only where they are not related to a specific solicitation for any covered Federal action:

(1) Discussing with an agency (including individual demonstrations) the qualities and characteristics of the person's products or services, conditions or terms of sale, and service capabilities; and,

(2) Technical discussions and other activities regarding the application or adaptation of the person's products or services for an agency's use.

(d) The following agency and legislative liaison activities are permitted where they are prior to formal solicitation of any covered Federal action:

(1) Providing any information not specifically requested but necessary for an agency to make an informed decision about initiation of a covered Federal action;

(2) Technical discussions regarding the preparation of an unsolicited proposal prior to its official submission; and

(3) Capability presentations by persons seeking awards from an agency pursuant to the provisions of the Small Business Act, as amended by Public Law 95-507 and other subsequent amendments.

(e) Only those activities expressly authorized by subdivision (b)(ii)(1)(a) of this clause are permitted under this clause.

(2) Professional and technical services.

(a) The prohibition on the use of appropriated funds, in subparagraph (b)(i) of this clause, does not apply in the case of-

(i) A payment of reasonable compensation made to an officer or employee of a person requesting or receiving a covered Federal action or an extension, continuation, renewal, amendment, or modification of a covered Federal action, if payment is for professional or technical services rendered directly in the preparation, submission, or negotiation of any bid, proposal, or application for that Federal action or for meeting requirements imposed by or pursuant to law as a condition for receiving that Federal action.

(ii) Any reasonable payment to a person, other than an officer or employee of a person requesting or receiving a covered Federal action or an extension, continuation, renewal, amendment, or modification of a covered Federal action if the payment is for professional or technical services rendered directly in the preparation, submission, or negotiation of any bid, proposal, or application for that Federal action or for meeting requirements imposed by or pursuant to law as a condition for receiving that Federal action. Persons other than officers or employees of a person requesting or receiving a covered Federal action include consultants and trade associations.

(b) For purposes of subdivision (b)(ii)(2)(a) of clause, "professional and technical services" shall be limited to advice and analysis directly applying any professional or technical discipline.

(c) Requirements imposed by or pursuant to law as a condition for receiving a covered Federal award include those required by law or regulation, or reasonably expected to be required by law or regulation, and any other requirements in the actual award documents.

(d) Only those services expressly authorized by subdivisions (b)(ii)(2)(a)(i) and (ii) of this section are permitted under this clause.

(iii) Selling activities by independent sales representatives.

(c) The prohibition on the use of appropriated funds, in subparagraph (b)(i) of this clause, does not apply to the following selling activities before an agency by independent sales representatives, provided such activities are prior to formal solicitation by an agency and are specifically limited to the merits of the matter:

(i) Discussing with an agency (including individual demonstration) the qualities and characteristics of the person's products or services, conditions or terms of sale, and service capabilities; and

(ii) Technical discussions and other activities regarding the application or adaptation of the person's products or services for an agency's use.

(d) Agreement. In accepting any contract, grant, cooperative agreement, or loan resulting from this solicitation, the person submitting the offer agrees not to make any payment prohibited by this clause.

(e) Penalties. Any person who makes an expenditure prohibited under paragraph (b) of this clause shall be subject to civil penalties as provided for by 31 U.S.C. 1352. An imposition of a civil penalty does not prevent the Government from seeking any other remedy that may be applicable.

(f) Cost Allowability. Nothing in this clause is to be interpreted to make allowable or reasonable any costs which would be unallowable or unreasonable in accordance with Part 31 of the Federal Acquisition Regulation (FAR), or OMB Circulars dealing with cost allowability for recipients of assistance agreements. Conversely, costs made specifically unallowable by the requirements in this clause will not be made allowable under any of the provisions of FAR Part 31 or the relevant OMB Circulars.

16. Equal Employment Opportunity

During the performance of this contract, the Contractor agrees as follows:

(a) The Contractor shall not discriminate against any employee or applicant for employment because of race, color, religion, sex, or national origin.

(b) The Contractor shall take affirmative action to ensure that applicants are employed, and that employees are treated during employment without regard to their race, color, religion, sex, or national origin. Such action shall include, but not be limited to (1) employment; (2) upgrading; (3) demotion; (4) transfer; (5) recruitment or recruitment advertising; (6) layoff or termination; (7) rates of pay or other forms of compensation; and (8) selection for training, including apprenticeship.

(c) The Contractor shall post in conspicuous places available to employees and applicants for employment the notices to be provided by the Contracting Officer that explain this clause.

(d) The Contractor shall, in all solicitations or advertisements for employees placed by or on behalf of the Contractor, state that all qualified applicants will receive consideration for employment without regard to race, color, religion, sex, or national origin.

(e) The Contractor shall send, to each labor union or representative of workers with which it has a collective bargaining agreement or other contract or understanding, the notice to be provided by the Contracting Officer advising the labor union or workers' representative of the Contractor's commitments under this clause, and post copies of the notice in conspicuous places available to employees and applicants for employment.

(f) The Contractor shall comply with Executive Order 11246, as amended, and the rules, regulations, and orders of the Secretary of Labor.

(g) The Contractor shall furnish all information and reports required by Executive Order 11246, as amended and by rules, regulations, and orders of the Secretary of Labor, or pursuant thereto. The Contractor shall permit access to its books, records, and accounts by the Secretary of Labor for purposes of investigation to ascertain compliance with such rules, regulations, and orders.

(h) In the event of a determination that the Contractor is not in compliance with this clause or any rule, regulation, or order of the Secretary of Labor, this contract may be canceled, terminated, or suspended in whole or in part, and the Contractor may be declared ineligible for further Government contracts, or federally assisted construction contracts under the procedures authorized in Executive Order 11246, as amended. In addition, sanctions may be imposed and remedies invoked against the Contractor as provided in Executive Order 11246, as amended, the rules, regulations, and orders of the Secretary of Labor, or as otherwise provided by law.

(i) The Contractor shall include the terms and conditions of this clause in every subcontract or purchase order unless exempted by the rules, regulations, or orders of the Secretary of Labor issued under Executive Order 11246, as amended, so that these terms and conditions will be binding upon each subcontractor or vendor. The Contractor shall take such action with respect to any subcontractor or purchase order as the Secretary of Housing and Urban Development or the Secretary of Labor may direct as a means of enforcing such provisions, including sanctions for noncompliance; provided that if the Contractor becomes involved in, or is threatened with, litigation with a subcontractor or vendor as a result of such direction, the Contractor may request the United States to enter into the litigation to protect the interests of the United States.

17. Dissemination or Disclosure of Information

No information or material shall be disseminated or disclosed to the general public, the news media, or any person or organization without prior express written approval by the HA.

18. Contractor's Status

It is understood that the Contractor is an independent contractor and is not to be considered an employee of the HA, or assume any right, privilege or duties of an employee, and shall save harmless the HA and its employees from claims suits, actions and costs of every description resulting from the Contractor's activities on behalf of the HA in connection with this Agreement.

19. Other Contractors

HA may undertake or award other contracts for additional work at or near the site(s) of the work under this contract. The contractor shall fully cooperate with the other contractors and with HA and HUD employees and shall carefully adapt scheduling and performing the work under this contract to accommodate the additional work, heeding any direction that may be provided by the Contracting Officer. The contractor shall not commit or permit any act that will interfere with the performance of work by any other contractor or HA employee.

20. Liens

The Contractor is prohibited from placing a lien on HA's property. This prohibition shall apply to all subcontractors.

21. Training and Employment Opportunities for Residents in the Project Area (Section 3, HUD Act of 1968; 24 CFR 135) (Applicable to contracts in excess of $500,000)

(a) The work to be performed under this contract is on a project assisted under a program providing direct Federal financial assistance from HUD and is subject to the requirements of section 3 of the HUD Act of 1968, as amended, 12 U.S.C. 1701 u. Section 3 requires that to the greatest extent feasible opportunities for training and employment be given lower income residents of the project area and contracts for work in connection with the project be awarded to business concerns which are located in, or owned in substantial part by persons residing in the area of the project.

(b) The parties to this contract will comply with the provisions of Section 3 and the regulations issued pursuant thereto by the Secretary of HUD set forth in 24 CFR part 135, and all applicable rules and orders of HUD issued there under prior to the execution of this contract. The parties to this contract certify and agree that they are under no contractual or other disability which would prevent them from complying with these requirements.

(c) The contractor will send to each labor organization or representative of workers with which the contractor has a collective bargaining agreement or other contract or understanding, if any, a notice advising the organization of the contractor's commitments under this clause and shall post copies of the notice in conspicuous places available to employees and applicants for employment or training.

(d) The contractor will include this clause in every subcontract for work in connection with the project and will, at the direction of the applicant for or recipient of Federal financial assistance, take appropriate action pursuant to the subcontract upon a finding that the subcontractor is in violation of regulations issued by the Secretary of HUD, 24 CFR part 135. The contractor will not subcontract with any subcontractor where it has notice or knowledge that the latter has been found in violation of these regulations and will not award any subcontract unless the subcontractor has first provided it with a preliminary statement of ability to comply with the requirements of these regulations.

(e) Compliance with the provisions of section 3, the regulations set forth at 24 CFR part 135, and all applicable rules and orders of HUD issued there under prior to the execution of the contract shall be a condition of the Federal financial assistance provided to the project, binding upon the applicant or recipient for such assistance, its successors, and assigns. Failure to fulfill these requirements shall subject the applicant or recipient, its contractors and subcontractors, its successors, and assigns to those sanctions specified by the grant or loan agreement or contract through which the Federal assistance is provided, and to such sanctions as are specified by 24 CFR part 135.

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Section II – Labor Standards Provisions for all Maintenance Contracts greater than $2,000

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22. Minimum Wages

(a) All maintenance laborers and mechanics employed under this Contract in the operation of the project(s) shall be paid unconditionally and not less often than semi-monthly, and without subsequent deduction (except as otherwise provided by law or regulations), the full amount of wages due at time of payment computed at rates not less than those contained in the wage determination of the Secretary of Housing and Urban Development which is attached hereto and made a part hereof. Such laborers and mechanics shall be paid the appropriate wage rate on the wage determination for the classification of work actually performed, without regard to skill. Laborers or mechanics performing work in more than one classification may be compensated at the rate specified for each classification for the time actually worked therein; provided, that the employer's payroll records accurately set forth the time spent in each classification in which work is performed. The wage determination, including any additional classifications and wage rates approved by HUD under subparagraph 22(b), shall be posted at all times by the Contractor and its subcontractors at the site of the work in a prominent and accessible place where it can be easily seen by the workers.

(b) (i) Any class of laborers or mechanics which is not listed in the wage determination and which is to be employed under the Contract shall be classified in conformance with the wage determination. HUD shall approve an additional classification and wage rate only when the following criteria have been met:

(1) The work to be performed by the classification required is not performed by a classification in the wage determination;

(2) The classification is utilized in the area by the industry; and

(3) The proposed wage rate bears a reasonable relationship to the wage rates contained in the wage determination.

(ii) The wage rate determined pursuant to this paragraph shall be paid to all workers performing work in the classification under this Contract from the first day on which work is performed in the classification.

23. Withholding of funds

The Contracting Officer, upon his/her own action or upon request of HUD, shall withhold or cause to be withheld from the Contractor under this Contract or any other contract subject to HUD-determined wage rates, with the same prime Contractor, so much of the accrued payments or advances as may be considered necessary to pay laborers and mechanics employed by the Contractor or any subcontractor the full amount of wages required by this clause. In the event of failure to pay any laborer or mechanic employed under this Contract all or part of the wages required under this Contract, the Contracting Officer or HUD may, after written notice to the Contractor, take such action as may be necessary to cause the suspension of any further payment or advance until such violations have ceased. The Public Housing Agency or HUD may, after written notice to the Contractor, disburse such amounts withheld for and on account of the Contractor or subcontractor to the respective employees to whom they are due.

24. Records

(a) The Contractor and each subcontractor shall make and maintain for three (3) years from the completion of the work records containing the following for each laborer and mechanic:

(i) Name, address and Social Security Number;
(ii) Correct work classification or classifications;
(iii) Hourly rate or rates of monetary wages paid;
(iv) Rate or rates of any fringe benefits provided;
(v) Number of daily and weekly hours worked;
(vi) Gross wages earned;
(vii) Any deductions made; and
(viii) Actual wages paid.

(b) The Contractor and each subcontractor shall make the records required under paragraph 24(a) available for inspection, copying, or transcription by authorized representatives of HUD or the HA and shall permit such representatives to interview employees during working hours on the job. If the Contractor or any subcontractor fails to make the required records available, HUD or its designee may, after written notice to the Contractor, take such action as may be necessary to cause the suspension of any further payment, advance or guarantee of funds.

25. Apprentices and Trainees

(a) Apprentices and trainees will be permitted to work at less than the predetermined rate for the work they perform when they are employed pursuant to and individually registered in:

(i) A bona fide apprenticeship program registered with the U.S. Department of Labor, Employment and Training Administration (ETA), Office of Apprenticeship Training, Employer and Labor Services (OATELS), or with a state apprenticeship agency recognized by OATELS, or if a person is employed in his/her first 90 days of probationary

employment as an apprentice in such an apprenticeship program, who is not individually registered in the program, but who has been certified by OATELS or a state apprenticeship agency (where appropriate) to be eligible for probationary employment as an apprentice;

(ii) A trainee program which has received prior approval, evidenced by formal certification by the U.S. Department of Labor, ETA; or

(iii) A training/trainee program that has received prior approval by HUD.

(b) Each apprentice or trainee must be paid at not less than the rate specified in the registered or approved program for the apprentice's/trainee's level of progress, expressed as a percentage of the journeyman hourly rate specified in the applicable wage determination. Apprentices and trainees shall be paid fringe benefits in accordance with the provisions of the registered or approved program. If the program does not specify fringe benefits, apprentices/trainees must be paid the full amount of fringe benefits listed on the wage determination for the applicable classification.

(c) The allowable ratio of apprentices or trainees to journeyman on the job site in any craft classification shall not be greater than the ratio permitted to the employer as to the entire work force under the approved program.

(d) Any worker employed at an apprentice or trainee wage rate who is not registered in an approved program, and any apprentice or trainee performing work on the job site in excess of the ratio permitted under the approved program, shall be paid not less than the applicable wage rate on the wage determination for the classification of work actually performed.

(e) In the event OATELS, a state apprenticeship agency recognized by OATELS or ETA, or HUD, withdraws approval of an apprenticeship or trainee program, the employer will no longer be permitted to utilize apprentices/trainees at less than the applicable predetermined rate for the work performed until an acceptable program is approved.

26. Disputes concerning labor standards

(a) Disputes arising out of the labor standards provisions contained in Section II of this form HUD-5370C, other than those in Paragraph 27, shall be subject to the following procedures. Disputes within the meaning of this paragraph include disputes between the Contractor (or any of its subcontractors) and the HA, or HUD, or the employees or their representatives, concerning payment of prevailing wage rates or proper classification. The procedures in this section may be initiated upon HUD's own motion, upon referral of the HA, or upon request of the Contractor or subcontractor(s).

(i) A Contractor and/or subcontractor or other interested party desiring reconsideration of findings of violation by the HA or HUD relating to the payment of straight-time prevailing wages or classification of work shall request such reconsideration by letter postmarked within 30 calendar days of the date of notice of findings issued by the HA or HUD. The request shall set forth those findings that are in dispute and the reasons, including any affirmative defenses, with respect to the violations. The request shall be directed to the appropriate HA or HUD official in accordance with instructions contained in the notice of findings or, if the notice does not specify to whom a request should be made, to the Regional Labor Relations Officer (HUD).

(ii) The HA or HUD official shall, within 60 days (unless otherwise indicated in the notice of findings) after receipt of a timely request for reconsideration, issue a written decision on the findings of violation. The written decision on reconsideration shall contain instructions that any appeal of the decision shall be addressed to the Regional Labor Relations Officer by letter postmarked within 30 calendar days after the date of the decision. In the event that the Regional Labor Relations Officer was the deciding official on reconsideration, the appeal shall be directed to the Director, Office of Labor Relations (HUD). Any appeal must set forth the aspects of the decision that are in dispute and the reasons, including any affirmative defenses, with respect to the violations.

(iii) The Regional Labor Relations Officer shall, within 60 days (unless otherwise indicated in the decision on reconsideration) after receipt of a timely appeal, issue a written decision on the findings. A decision of the Regional Labor Relations Officer may be appealed to the Director, Office of Labor Relations, by letter postmarked within 30 days of the Regional Labor Relations Officer's decision. Any appeal to the Director must set forth the aspects of the prior decision(s) that are in dispute and the reasons. The decision of the Director, Office of Labor Relations, shall be final.

(b) Disputes arising out of the labor standards provisions of paragraph 27 shall not be subject to paragraph 26(a) of this form HUD-5370C. Such disputes shall be resolved in accordance with the procedures of the U.S. Department of Labor set forth in 29 CFR Parts 5, 6 and 7. Disputes within the meaning of this paragraph 26(b) include disputes between the Contractor (or any of its subcontractors) and the HA, HUD, the U.S. Department of Labor, or the employees or their representatives.

27. Contract Work Hours and Safety Standards Act

The provisions of this paragraph 27 are applicable only where the amount of the prime contract exceeds $100,000. As used in this paragraph, the terms "laborers" and "mechanics" includes watchmen and guards.

(a) **Overtime requirements.** No Contractor or subcontractor contracting for any part of the Contract work which may require or involve the employment of laborers or mechanics shall require or permit any such laborer or mechanic in any workweek in which he or she is employed on such work to work in excess of 40 hours in such workweek unless such laborer or mechanic receives compensation at a rate not less than one and one-half times the basic rate of pay for all hours worked in excess of 40 hours in such workweek.

(b) **Violation; liability for unpaid wages; liquidated damages.** In the event of any violation of the provisions set forth in paragraph 27(a), the Contractor and any subcontractor responsible therefor shall be liable for the unpaid wages. In addition, such Contractor and subcontractor shall be liable to the United States (in the case of work done under contract for the District of Columbia or a territory, to the District or to such territory), for liquidated damages. Such liquidated damages shall be computed with respect to each individual laborer or

mechanic, including watchmen and guards, employed in violation of the provisions set forth in paragraph (a) of this clause, in the sum of $10 for each calendar day on which such individual was required or permitted to work in excess of the standard workweek of 40 hours without payment of the overtime wages required by provisions set forth in paragraph (a) of this clause.

(c) **Withholding for unpaid wages and liquidated damages.** HUD or its designee shall upon its own action or upon written request of an authorized representative of the U.S. Department of Labor withhold or cause to be withheld, from any moneys payable on account of work performed by the Contractor or subcontractor under any such Contract or any federal contract with the same prime Contractor, or any other federally-assisted contract subject to the Contract Work Hours and Safety Standards Act, which is held by the same prime Contractor such sums as may be determined to be necessary to satisfy any liabilities of such Contractor or subcontractor for unpaid wages and liquidated damages as provided in the provisions set forth in paragraph (b) of this clause.

28. Subcontracts

The Contractor or subcontractor shall insert in any subcontracts all the provisions contained in this Section II and also a clause requiring the subcontractors to include these provisions in any lower tier subcontracts. The prime Contractor shall be responsible for the compliance by any subcontractor or lower tier subcontractor with all the provisions contained in these clauses.

29. Non-Federal Prevailing Wage Rates

Any prevailing wage rate (including basic hourly rate and any fringe benefits), determined under state law to be prevailing, with respect to any employee in any trade or position employed under the Contract, is inapplicable to the contract and shall not be enforced against the Contractor or any subcontractor, with respect to employees engaged under the contract whenever such non-Federal prevailing wage rate, exclusive of any fringe benefits, exceeds the applicable wage rate determined by the Secretary of HUD to be prevailing in the locality with respect to such trade or position.

HOUSING AUTHORITY OF THE CITY OF PITTSBURGH

Request for Proposals
For
Comprehensive Energy Performance Services

Attachment E.
Certifications and Representations of Offerors

Certifications and Representations of Offerors
Non-Construction Contract

U.S. Department of Housing and Urban Development
Office of Public and Indian Housing

Public reporting burden for this collection of information is estimated to average 5 minutes per response, including the time for reviewing instructions, searching existing data sources, gathering and maintaining the data needed, and completing and reviewing the collection of information.

This form includes clauses required by OMB's common rule on bidding/offering procedures, implemented by HUD in 24 CFR 85.36, and those requirements set forth in Executive Order 11625 for small, minority, women-owned businesses, and certifications for independent price determination, and conflict of interest. The form is required for nonconstruction contracts awarded by Housing Agencies (HAs). The form is used by bidders/offerors to certify to the HA's Contracting Officer for contract compliance. If the form were not used, HAs would be unable to enforce their contracts. Responses to the collection of information are required to obtain a benefit or to retain a benefit. The information requested does not lend itself to confidentiality.

1. Contingent Fee Representation and Agreement

(a) The bidder/offeror represents and certifies as part of its bid/ offer that, except for full-time bona fide employees working solely for the bidder/offeror, the bidder/offeror:

(1) [ ] has, [ ] has not employed or retained any person or company to solicit or obtain this contract; and

(2) [ ] has, [ ] has not paid or agreed to pay to any person or company employed or retained to solicit or obtain this contract any commission, percentage, brokerage, or other fee contingent upon or resulting from the award of this contract.

(b) If the answer to either (a)(1) or (a) (2) above is affirmative, the bidder/offeror shall make an immediate and full written disclosure to the PHA Contracting Officer.

(c) Any misrepresentation by the bidder/offeror shall give the PHA the right to (1) terminate the resultant contract; (2) at its discretion, to deduct from contract payments the amount of any commission, percentage, brokerage, or other contingent fee; or (3) take other remedy pursuant to the contract.

2. Small, Minority, Women-Owned Business Concern Representation

The bidder/offeror represents and certifies as part of its bid/ offer that it:

(a) [ ] is, [ ] is not a small business concern. "Small business concern," as used in this provision, means a concern, including its affiliates, that is independently owned and operated, not dominant in the field of operation in which it is bidding, and qualified as a small business under the criteria and size standards in 13 CFR 121.

(b) [ ] is, [ ] is not a women-owned small business concern. "Women-owned," as used in this provision, means a small business that is at least 51 percent owned by a woman or women who are U.S. citizens and who also control and operate the business.

(c) [ ] is, [ ] is not a minority enterprise which, pursuant to Executive Order 11625, is defined as a business which is at least 51 percent owned by one or more minority group members or, in the case of a publicly owned business, at least 51 percent of its voting stock is owned by one or more minority group members, and whose management and daily operations are controlled by one or more such individuals.

For the purpose of this definition, minority group members are:

(Check the block applicable to you)

[ ] Black Americans [ ] Asian Pacific Americans
[ ] Hispanic Americans [ ] Asian Indian Americans
[ ] Native Americans [ ] Hasidic Jewish Americans

3. Certificate of Independent Price Determination

(a) The bidder/offeror certifies that—

(1) The prices in this bid/offer have been arrived at independently, without, for the purpose of restricting competition, any consultation, communication, or agreement with any other bidder/offeror or competitor relating to (i) those prices, (ii) the intention to submit a bid/offer, or (iii) the methods or factors used to calculate the prices offered;

(2) The prices in this bid/offer have not been and will not be knowingly disclosed by the bidder/offeror, directly or indirectly, to any other bidder/offeror or competitor before bid opening (in the case of a sealed bid solicitation) or contract award (in the case of a negotiated solicitation) unless otherwise required by law; and

(3) No attempt has been made or will be made by the bidder/ offeror to induce any other concern to submit or not to submit a bid/offer for the purpose of restricting competition.

(b) Each signature on the bid/offer is considered to be a certification by the signatory that the signatory:

(1) Is the person in the bidder/offeror's organization responsible for determining the prices being offered in this bid or proposal, and that the signatory has not participated and will not participate in any action contrary to subparagraphs (a)(1) through (a)(3) above; or

(2) (i) Has been authorized, in writing, to act as agent for the following principals in certifying that those principals have not participated, and will not participate in any action contrary to subparagraphs (a)(1) through (a)(3) above (insert full name of person(s) in the bidder/offeror's organization responsible for determining the prices offered in this bid or proposal, and the title of his or her position in the bidder/offeror's organization);

(ii) As an authorized agent, does certify that the principals named in subdivision (b)(2)(i) above have not participated, and will not participate, in any action contrary to subparagraphs (a)(1) through (a)(3) above; and

(iii) As an agent, has not personally participated, and will not participate in any action contrary to subparagraphs (a)(l) through (a)(3) above.

(c) If the bidder/offeror deletes or modifies subparagraph (a)2 above, the bidder/offeror must furnish with its bid/offer a signed statement setting forth in detail the circumstances of the disclosure.

4. Organizational Conflicts of Interest Certification

(a) The Contractor warrants that to the best of its knowledge and belief and except as otherwise disclosed, it does not have any organizational conflict of interest which is defined as a situation in which the nature of work under a proposed contract and a prospective contractor's organizational, financial, contractual or other interest are such that:

(i) Award of the contract may result in an unfair competitive advantage;

(ii) The Contractor's objectivity in performing the contract work may be impaired; or

(iii) That the Contractor has disclosed all relevant information and requested the HA to make a determination with respect to this Contract.

(b) The Contractor agrees that if after award he or she discovers an organizational conflict of interest with respect to this contract, he or she shall make an immediate and full disclosure in writing to the HA which shall include a description of the action which the Contractor has taken or intends to eliminate or neutralize the conflict. The HA may, however, terminate the Contract for the convenience of HA if it would be in the best interest of HA.

(c) In the event the Contractor was aware of an organizational conflict of interest before the award of this Contract and intentionally did not disclose the conflict to the HA, the HA may terminate the Contract for default.

(d) The Contractor shall require a disclosure or representation from subcontractors and consultants who may be in a position to influence the advice or assistance rendered to the HA and shall include any necessary provisions to eliminate or neutralize conflicts of interest in consultant agreements or subcontracts involving performance or work under this Contract.

5. Authorized Negotiators (RFPs only)

The offeror represents that the following persons are authorized to negotiate on its behalf with the PHA in connection with this request for proposals: (list names, titles, and telephone numbers of the authorized negotiators):

6. Conflict of Interest

In the absence of any actual or apparent conflict, the offeror, by submission of a proposal, hereby warrants that to the best of its knowledge and belief, no actual or apparent conflict of interest exists with regard to my possible performance of this procurement, as described in the clause in this solicitation titled "Organizational Conflict of Interest."

7. Offeror's Signature

The offeror hereby certifies that the information contained in these certifications and representations is accurate, complete, and current.

_____

Signature & Date:

_____

Typed or Printed Name:

_____

Title:

_____

All section 3 covered contracts shall include the following clause (referred to as the section 3 clause):

A. The work to be performed under this contract is subject to the requirements of section 3 of the Housing and Urban Development Act of 1968, as amended, 12 U.S.C. 1701u (section 3). The purpose of section 3 is to ensure that employment and other economic opportunities generated by HUD assistance or HUD-assisted projects covered by section 3, shall, to the greatest extent feasible, be directed to low- and very low-income persons, particularly persons who are recipients of HUD assistance for housing.

B. The parties to this contract agree to comply with HUD's regulations in 24 CFR part 135, which implement section 3. As evidenced by their execution of this contract, the parties to this contract certify that they are under no contractual or other impediment that would prevent them from complying with the part 135 regulations.

C. The contractor agrees to send to each labor organization or representative of workers with which the contractor has a collective bargaining agreement or other understanding, if any, a notice advising the labor organization or workers' representative of the contractor's commitments under this section 3 clause, and will post copies of the notice in conspicuous places at the work site where both employees and applicants for training and employment positions can see the notice. The notice shall describe the section 3 preference, shall set forth minimum number and job titles subject to hire, availability of apprenticeship and training positions, the qualifications for each; and the name and location of the person(s) taking applications for each of the positions; and the anticipated date the work shall begin.

D. The contractor agrees to include this section 3 clause in every subcontract subject to compliance with regulations in 24 CFR part 135, and agrees to take appropriate action, as provided in an applicable provision of the subcontract or in this section 3 clause, upon a finding that the subcontractor is in violation of the regulations in 24 CFR part 135. The contractor will not subcontract with any subcontractor where the contractor has notice or knowledge that the subcontractor has been found in violation of the regulations in 24 CFR part 135.

E. The contractor will certify that any vacant employment positions, including training positions, that are filled (1) after the contractor is selected but before the contract is executed, and (2) with persons other than those to whom the regulations of 24 CFR part 135 require employment opportunities to be directed, were not filled to circumvent the contractor's obligations under 24 CFR part 135.

F. Noncompliance with HUD's regulations in 24 CFR part 135 may result in sanctions, termination of this contract for default, and debarment or suspension from future HUD assisted contracts.

G. With respect to work performed in connection with section 3 covered Indian housing assistance, section 7(b) of the Indian Self- Determination and Education Assistance Act (25 U.S.C. 450e) also applies to the work to be performed under this contract. Section 7(b) requires that to the greatest extent feasible (i) preference and opportunities for training and employment shall be given to Indians, and (ii) preference in the award of contracts and subcontracts shall be given to Indian organizations and Indian-owned Economic Enterprises. Parties to this contract that are subject to the provisions of section 3 and section 7(b) agree to comply with section 3 to the maximum extent feasible, but not in derogation of compliance with section 7(b).

HOUSING AUTHORITY OF THE CITY OF PITTSBURGH

Request for Proposals
For
Comprehensive Energy Performance Services

Attachment F.
Special Participation Summary

Offeror: _____ RFP#: _____ Due Date: _____

SPECIAL PARTICIPATION SUMMARY

I. SMALL BUSINESS PARTICIPATION

Is the Offeror a Small Business as defined by the size standards in 13 CFR 121?

Yes ☐ No ☐

II. MINORITY BUSINESS PARTICIPATION

Is the Offereor classified as a Minority Business Enterprise as defined in Art. 2, Part c, of HUD-5369-C?

Yes ☐ No ☐

If "No", area any Consultants classifeid as Minority Business Enterprises

Yes ☐ No ☐

If "Yes", please fill in the following chart:

Consultants Firm(s) (MBE)	$ value Contract	% of Fee

III. WOMEN-OWNED BUSINESS PARTICIPATION

Is the Offeror classified as a Woman-Owned Business Enterprise as defined in Art. 2, Part c of HUD-5369-C?

Yes ☐ No ☐

If "No", are any Consultants classifeid as Woman-Owned Business Enterprises?

Yes ☐ No ☐

If "Yes", please fill out the following chart:

Consultants Firm(s) (WBE)	$ value Contract	% of Fee

HOUSING AUTHORITY OF THE CITY OF PITTSBURGH

Request for Proposals
For
Comprehensive Energy Performance Services

Attachment G.
Section 3 Participation

All section 3 covered contracts shall include the following clause (referred to as the section 3 clause):

A. The work to be performed under this contract is subject to the requirements of section 3 of the Housing and Urban Development Act of 1968, as amended, 12 U.S.C. 1701u (section 3). The purpose of section 3 is to ensure that employment and other economic opportunities generated by HUD assistance or HUD-assisted projects covered by section 3, shall, to the greatest extent feasible, be directed to low- and very low-income persons, particularly persons who are recipients of HUD assistance for housing.

B. The parties to this contract agree to comply with HUD's regulations in 24 CFR part 135, which implement section 3. As evidenced by their execution of this contract, the parties to this contract certify that they are under no contractual or other impediment that would prevent them from complying with the part 135 regulations.

C. The contractor agrees to send to each labor organization or representative of workers with which the contractor has a collective bargaining agreement or other understanding, if any, a notice advising the labor organization or workers' representative of the contractor's commitments under this section 3 clause, and will post copies of the notice in conspicuous places at the work site where both employees and applicants for training and employment positions can see the notice. The notice shall describe the section 3 preference, shall set forth minimum number and job titles subject to hire, availability of apprenticeship and training positions, the qualifications for each; and the name and location of the person(s) taking applications for each of the positions; and the anticipated date the work shall begin.

D. The contractor agrees to include this section 3 clause in every subcontract subject to compliance with regulations in 24 CFR part 135, and agrees to take appropriate action, as provided in an applicable provision of the subcontract or in this section 3 clause, upon a finding that the subcontractor is in violation of the regulations in 24 CFR part 135. The contractor will not subcontract with any subcontractor where the contractor has notice or knowledge that the subcontractor has been found in violation of the regulations in 24 CFR part 135.

E. The contractor will certify that any vacant employment positions, including training positions, that are filled (1) after the contractor is selected but before the contract is executed, and (2) with persons other than those to whom the regulations of 24 CFR part 135 require employment opportunities to be directed, were not filled to circumvent the contractor's obligations under 24 CFR part 135.

F. Noncompliance with HUD's regulations in 24 CFR part 135 may result in sanctions, termination of this contract for default, and debarment or suspension from future HUD assisted contracts.

G. With respect to work performed in connection with section 3 covered Indian housing assistance, section 7(b) of the Indian Self- Determination and Education Assistance Act (25 U.S.C. 450e) also applies to the work to be performed under this contract. Section 7(b) requires that to the greatest extent feasible (i) preference and opportunities for training and employment shall be given to Indians, and (ii) preference in the award of contracts and subcontracts shall be given to Indian organizations and Indian-owned Economic Enterprises. Parties to this contract that are subject to the provisions of section 3 and section 7(b) agree to comply with section 3 to the maximum extent feasible, but not in derogation of compliance with section 7(b).

HOUSING AUTHORITY OF THE CITY OF PITTSBURGH

Request for Proposals
For
Comprehensive Energy Performance Services

Attachment H.
Firm Demographics

Firm Demographics

	All Employees	Male									Female									Total # of American Minorities
		White American	African American	Hispanic American	Asian American	Native American	Hasidic Jew American	Other American Minority	Foreign	Total Males	White American	African American	Hispanic American	Asian American	Native American	Hasidic Jew American	Other American Minority	Foreign	Total Females	
Partner																				
Associate																				
Professional																				
Secretarial																				
Clerical																				
Other																				
Total																				

Explain all Other American Minority: _____

_____

_____

Be certain that the numbers in this table are accurate and add up correctly.

Housing Authority of the City of Pittsburgh

Contracting Officer
201 Kirkpatrick Street
Pittsburgh, PA 15219
(412) 456-5248 Fax: (412) 456-5007
www.hacp.org

January 4, 2007

Request for Proposals for Comprehensive Energy Performance Services
RFP#600-85-06

ADDENDUM NO. 1

This addendum issued January 4, 2007 becomes in its entirety a part of the Request for Proposals RFP#600-85-06:

The pre-submission meeting scheduled for January 5, 2007 has been cancelled. Additional information will be provided via addendum.

END OF ADDENDUM NO. 1

Tarammie S. McClure 1.4.07

Contracting Officer Date

Housing Authority of the City of Pittsburgh

Contracting Officer
201 Kirkpatrick Street
Pittsburgh, PA 15219
(412) 456-5248 Fax: (412) 456-5007
www.hacp.org

January 12, 2007
REQUEST FOR PROPOSALS FOR COMPREHENSIVE ENERGY PERFORMANCE SERVICES
RFP#600-85-06

ADDENDUM NO. 2

This addendum issued January 12, 2007 becomes in its entirety a part of the Request for Proposals RFP#600-85-06.

I. Rescheduling of the pre-submission Meeting
A pre-submission meeting will be held on Friday, February 2, 2007 at 10:00a.m. at 200 Ross Street, 9th Floor Boardroom.

II. Extension of Deadline
The deadline for the submission of proposals has been extended to March 12, 2007. The time and location remain unchanged.

END OF ADDENDUM 2

LaTanmie S McClung 1·12·07
Contracting Officer Date

Housing Authority of the City of Pittsburgh

Contracting Officer
201 Kirkpatrick Street
Pittsburgh, PA 15219
(412) 456-5248
Fax: (412) 456-5007
www.hacp.org

January 31, 2007

REQUEST FOR PROPOSALS FOR COMPREHENSIVE ENERGY PERFORMANCE SERVICES RFP#600-85-06

ADDENDUM NO. 3

This addendum issued January 31, 2007 becomes in its entirety a part of the Request for Proposals RFP#600-85-06:

Written questions received:

1. Will the Housing Authority provide the contract and all related utility records, reports and building data provided to the Selected Offeror for RFP#600-21-06, who is a presumed competitor for this RFP.

Answer: See electronic attachment of requested documents.

2. The Comprehensive Energy Audit and any related submissions provided under the Contract by the Contractor for the Comprehensive Energy Audit, for RFP#600-21-06.

Answer: The Housing Authority has provided a summary of the audit as attachment "B" to the RFP. No further information contained in the audit will be disclosed to prospective Offerors.

3. Access to sites and related conditions information to allow a level playing field in the competition for evaluation of RFP#600-85-06.

Answer: The Housing Authority will provide access to sites. A schedule of dates, times and locations will be prepared and distributed to all prospective Offerors. a) Information on the existing energy performance contract with Custom Energy involving an initial investment of roughly $4

million and affecting water-related equipment and systems in eight (8) of the sites included in RFP#600-85-06. Also requested is information regarding the scope of work completed under that contract so as to prevent duplicative efforts on savings and measure recommendations.

Answer: The Housing Authority is evaluating this request for information. A response will be forthcoming via written addendum.

b) Provide evidence that HUD was made aware of these prior contracts, their relative impact on RFP content-HACP provided date, requested information, and evaluation criteria—and timeframe for the RFP, when making its approval to release the RFP.

Answer: The Housing Authority meets all applicable approval requirements. The selected Offeror will be responsible for obtaining any necessary approvals as may be required by federal, state or local laws and regulations related to the scope of services to be performed.

END OF ADDENDUM NO. 3

LaTammie D. McClung 1-31-07
LaTammie D. McClung, Esq.
Contracting Officer

Housing Authority of the City of Pittsburgh

Contracting Officer
201 Kirkpatrick Street
Pittsburgh, PA 15219
(412) 456-5248 Fax: (412) 456-5007
www.hacp.org

February 13, 2007

REQUEST FOR PROPOSALS FOR COMPREHENSIVE ENERGY PERFORMANCE SERVICES RFP#600-85-06

ADDENDUM NO. 4

This addendum issued February 13, 2007 becomes in its entirety a part of the Request for Proposals RFP#600-85-06.

I. Site Visit

A site visit will be held on Wednesday, February 21, 2006 beginning at 9:00a.m. Attendees must arrive at 201 Kirkpatrick Street by 9:00a.m. We will be visiting our Glen Hazel and Arlington communities.

Attendees must r.s.v.p. by Friday, February 16, 2007.

END OF ADDENDUM 4

Tracy Lammie S. McCluy 2.13.07

Contracting Officer Date

Housing Authority of the City of Pittsburgh

Contracting Officer
201 Kirkpatrick Street
Pittsburgh, PA 15219
(412) 456-5248
Fax: (412) 456-5007

www.hacp.org

March 5, 2007

REQUEST FOR PROPOSALS FOR COMPREHENSIVE ENERGY PERFORMANCE SERVICES RFP#600-85-06

ADDENDUM NO. 5

This addendum issued March 5, 2007 becomes in its entirety a part of the Request for Proposals RFP#600-85-06:

The deadline for the submission of proposals has been extended to March 30, 2007. The time and location remain unchanged.

End of Addendum 5

LaTammie D. McClung 3-5-07
LaTammie D. McClung, Esq.

Appendix B
HUD Form 5370
General Conditions of the Contract for Construction

General Conditions for Construction Contracts - Public Housing Programs

U.S. Department of Housing and Urban Development
Office of Public and Indian Housing
OMB Approval No. 2577-0157 (exp. 11/30/2008)

Applicability. This form is applicable to any construction/development contract greater than $100,000.

This form includes those clauses required by OMB's common rule on grantee procurement, implemented at HUD in 24 CFR 85.36, and those requirements set forth in Section 3 of the Housing and Urban Development Act of 1968 and its amendment by the Housing and Community Development Act of 1992, implemented by HUD at 24 CFR Part 135. The form is required for construction contracts awarded by Public Housing Agencies (PHAs).
The form is used by Housing Authorities in solicitations to provide necessary contract clauses. If the form were not used, HAs would be unable to enforce their contracts.
Public reporting burden for this collection of information is estimated to average 1.0 hours per response, including the time for reviewing instructions, searching existing data sources, gathering and maintaining the data needed, and completing and reviewing the collection of information. Responses to the collection of information are required to obtain a benefit or to retain a benefit.
The information requested does not lend itself to confidentiality.
HUD may not conduct or sponsor, and a person is not required to respond to a collection of information unless it displays a currently valid OMB number.

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1. Definitions

(a) "Architect" means the person or other entity engaged by the PHA to perform architectural, engineering, design, and other services related to the work as provided for in the contract. When a PHA uses an engineer to act in this capacity, the terms "architect" and "engineer" shall be synonymous. The Architect shall serve as a technical representative of the Contracting Officer. The Architect's authority is as set forth elsewhere in this contract.

(b) "Contract" means the contract entered into between the PHA and the Contractor. It includes the forms of Bid, the Bid Bond, the Performance and Payment Bond or Bonds or other assurance of completion, the Certifications, Representations, and Other Statements of Bidders (form HUD-5370), these General Conditions of the Contract for Construction (form HUD-5370), the applicable wage rate determinations from the U.S. Department of Labor, any special conditions included elsewhere in the contract, the specifications, and drawings. It includes all formal changes to any of those documents by addendum, change order, or other modification.

(c) "Contracting Officer" means the person delegated the authority by the PHA to enter into, administer, and/or terminate this contract and designated as such in writing to the Contractor. The term includes any successor Contracting Officer and any duly authorized representative of the Contracting Officer also designated in writing. The Contracting Officer shall be deemed the authorized agent of the PHA in all dealings with the Contractor.

(d) "Contractor" means the person or other entity entering into the contract with the PHA to perform all of the work required under the contract.

(e) "Drawings" means the drawings enumerated in the schedule of drawings contained in the Specifications and as described in the contract clause entitled Specifications and Drawings for Construction herein.

(f) "HUD" means the United States of America acting through the Department of Housing and Urban Development including the Secretary, or any other person designated to act on its behalf. HUD has agreed, subject to the provisions of an Annual Contributions Contract (ACC), to provide financial assistance to the PHA, which includes assistance in financing the work to be performed under this contract. As defined elsewhere in these General Conditions or the contract documents, the determination of HUD may be required to authorize changes in the work or for release of funds to the PHA for payment to the Contractor. Notwithstanding HUD's role, nothing in this contract shall be construed to create any contractual relationship between the Contractor and HUD.

(g) "Project" means the entire project, whether construction or rehabilitation, the work for which is provided for in whole or in part under this contract.

(h) "PHA" means the Public Housing Agency organized under applicable state laws which is a party to this contract.

(j) "Specifications" means the written description of the technical requirements for construction and includes the criteria and tests for determining whether the requirements are met.

(l) "Work" means materials, workmanship, and manufacture and fabrication of components.

2. Contractor's Responsibility for Work

(a) The Contractor shall furnish all necessary labor, materials, tools, equipment, and transportation necessary for performance of the work. The Contractor shall also furnish all necessary water, heat, light, and power not made available to the Contractor by the PHA pursuant to the clause entitled Availability and Use of Utility Services herein.

(b) The Contractor shall perform on the site, and with its own organization, work equivalent to at least [ ] (12 percent unless otherwise indicated) of the total amount of work to be performed under the order. This percentage may be reduced by a supplemental agreement to this order if, during performing the work, the Contractor requests a reduction and the Contracting Officer determines that the reduction would be to the advantage of the PHA.

(c) At all times during performance of this contract and until the work is completed and accepted, the Contractor shall directly superintend the work or assign and have on the work site a competent superintendent who is satisfactory to the Contracting Officer and has authority to act for the Contractor.

(d) The Contractor shall be responsible for all damages to persons or property that occur as a result of the Contractor's fault or negligence, and shall take proper safety and health precautions to protect the work, the workers, the public, and the property of others. The Contractor shall hold and save the PHA, its officers and agents, free and harmless from liability of any nature occasioned by the Contractor's performance. The Contractor shall also be responsible for all materials delivered and work performed until completion and acceptance of the entire work, except for any completed unit of work which may have been accepted under the contract.

(e) The Contractor shall lay out the work from base lines and bench marks indicated on the drawings and be responsible for all lines, levels, and measurements of all work executed under the contract. The Contractor shall verify the figures before laying out the work and will be held responsible for any error resulting from its failure to do so.

(f) The Contractor shall confine all operations (including storage of materials) on PHA premises to areas authorized or approved by the Contracting Officer.

(g) The Contractor shall at all times keep the work area, including storage areas, free from accumulations of waste materials. After completing the work and before final inspection, the Contractor shall (1) remove from the premises all scaffolding, equipment, tools, and materials (including rejected materials) that are not the property of the PHA and all rubbish caused by its work; (2) leave the work area in a clean, neat, and orderly condition satisfactory to the Contracting Officer; (3) perform all specified tests; and, (4) deliver the installation in complete and operating condition.

(h) The Contractor's responsibility will terminate when all work has been completed, the final inspection made, and the work accepted by the Contracting Officer. The Contractor will then be released from further obligation except as required by the warranties specified elsewhere in the contract.

3. Architect's Duties, Responsibilities, and Authority

(a) The Architect for this contract, and any successor, shall be designated in writing by the Contracting Officer.

(b) The Architect shall serve as the Contracting Officer's technical representative with respect to architectural, engineering, and design matters related to the work performed under the contract. The Architect may provide direction on contract performance. Such direction shall be within the scope of the contract and may not be of a nature which: (1) institutes additional work outside the scope of the contract; (2) constitutes a change as defined in the Changes clause herein; (3) causes an increase or decrease in the cost of the contract; (4) alters the Construction Progress Schedule; or (5) changes any of the other express terms or conditions of the contract.

(c) The Architect's duties and responsibilities may include but shall not be limited to:

(1) Making periodic visits to the work site, and on the basis of his/her on-site inspections, issuing written reports to the PHA which shall include all observed deficiencies. The Architect shall file a copy of the report with the Contractor's designated representative at the site;

(2) Making modifications in drawings and technical specifications and assisting the Contracting Officer in the preparation of change orders and other contract modifications for issuance by the Contracting Officer;

(3) Reviewing and making recommendations with respect to - (i) the Contractor's construction progress schedules; (ii) the Contractor's shop and detailed drawings; (iii) the machinery, mechanical and other equipment and materials or other articles proposed for use by the Contractor; and, (iv) the Contractor's price breakdown and progress payment estimates; and,

(4) Assisting in inspections, signing Certificates of Completion, and making recommendations with respect to acceptance of work completed under the contract.

4. Other Contracts

The PHA may undertake or award other contracts for additional work at or near the site of the work under this contract. The Contractor shall fully cooperate with the other contractors and with PHA employees and shall carefully adapt scheduling and performing the work under this contract to accommodate the additional work, heeding any direction that may be provided by the Contracting Officer. The Contractor shall not commit or permit any act that will interfere with the performance of work by any other contractor or by PHA employees

Construction Requirements

5. Pre-construction Conference and Notice to Proceed

(a) Within ten calendar days of contract execution, and prior to the commencement of work, the Contractor shall attend a preconstruction conference with representatives of the PHA, its Architect, and other interested parties convened by the PHA. The conference will serve to acquaint the participants with the general plan of the construction operation and all other requirements of the contract. The PHA will provide the Contractor with the date, time, and place of the conference.

(b) The contractor shall begin work upon receipt of a written Notice to Proceed from the Contracting Officer or designee. The Contractor shall not begin work prior to receiving such notice.

6. Construction Progress Schedule

(a) The Contractor shall, within five days after the work commences on the contract or another period of time determined by the Contracting Officer, prepare and submit to the Contracting Officer for approval three copies of a practicable schedule showing the order in which the Contractor proposes to perform the work, and the dates on which the Contractor contemplates starting and completing the several salient features of the work (including acquiring labor, materials, and equipment). The schedule shall be in the form of a progress chart of suitable scale to indicate appropriately the percentage of work scheduled for completion by any given date during the period. If the Contractor fails to submit a schedule within the time prescribed, the Contracting Officer may withhold approval of progress payments or take other remedies under the contract until the Contractor submits the required schedule.

(b) The Contractor shall enter the actual progress on the chart as required by the Contracting Officer, and immediately deliver three copies of the annotated schedule to the Contracting Officer. If the Contracting Officer determines, upon the basis of inspection conducted pursuant to the clause entitled Inspection and Acceptance of Construction, herein that the Contractor is not meeting the approved schedule, the Contractor shall take steps necessary to improve its progress, including those that may be required by the Contracting Officer, without additional cost to the PHA. In this circumstance, the Contracting Officer may require the Contractor to increase the number of shifts, overtime operations, days of work, and/or the amount of construction plant, and to submit for approval any supplementary schedule or schedules in chart form as the Contracting Officer deems necessary to demonstrate how the approved rate of progress will be regained.

(c) Failure of the Contractor to comply with the requirements of the Contracting Officer under this clause shall be grounds for a determination by the Contracting Officer that the Contractor is not prosecuting the work with sufficient diligence to ensure completion within the time specified in the Contract. Upon making this determination, the Contracting Officer may terminate the Contractor's right to proceed with the work, or any separable part of it, in accordance with the Default clause of this contract.

7. Site Investigation and Conditions Affecting the Work

(a) The Contractor acknowledges that it has taken steps reasonably necessary to ascertain the nature and location of the work, and that it has investigated and satisfied itself as to the general and local conditions which can affect the work or its cost, including but not limited to, (1) conditions bearing upon transportation, disposal, handling, and storage of materials; (2) the availability of labor, water, electric power, and roads;(3) uncertainties of weather, river stages, tides, or similar physical conditions at the site; (4) the conformation and conditions of the ground; and (5) the character of equipment and facilities needed preliminary to and during work performance. The Contractor also acknowledges that it has satisfied itself as to the character, quality, and quantity of surface and subsurface materials or obstacles to be encountered insofar as this information is

reasonably ascertainable from an inspection of the site, including all exploratory work done by the PHA, as well as from the drawings and specifications made a part of this contract. Any failure of the Contractor to take the actions described and acknowledged in this paragraph will not relieve the Contractor from responsibility for estimating properly the difficulty and cost of successfully performing the work, or for proceeding to successfully perform the work without additional expense to the PHA.

(b) The PHA assumes no responsibility for any conclusions or interpretations made by the Contractor based on the information made available by the PHA. Nor does the PHA assume responsibility for any understanding reached or representation made concerning conditions which can affect the work by any of its officers or agents before the execution of this contract, unless that understanding or representation is expressly stated in this contract.

8. Differing Site Conditions

(a) The Contractor shall promptly, and before the conditions are disturbed, give a written notice to the Contracting Officer of (1) subsurface or latent physical conditions at the site which differ materially from those indicated in this contract, or (2) unknown physical conditions at the site(s), of an unusual nature, which differ materially from those ordinarily encountered and generally recognized as inhering in work of the character provided for in the contract.

(b) The Contracting Officer shall investigate the site conditions promptly after receiving the notice. Work shall not proceed at the affected site, except at the Contractor's risk, until the Contracting Officer has provided written instructions to the Contractor. If the conditions do materially so differ and cause an increase or decrease in the Contractor's cost of, or the time required for, performing any part of the work under this contract, whether or not changed as a result of the conditions, the Contractor shall file a claim in writing to the PHA within ten days after receipt of such instructions and, in any event, before proceeding with the work. An equitable adjustment in the contract price, the delivery schedule, or both shall be made under this clause and the contract modified in writing accordingly.

(c) No request by the Contractor for an equitable adjustment to the contract under this clause shall be allowed, unless the Contractor has given the written notice required; provided, that the time prescribed in (a) above for giving written notice may be extended by the Contracting Officer.

(d) No request by the Contractor for an equitable adjustment to the contract for differing site conditions shall be allowed if made after final payment under this contract.

9. Specifications and Drawings for Construction

(a) The Contractor shall keep on the work site a copy of the drawings and specifications and shall at all times give the Contracting Officer access thereto. Anything mentioned in the specifications and not shown on the drawings, or shown on the drawings and not mentioned in the specifications, shall be of like effect as if shown or mentioned in both. In case of difference between drawings and specifications, the specifications shall govern. In case of discrepancy in the figures, in the drawings, or in the specifications, the matter shall be promptly submitted to the Contracting Officer, who shall promptly make a determination in writing. Any adjustment by the Contractor without such a determination shall be at its own risk and expense. The Contracting Officer shall furnish from time to time such detailed drawings and other information as considered necessary, unless otherwise provided.

(b) Wherever in the specifications or upon the drawings the words "directed", "required", "ordered", "designated", "prescribed", or words of like import are used, it shall be understood that the "direction", "requirement", "order", "designation", or "prescription", of the Contracting Officer is intended and similarly the words "approved", "acceptable", "satisfactory", or words of like import shall mean "approved by", or "acceptable to", or "satisfactory to" the Contracting Officer, unless otherwise expressly stated.

(c) Where "as shown", "as indicated", "as detailed", or words of similar import are used, it shall be understood that the reference is made to the drawings accompanying this contract unless stated otherwise. The word "provided" as used herein shall be understood to mean "provide complete in place" that is "furnished and installed".

(d) "Shop drawings" means drawings, submitted to the PHA by the Contractor, subcontractor, or any lower tier subcontractor, showing in detail (1) the proposed fabrication and assembly of structural elements and (2) the installation (i.e., form, fit, and attachment details) of materials of equipment. It includes drawings, diagrams, layouts, schematics, descriptive literature, illustrations, schedules, performance and test data, and similar materials furnished by the Contractor to explain in detail specific portions of the work required by the contract. The PHA may duplicate, use, and disclose in any manner and for any purpose shop drawings delivered under this contract.

(e) If this contract requires shop drawings, the Contractor shall coordinate all such drawings, and review them for accuracy, completeness, and compliance with other contract requirements and shall indicate its approval thereon as evidence of such coordination and review. Shop drawings submitted to the Contracting Officer without evidence of the Contractor's approval may be returned for resubmission. The Contracting Officer will indicate an approval or disapproval of the shop drawings and if not approved as submitted shall indicate the PHA's reasons therefore. Any work done before such approval shall be at the Contractor's risk. Approval by the Contracting Officer shall not relieve the Contractor from responsibility for any errors or omissions in such drawings, nor from responsibility for complying with the requirements of this contract, except with respect to variations described and approved in accordance with (f) below.

(f) If shop drawings show variations from the contract requirements, the Contractor shall describe such variations in writing, separate from the drawings, at the time of submission. If the Architect approves any such variation and the Contracting Officer concurs, the Contracting Officer shall issue an appropriate modification to the contract, except that, if the variation is minor or does not involve a change in price or in time of performance, a modification need not be issued.

(g) It shall be the responsibility of the Contractor to make timely requests of the PHA for such large scale and full size drawings, color schemes, and other additional information, not already in his possession, which shall be

required in the planning and production of the work. Such requests may be submitted as the need arises, but each such request shall be filed in ample time to permit appropriate action to be taken by all parties involved so as to avoid delay.

(h) The Contractor shall submit to the Contracting Officer for approval four copies (unless otherwise indicated) of all shop drawings as called for under the various headings of these specifications. Three sets (unless otherwise indicated) of all shop drawings, will be retained by the PHA and one set will be returned to the Contractor. As required by the Contracting Officer, the Contractor, upon completing the work under this contract, shall furnish a complete set of all shop drawings as finally approved. These drawings shall show all changes and revisions made up to the time the work is completed and accepted.

(i) This clause shall be included in all subcontracts at any tier. It shall be the responsibility of the Contractor to ensure that all shop drawings prepared by subcontractors are submitted to the Contracting Officer.

10. As-Built Drawings

(a) "As-built drawings," as used in this clause, means drawings submitted by the Contractor or subcontractor at any tier to show the construction of a particular structure or work as actually completed under the contract. "As-built drawings" shall be synonymous with "Record drawings."

(b) As required by the Contracting Officer, the Contractor shall provide the Contracting Officer accurate information to be used in the preparation of permanent as-built drawings. For this purpose, the Contractor shall record on one set of contract drawings all changes from the installations originally indicated, and record final locations of underground lines by depth from finish grade and by accurate horizontal offset distances to permanent surface improvements such as buildings, curbs, or edges of walks.

(c) This clause shall be included in all subcontracts at any tier. It shall be the responsibility of the Contractor to ensure that all as-built drawings prepared by subcontractors are submitted to the Contracting Officer.

11. Material and Workmanship

(a) All equipment, material, and articles furnished under this contract shall be new and of the most suitable grade for the purpose intended, unless otherwise specifically provided in this contract. References in the contract to equipment, material, articles, or patented processes by trade name, make, or catalog number, shall be regarded as establishing a standard of quality and shall not be construed as limiting competition. The Contractor may, at its option, use any equipment, material, article, or process that, in the judgment of, and as approved by the Contracting Officer, is equal to that named in the specifications, unless otherwise specifically provided in this contract.

(b) Approval of equipment and materials.

(1) The Contractor shall obtain the Contracting Officer's approval of the machinery and mechanical and other equipment to be incorporated into the work. When requesting approval, the Contractor shall furnish to the Contracting Officer the name of the manufacturer, the model number, and other information concerning the performance, capacity, nature, and rating of the machinery and mechanical and other equipment. When required by this contract or by the Contracting Officer, the Contractor shall also obtain the Contracting Officer's approval of the material or articles which the Contractor contemplates incorporating into the work. When requesting approval, the Contractor shall provide full information concerning the material or articles. Machinery, equipment, material, and articles that do not have the required approval shall be installed or used at the risk of subsequent rejection.

(2) When required by the specifications or the Contracting Officer, the Contractor shall submit appropriately marked samples (and certificates related to them) for approval at the Contractor's expense, with all shipping charges prepaid. The Contractor shall label, or otherwise properly mark on the container, the material or product represented, its place of origin, the name of the producer, the Contractor's name, and the identification of the construction project for which the material or product is intended to be used.

(3) Certificates shall be submitted in triplicate, describing each sample submitted for approval and certifying that the material, equipment or accessory complies with contract requirements. The certificates shall include the name and brand of the product, name of manufacturer, and the location where produced.

(4) Approval of a sample shall not constitute a waiver of the PHA right to demand full compliance with contract requirements. Materials, equipment and accessories may be rejected for cause even though samples have been approved.

(5) Wherever materials are required to comply with recognized standards or specifications, such specifications shall be accepted as establishing the technical qualities and testing methods, but shall not govern the number of tests required to be made nor modify other contract requirements. The Contracting Officer may require laboratory test reports on items submitted for approval or may approve materials on the basis of data submitted in certificates with samples. Check tests will be made on materials delivered for use only as frequently as the Contracting Officer determines necessary to insure compliance of materials with the specifications. The Contractor will assume all costs of retesting materials which fail to meet contract requirements and/or testing materials offered in substitution for those found deficient.

(6) After approval, samples will be kept in the Project office until completion of work. They may be built into the work after a substantial quantity of the materials they represent has been built in and accepted.

(c) Requirements concerning lead-based paint. The Contractor shall comply with the requirements concerning lead-based paint contained in the Lead-Based Paint Poisoning Prevention Act (42 U.S.C. 4821-4846) as implemented by 24 CFR Part 35.

12. Permits and Codes

(a) The Contractor shall give all notices and comply with all applicable laws, ordinances, codes, rules and regulations. Notwithstanding the requirement of the Contractor to comply with the drawings and specifications in the contract, all work installed shall comply with all applicable codes and regulations as amended by any

waivers. Before installing the work, the Contractor shall examine the drawings and the specifications for compliance with applicable codes and regulations bearing on the work and shall immediately report any discrepancy it may discover to the Contracting Officer. Where the requirements of the drawings and specifications fail to comply with the applicable code or regulation, the Contracting Officer shall modify the contract by change order pursuant to the clause entitled Changes herein to conform to the code or regulation.

(b) The Contractor shall secure and pay for all permits, fees, and licenses necessary for the proper execution and completion of the work. Where the PHA can arrange for the issuance of all or part of these permits, fees and licenses, without cost to the Contractor, the contract amount shall be reduced accordingly.

13. Health, Safety, and Accident Prevention

(a) In performing this contract, the Contractor shall:
  (1) Ensure that no laborer or mechanic shall be required to work in surroundings or under working conditions which are unsanitary, hazardous, or dangerous to his/her health and/or safety as determined under construction safety and health standards promulgated by the Secretary of Labor by regulation;
  (2) Protect the lives, health, and safety of other persons;
  (3) Prevent damage to property, materials, supplies, and equipment; and,
  (4) Avoid work interruptions.

(b) For these purposes, the Contractor shall:
  (1) Comply with regulations and standards issued by the Secretary of Labor at 29 CFR Part 1926. Failure to comply may result in imposition of sanctions pursuant to the Contract Work Hours and Safety Standards Act (Public Law 91-54, 83 Stat. 96), 40 U.S.C. 3701 et seq.; and
  (2) Include the terms of this clause in every subcontract so that such terms will be binding on each subcontractor.

(c) The Contractor shall maintain an accurate record of exposure data on all accidents incident to work performed under this contract resulting in death, traumatic injury, occupational disease, or damage to property, materials, supplies, or equipment, and shall report this data in the manner prescribed by 29 CFR Part 1904.

(d) The Contracting Officer shall notify the Contractor of any noncompliance with these requirements and of the corrective action required. This notice, when delivered to the Contractor or the Contractor's representative at the site of the work, shall be deemed sufficient notice of the noncompliance and corrective action required. After receiving the notice, the Contractor shall immediately take corrective action. If the Contractor fails or refuses to take corrective action promptly, the Contracting Officer may issue an order stopping all or part of the work until satisfactory corrective action has been taken. The Contractor shall not base any claim or request for equitable adjustment for additional time or money on any stop order issued under these circumstances.

(e) The Contractor shall be responsible for its subcontractors' compliance with the provisions of this clause. The Contractor shall take such action with respect to any subcontract as the PHA, the Secretary of Housing and Urban Development, or the Secretary of Labor shall direct as a means of enforcing such provisions.

14. Temporary Heating

The Contractor shall provide and pay for temporary heating, covering, and enclosures necessary to properly protect all work and materials against damage by dampness and cold, to dry out the work, and to facilitate the completion of the work. Any permanent heating equipment used shall be turned over to the PHA in the condition and at the time required by the specifications.

15. Availability and Use of Utility Services

(a) The PHA shall make all reasonably required amounts of utilities available to the Contractor from existing outlets and supplies, as specified in the contract. Unless otherwise provided in the contract, the amount of each utility service consumed shall be charged to or paid for by the Contractor at prevailing rates charged to the PHA or, where the utility is produced by the PHA, at reasonable rates determined by the Contracting Officer. The Contractor shall carefully conserve any utilities furnished without charge.

(b) The Contractor, at its expense and in a manner satisfactory to the Contracting Officer, shall install and maintain all necessary temporary connections and distribution lines, and all meters required to measure the amount of each utility used for the purpose of determining charges. Before final acceptance of the work by the PHA, the Contractor shall remove all the temporary connections, distribution lines, meters, and associated paraphernalia.

16. Protection of Existing Vegetation, Structures, Equipment, Utilities, and Improvements

(a) The Contractor shall preserve and protect all structures, equipment, and vegetation (such as trees, shrubs, and grass) on or adjacent to the work site, which are not to be removed under this contract, and which do not unreasonably interfere with the work required under this contract.

(b) The Contractor shall only remove trees when specifically authorized to do so, and shall avoid damaging vegetation that will remain in place. If any limbs or branches of trees are broken during performance of this contract, or by the careless operation of equipment, or by workmen, the Contractor shall trim those limbs or branches with a clean cut and paint the cut with a tree-pruning compound as directed by the Contracting Officer.

(c) The Contractor shall protect from damage all existing improvements and utilities (1) at or near the work site and (2) on adjacent property of a third party, the locations of which are made known to or should be known by the Contractor. Prior to disturbing the ground at the construction site, the Contractor shall ensure that all underground utility lines are clearly marked.

(d) The Contractor shall shore up, brace, underpin, secure, and protect as necessary all foundations and other parts of existing structures adjacent to, adjoining, and in the vicinity of the site, which may be affected by the excavations or other operations connected with the construction of the project.

(e) Any equipment temporarily removed as a result of work under this contract shall be protected, cleaned, and replaced in the same condition as at the time of award of this contract.

(f) New work which connects to existing work shall correspond in all respects with that to which it connects and/or be similar to existing work unless otherwise required by the specifications.
(g) No structural members shall be altered or in any way weakened without the written authorization of the Contracting Officer, unless such work is clearly specified in the plans or specifications.
(h) If the removal of the existing work exposes discolored or unfinished surfaces, or work out of alignment, such surfaces shall be refinished, or the material replaced as necessary to make the continuous work uniform and harmonious. This, however, shall not be construed to require the refinishing or reconstruction of dissimilar finishes previously exposed, or finished surfaces in good condition, but in different planes or on different levels when brought together by the removal of intervening work, unless such refinishing or reconstruction is specified in the plans or specifications.
(i) The Contractor shall give all required notices to any adjoining or adjacent property owner or other party before the commencement of any work.
(j) The Contractor shall indemnify and save harmless the PHA from any damages on account of settlement or the loss of lateral support of adjoining property, any damages from changes in topography affecting drainage, and from all loss or expense and all damages for which the PHA may become liable in consequence of such injury or damage to adjoining and adjacent structures and their premises.
(k) The Contractor shall repair any damage to vegetation, structures, equipment, utilities, or improvements, including those that are the property of a third party, resulting from failure to comply with the requirements of this contract or failure to exercise reasonable care in performing the work. If the Contractor fails or refuses to repair the damage promptly, the Contracting Officer may have the necessary work performed and charge the cost to the Contractor.

17. Temporary Buildings and Transportation of Materials

(a) Temporary buildings (e.g., storage sheds, shops, offices, sanitary facilities) and utilities may be erected by the Contractor only with the approval of the Contracting Officer and shall be built with labor and materials furnished by the Contractor without expense to the PHA. The temporary buildings and utilities shall remain the property of the Contractor and shall be removed by the Contractor at its expense upon completion of the work. With the written consent of the Contracting Officer, the buildings and utilities may be abandoned and need not be removed.
(b) The Contractor shall, as directed by the Contracting Officer, use only established roadways, or use temporary roadways constructed by the Contractor when and as authorized by the Contracting Officer. When materials are transported in prosecuting the work, vehicles shall not be loaded beyond the loading capacity recommended by the manufacturer of the vehicle or prescribed by any federal, state, or local law or regulation. When it is necessary to cross curbs or sidewalks, the Contractor shall protect them from damage. The Contractor shall repair or pay for the repair of any damaged curbs, sidewalks, or roads.

18. Clean Air and Water

The contactor shall comply with the Clean Air Act, as amended, 42 USC 7401 et seq., the Federal Water Pollution Control Water Act, as amended, 33 U.S.C. 1251 et seq., and standards issued pursuant thereto in the facilities in which this contract is to be performed.

19. Energy Efficiency

The Contractor shall comply with mandatory standards and policies relating to energy efficiency which are contained in the energy conservation plan issued in compliance with the Energy Policy and Conservation Act (Pub.L. 94-163) for the State in which the work under the contract is performed.

20. Inspection and Acceptance of Construction

(a) Definitions. As used in this clause -
(1) "Acceptance" means the act of an authorized representative of the PHA by which the PHA approves and assumes ownership of the work performed under this contract. Acceptance may be partial or complete.
(2) "Inspection" means examining and testing the work performed under the contract (including, when appropriate, raw materials, equipment, components, and intermediate assemblies) to determine whether it conforms to contract requirements.
(3) "Testing" means that element of inspection that determines the properties or elements, including functional operation of materials, equipment, or their components, by the application of established scientific principles and procedures.
(b) The Contractor shall maintain an adequate inspection system and perform such inspections as will ensure that the work performed under the contract conforms to contract requirements. All work is subject to PHA inspection and test at all places and at all reasonable times before acceptance to ensure strict compliance with the terms of the contract.
(c) PHA inspections and tests are for the sole benefit of the PHA and do not: (1) relieve the Contractor of responsibility for providing adequate quality control measures; (2) relieve the Contractor of responsibility for loss or damage of the material before acceptance; (3) constitute or imply acceptance; or, (4) affect the continuing rights of the PHA after acceptance of the completed work under paragraph (j) below.
(d) The presence or absence of the PHA inspector does not relieve the Contractor from any contract requirement, nor is the inspector authorized to change any term or condition of the specifications without the Contracting Officer's written authorization. All instructions and approvals with respect to the work shall be given to the Contractor by the Contracting Officer.
(e) The Contractor shall promptly furnish, without additional charge, all facilities, labor, and material reasonably needed for performing such safe and convenient inspections and tests as may be required by the Contracting Officer. The PHA may charge to the Contractor any additional cost of inspection or test when work is not ready at the time specified by the Contractor for inspection or test, or when prior rejection makes reinspection or retest necessary. The PHA shall perform all inspections and tests in a manner that will not unnecessarily delay the work. Special, full size, and performance tests shall be performed as described in the contract.

(f) The PHA may conduct routine inspections of the construction site on a daily basis.
(g) The Contractor shall, without charge, replace or correct work found by the PHA not to conform to contract requirements, unless the PHA decides that it is in its interest to accept the work with an appropriate adjustment in contract price. The Contractor shall promptly segregate and remove rejected material from the premises.
(h) If the Contractor does not promptly replace or correct rejected work, the PHA may (1) by contract or otherwise, replace or correct the work and charge the cost to the Contractor, or (2) terminate for default the Contractor's right to proceed.
(i) If any work requiring inspection is covered up without approval of the PHA, it must, if requested by the Contracting Officer, be uncovered at the expense of the Contractor. If at any time before final acceptance of the entire work, the PHA considers it necessary or advisable, to examine work already completed by removing or tearing it out, the Contractor, shall on request, promptly furnish all necessary facilities, labor, and material. If such work is found to be defective or nonconforming in any material respect due to the fault of the Contractor or its subcontractors, the Contractor shall defray all the expenses of the examination and of satisfactory reconstruction. If, however, such work is found to meet the requirements of the contract, the Contracting Officer shall make an equitable adjustment to cover the cost of the examination and reconstruction, including, if completion of the work was thereby delayed, an extension of time.
(j) The Contractor shall notify the Contracting Officer, in writing, as to the date when in its opinion all or a designated portion of the work will be substantially completed and ready for inspection. If the Architect determines that the state of preparedness is as represented, the PHA will promptly arrange for the inspection. Unless otherwise specified in the contract, the PHA shall accept, as soon as practicable after completion and inspection, all work required by the contract or that portion of the work the Contracting Officer determines and designates can be accepted separately. Acceptance shall be final and conclusive except for latent defects, fraud, gross mistakes amounting to fraud, or the PHA's right under any warranty or guarantee.

21. Use and Possession Prior to Completion

(a) The PHA shall have the right to take possession of or use any completed or partially completed part of the work. Before taking possession of or using any work, the Contracting Officer shall furnish the Contractor a list of items of work remaining to be performed or corrected on those portions of the work that the PHA intends to take possession of or use. However, failure of the Contracting Officer to list any item of work shall not relieve the Contractor of responsibility for complying with the terms of the contract. The PHA's possession or use shall not be deemed an acceptance of any work under the contract.
(b) While the PHA has such possession or use, the Contractor shall be relieved of the responsibility for (1) the loss of or damage to the work resulting from the PHA's possession or use, notwithstanding the terms of the clause entitled Permits and Codes herein; (2) all maintenance costs on the areas occupied; and, (3) furnishing heat, light, power, and water used in the areas occupied without proper remuneration therefore. If prior possession or use by the PHA delays the progress of the work or causes additional expense to the Contractor, an equitable adjustment shall be made in the contract price or the time of completion, and the contract shall be modified in writing accordingly.

22. Warranty of Title

The Contractor warrants good title to all materials, supplies, and equipment incorporated in the work and agrees to deliver the premises together with all improvements thereon free from any claims, liens or charges, and agrees further that neither it nor any other person, firm or corporation shall have any right to a lien upon the premises or anything appurtenant thereto.

23. Warranty of Construction

(a) In addition to any other warranties in this contract, the Contractor warrants, except as provided in paragraph (j) of this clause, that work performed under this contract conforms to the contract requirements and is free of any defect in equipment, material, or workmanship performed by the Contractor or any subcontractor or supplier at any tier. This warranty shall continue for a period of _____ (one year unless otherwise indicated) from the date of final acceptance of the work. If the PHA takes possession of any part of the work before final acceptance, this warranty shall continue for a period of (one year unless otherwise indicated) from the date that the PHA takes possession.
(b) The Contractor shall remedy, at the Contractor's expense, any failure to conform, or any defect. In addition, the Contractor shall remedy, at the Contractor's expense, any damage to PHA-owned or controlled real or personal property when the damage is the result of—
  (1) The Contractor's failure to conform to contract requirements; or
  (2) Any defects of equipment, material, workmanship or design furnished by the Contractor.
(c) The Contractor shall restore any work damaged in fulfilling the terms and conditions of this clause. The Contractor's warranty with respect to work repaired or replaced will run for (one year unless otherwise indicated) from the date of repair or replacement.
(d) The Contracting Officer shall notify the Contractor, in writing, within a reasonable time after the discovery of any failure, defect or damage.
(e) If the Contractor fails to remedy any failure, defect, or damage within a reasonable time after receipt of notice, the PHA shall have the right to replace, repair or otherwise remedy the failure, defect, or damage at the Contractor's expense.
(f) With respect to all warranties, express or implied, from subcontractors, manufacturers, or suppliers for work performed and materials furnished under this contract, the Contractor shall:
  (1) Obtain all warranties that would be given in normal commercial practice;
  (2) Require all warranties to be executed in writing, for the benefit of the PHA; and,
  (3) Enforce all warranties for the benefit of the PHA.
(g) In the event the Contractor's warranty under paragraph (a) of this clause has expired, the PHA may bring suit at its own expense to enforce a subcontractor's, manufacturer's or supplier's warranty.

(h) Unless a defect is caused by the negligence of the Contractor or subcontractor or supplier at any tier, the Contractor shall not be liable for the repair of any defect of material or design furnished by the PHA nor for the repair of any damage that results from any defect in PHA furnished material or design.

(i) Notwithstanding any provisions herein to the contrary, the establishment of the time periods in paragraphs (a) and (c) above relate only to the specific obligation of the Contractor to correct the work, and have no relationship to the time within which its obligation to comply with the contract may be sought to be enforced, nor to the time within which proceedings may be commenced to establish the Contractor's liability with respect to its obligation other than specifically to correct the work.

(j) This warranty shall not limit the PHA's rights under the Inspection and Acceptance of Construction clause of this contract with respect to latent defects, gross mistakes or fraud.

24. Prohibition Against Liens

The Contractor is prohibited from placing a lien on the PHA's property. This prohibition shall apply to all subcontractors at any tier and all materials suppliers.

Administrative Requirements

25. Contract Period

The Contractor shall complete all work required under this contract within _____ calendar days of the effective date of the contract, or within the time schedule established in the notice to proceed issued by the Contracting Officer.

26. Order of Provisions

In the event of a conflict between these General Conditions and the Specifications, the General Conditions shall prevail. In the event of a conflict between the contract and any applicable state or local law or regulation, the state or local law or regulation shall prevail; provided that such state or local law or regulation does not conflict with, or is less restrictive than applicable federal law, regulation, or Executive Order. In the event of such a conflict, applicable federal law, regulation, and Executive Order shall prevail.

27. Payments

(a) The PHA shall pay the Contractor the price as provided in this contract.

(b) The PHA shall make progress payments approximately every 30 days as the work proceeds, on estimates of work accomplished which meets the standards of quality established under the contract, as approved by the Contracting Officer. The PHA may, subject to written determination and approval of the Contracting Officer, make more frequent payments to contractors which are qualified small businesses.

(c) Before the first progress payment under this contract, the Contractor shall furnish, in such detail as requested by the Contracting Officer, a breakdown of the total contract price showing the amount included therein for each principal category of the work, which shall substantiate the payment amount requested in order to provide a basis for determining progress payments. The breakdown shall be approved by the Contracting Officer and must be acceptable to HUD. If the contract covers more than one project, the Contractor shall furnish a separate breakdown for each. The values and quantities employed in making up this breakdown are for determining the amount of progress payments and shall not be construed as a basis for additions to or deductions from the contract price. The Contractor shall prorate its overhead and profit over the construction period of the contract.

(d) The Contractor shall submit, on forms provided by the PHA, periodic estimates showing the value of the work performed during each period based upon the approved breakdown of the contract price. Such estimates shall be submitted not later than _____ days in advance of the date set for payment and are subject to correction and revision as required. The estimates must be approved by the Contracting Officer with the concurrence of the Architect prior to payment. If the contract covers more than one project, the Contractor shall furnish a separate progress payment estimate for each.

(e) Along with each request for progress payments and the required estimates, the Contractor shall furnish the following certification, or payment shall not be made:
I hereby certify, to the best of my knowledge and belief, that:

(1) The amounts requested are only for performance in accordance with the specifications, terms, and conditions of the contract;

(2) Payments to subcontractors and suppliers have been made from previous payments received under the contract, and timely payments will be made from the proceeds of the payment covered by this certification, in accordance with subcontract agreements; and,

(3) This request for progress payments does not include any amounts which the prime contractor intends to withhold or retain from a subcontractor or supplier in accordance with the terms and conditions of the subcontract.

_____
Name:

_____
Title:

_____
Date:

(f) Except as otherwise provided in State law, the PHA shall retain ten (10) percent of the amount of progress payments until completion and acceptance of all work under the contract; except, that if upon completion of 50 percent of the work, the Contracting Officer, after consulting with the Architect, determines that the Contractor's performance and progress are satisfactory, the PHA may make the remaining payments in full for the work subsequently completed. If the Contracting Officer subsequently determines that the Contractor's performance and progress are unsatisfactory, the PHA shall reinstate the ten (10) percent (or other percentage as provided in State law) retainage until such time as the Contracting Officer determines that performance and progress are satisfactory.

(g) The Contracting Officer may authorize material delivered on the site and preparatory work done to be taken into consideration when computing progress payments.

Material delivered to the Contractor at locations other than the site may also be taken into consideration if the Contractor furnishes satisfactory evidence that (1) it has acquired title to such material; (2) the material is properly stored in a bonded warehouse, storage yard, or similar suitable place as may be approved by the Contracting Officer; (3) the material is insured to cover its full value; and (4) the material will be used to perform this contract. Before any progress payment which includes delivered material is made, the Contractor shall furnish such documentation as the Contracting Officer may require to assure the protection of the PHA's interest in such materials. The Contractor shall remain responsible for such stored material notwithstanding the transfer of title to the PHA.

(h) All material and work covered by progress payments made shall, at the time of payment become the sole property of the PHA, but this shall not be construed as (1) relieving the Contractor from the sole responsibility for all material and work upon which payments have been made or the restoration of any damaged work; or, (2) waiving the right of the PHA to require the fulfillment of all of the terms of the contract. In the event the work of the Contractor has been damaged by other contractors or persons other than employees of the PHA in the course of their employment, the Contractor shall restore such damaged work without cost to the PHA and to seek redress for its damage only from those who directly caused it.

(i) The PHA shall make the final payment due the Contractor under this contract after (1) completion and final acceptance of all work; and (2) presentation of release of all claims against the PHA arising by virtue of this contract, other than claims, in stated amounts, that the Contractor has specifically excepted from the operation of the release. Each such exception shall embrace no more than one claim, the basis and scope of which shall be clearly defined. The amounts for such excepted claims shall not be included in the request for final payment. A release may also be required of the assignee if the Contractor's claim to amounts payable under this contract has been assigned.

(j) Prior to making any payment, the Contracting Officer may require the Contractor to furnish receipts or other evidence of payment from all persons performing work and supplying material to the Contractor, if the Contracting Officer determines such evidence is necessary to substantiate claimed costs.

(k) The PHA shall not; (1) determine or adjust any claims for payment or disputes arising there under between the Contractor and its subcontractors or material suppliers; or, (2) withhold any moneys for the protection of the subcontractors or material suppliers. The failure or refusal of the PHA to withhold moneys from the Contractor shall in nowise impair the obligations of any surety or sureties under any bonds furnished under this contract.

28. Contract Modifications

(a) Only the Contracting Officer has authority to modify any term or condition of this contract. Any contract modification shall be authorized in writing.

(b) The Contracting Officer may modify the contract unilaterally (1) pursuant to a specific authorization stated in a contract clause (e.g., Changes); or (2) for administrative matters which do not change the rights or responsibilities of the parties (e.g., change in the PHA address). All other contract modifications shall be in the form of supplemental agreements signed by the Contractor and the Contracting Officer.

(c) When a proposed modification requires the approval of HUD prior to its issuance (e.g., a change order that exceeds the PHA's approved threshold), such modification shall not be effective until the required approval is received by the PHA.

29. Changes

(a) The Contracting Officer may, at any time, without notice to the sureties, by written order designated or indicated to be a change order, make changes in the work within the general scope of the contract including changes:
(1) In the specifications (including drawings and designs);
(2) In the method or manner of performance of the work;
(3) PHA-furnished facilities, equipment, materials, services, or site; or,
(4) Directing the acceleration in the performance of the work.

(b) Any other written order or oral order (which, as used in this paragraph (b), includes direction, instruction, interpretation, or determination) from the Contracting Officer that causes a change shall be treated as a change order under this clause; provided, that the Contractor gives the Contracting Officer written notice stating (1) the date, circumstances and source of the order and (2) that the Contractor regards the order as a change order.

(c) Except as provided in this clause, no order, statement or conduct of the Contracting Officer shall be treated as a change under this clause or entitle the Contractor to an equitable adjustment.

(d) If any change under this clause causes an increase or decrease in the Contractor's cost of, or the time required for the performance of any part of the work under this contract, whether or not changed by any such order, the Contracting Officer shall make an equitable adjustment and modify the contract in writing. However, except for a adjustment based on defective specifications, no proposal for any change under paragraph (b) above shall be allowed for any costs incurred more than 20 days (5 days for oral orders) before the Contractor gives written notice as required. In the case of defective specifications for which the PHA is responsible, the equitable adjustment shall include any increased cost reasonably incurred by the Contractor in attempting to comply with the defective specifications.

(e) The Contractor must assert its right to an adjustment under this clause within 30 days after (1) receipt of a written change order under paragraph (a) of this clause, or (2) the furnishing of a written notice under paragraph (b) of this clause, by submitting a written statement describing the general nature and the amount of the proposal. If the facts justify it, the Contracting Officer may extend the period for submission. The proposal may be included in the notice required under paragraph (b) above. No proposal by the Contractor for an equitable adjustment shall be allowed if asserted after final payment under this contract.

(f) The Contractor's written proposal for equitable adjustment shall be submitted in the form of a lump sum proposal supported with an itemized breakdown of all increases and decreases in the contract in at least the following details:

(1) Direct Costs. Materials (list individual items, the quantity and unit cost of each, and the aggregate cost); Transportation and delivery costs associated with materials; Labor breakdowns by hours or unit costs (identified with specific work to be performed); Construction equipment exclusively necessary for the change; Costs of preparation and/ or revision to shop drawings resulting from the change; Worker's Compensation and Public Liability Insurance; Employment taxes under FICA and FUTA; and, Bond Costs when size of change warrants revision.

(2) Indirect Costs. Indirect costs may include overhead, general and administrative expenses, and fringe benefits not normally treated as direct costs.

(3) Profit. The amount of profit shall be negotiated and may vary according to the nature, extent, and complexity of the work required by the change.

The allowability of the direct and indirect costs shall be determined in accordance with the Contract Cost Principles and Procedures for Commercial Firms in Part 31 of the Federal Acquisition Regulation (48 CFR 1-31), as implemented by HUD Handbook 2210.18, in effect on the date of this contract. The Contractor shall not be allowed a profit on the profit received by any subcontractor. Equitable adjustments for deleted work shall include a credit for profit and may include a credit for indirect costs. On proposals covering both increases and decreases in the amount of the contract, the application of indirect costs and profit shall be on the net-change in direct costs for the Contractor or subcontractor performing the work.

(g) The Contractor shall include in the proposal its request for time extension (if any), and shall include sufficient information and dates to demonstrate whether and to what extent the change will delay the completion of the contract in its entirety.

(h) The Contracting Officer shall act on proposals within 30 days after their receipt, or notify the Contractor of the date when such action will be taken.

(i) Failure to reach an agreement on any proposal shall be a dispute under the clause entitled Disputes herein. Nothing in this clause, however, shall excuse the Contractor from proceeding with the contract as changed.

(j) Except in an emergency endangering life or property, no change shall be made by the Contractor without a prior order from the Contracting Officer.

30. Suspension of Work

(a) The Contracting Officer may order the Contractor in writing to suspend, delay, or interrupt all or any part of the work of this contract for the period of time that the Contracting Officer determines appropriate for the convenience of the PHA.

(b) If the performance of all or any part of the work is, for an unreasonable period of time, suspended, delayed, or interrupted (1) by an act of the Contracting Officer in the administration of this contract, or (2) by the Contracting Officer's failure to act within the time specified (or within a reasonable time if not specified) in this contract an adjustment shall be made for any increase in the cost of performance of the contract (excluding profit) necessarily caused by such unreasonable suspension, delay, or interruption and the contract modified in writing accordingly. However, no adjustment shall be made under this clause for any suspension, delay, or interruption to the extent that performance would have been so suspended, delayed, or interrupted by any other cause, including the fault or negligence of the Contractor or for which any equitable adjustment is provided for or excluded under any other provision of this contract.

(c) A claim under this clause shall not be allowed (1) for any costs incurred more than 20 days before the Contractor shall have notified the Contracting Officer in writing of the act or failure to act involved (but this requirement shall not apply as to a claim resulting from a suspension order); and, (2) unless the claim, in an amount stated, is asserted in writing as soon as practicable after the termination of the suspension, delay, or interruption, but not later than the date of final payment under the contract.

31. Disputes

(a) "Claim," as used in this clause, means a written demand or written assertion by one of the contracting parties seeking, as a matter of right, the payment of money in a sum certain, the adjustment or interpretation of contract terms, or other relief arising under or relating to the contract. A claim arising under the contract, unlike a claim relating to the contract, is a claim that can be resolved under a contract clause that provides for the relief sought by the claimant. A voucher, invoice, or other routine request for payment that is not in dispute when submitted is not a claim. The submission may be converted to a claim by complying with the requirements of this clause, if it is disputed either as to liability or amount or is not acted upon in a reasonable time.

(b) Except for disputes arising under the clauses entitled Labor Standards - Davis Bacon and Related Acts, herein, all disputes arising under or relating to this contract, including any claims for damages for the alleged breach thereof which are not disposed of by agreement, shall be resolved under this clause.

(c) All claims by the Contractor shall be made in writing and submitted to the Contracting Officer for a written decision. A claim by the PHA against the Contractor shall be subject to a written decision by the Contracting Officer.

(d) The Contracting Officer shall, within 60 (unless otherwise indicated) days after receipt of the request, decide the claim or notify the Contractor of the date by which the decision will be made.

(e) The Contracting Officer's decision shall be final unless the Contractor (1) appeals in writing to a higher level in the PHA in accordance with the PHA's policy and procedures, (2) refers the appeal to an independent mediator or arbitrator, or (3) files suit in a court of competent jurisdiction. Such appeal must be made within (30 unless otherwise indicated) days after receipt of the Contracting Officer's decision.

(f) The Contractor shall proceed diligently with performance of this contract, pending final resolution of any request for relief, claim, appeal, or action arising under or relating to the contract, and comply with any decision of the Contracting Officer.

32. Default

(a) If the Contractor refuses or fails to prosecute the work, or any separable part thereof, with the diligence that will insure its completion within the time specified in this contract, or any extension thereof, or fails to complete said work within this time, the Contracting Officer may, by written notice to the Contractor, terminate the right to

proceed with the work (or separable part of the work) that has been delayed. In this event, the PHA may take over the work and complete it, by contract or otherwise, and may take possession of and use any materials, equipment, and plant on the work site necessary for completing the work. The Contractor and its sureties shall be liable for any damage to the PHA resulting from the Contractor's refusal or failure to complete the work within the specified time, whether or not the Contractor's right to proceed with the work is terminated. This liability includes any increased costs incurred by the PHA in completing the work.

(b) The Contractor's right to proceed shall not be terminated or the Contractor charged with damages under this clause if—

(1) The delay in completing the work arises from unforeseeable causes beyond the control and without the fault or negligence of the Contractor. Examples of such causes include (i) acts of God, or of the public enemy, (ii) acts of the PHA or other governmental entity in either its sovereign or contractual capacity, (iii) acts of another contractor in the performance of a contract with the PHA, (iv) fires, (v) floods, (vi) epidemics, (vii) quarantine restrictions, (viii) strikes, (ix) freight embargoes, (x) unusually severe weather, or (xi) delays of subcontractors or suppliers at any tier arising from unforeseeable causes beyond the control and without the fault or negligence of both the Contractor and the subcontractors or suppliers; and

(2) The Contractor, within days (10 days unless otherwise indicated) from the beginning of such delay (unless extended by the Contracting Officer) notifies the Contracting Officer in writing of the causes of delay. The Contracting Officer shall ascertain the facts and the extent of the delay. If, in the judgment of the Contracting Officer, the findings of fact warrant such action, time for completing the work shall be extended by written modification to the contract. The findings of the Contracting Officer shall be reduced to a written decision which shall be subject to the provisions of the Disputes clause of this contract.

(c) If, after termination of the Contractor's right to proceed, it is determined that the Contractor was not in default, or that the delay was excusable, the rights and obligations of the parties will be the same as if the termination had been for convenience of the PHA.

33. Liquidated Damages

(a) If the Contractor fails to complete the work within the time specified in the contract, or any extension, as specified in the clause entitled Default of this contract, the Contractor shall pay to the PHA as liquidated damages, the sum of $_____ Contracting Officer insert amount] for each day of delay. If different completion dates are specified in the contract for separate parts or stages of the work, the amount of liquidated damages shall be assessed on those parts or stages which are delayed. To the extent that the Contractor's delay or nonperformance is excused under another clause in this contract, liquidated damages shall not be due the PHA. The Contractor remains liable for damages caused other than by delay.

(b) If the PHA terminates the Contractor's right to proceed, the resulting damage will consist of liquidated damages until such reasonable time as may be required for final completion of the work together with any increased costs occasioned the PHA in completing the work.

(c) If the PHA does not terminate the Contractor's right to proceed, the resulting damage will consist of liquidated damages until the work is completed or accepted.

34. Termination for Convenience

(a) The Contracting Officer may terminate this contract in whole, or in part, whenever the Contracting Officer determines that such termination is in the best interest of the PHA. Any such termination shall be effected by delivery to the Contractor of a Notice of Termination specifying the extent to which the performance of the work under the contract is terminated, and the date upon which such termination becomes effective.

(b) If the performance of the work is terminated, either in whole or in part, the PHA shall be liable to the Contractor for reasonable and proper costs resulting from such termination upon the receipt by the PHA of a properly presented claim setting out in detail: (1) the total cost of the work performed to date of termination less the total amount of contract payments made to the Contractor; (2) the cost (including reasonable profit) of settling and paying claims under subcontracts and material orders for work performed and materials and supplies delivered to the site, payment for which has not been made by the PHA to the Contractor or by the Contractor to the subcontractor or supplier; (3) the cost of preserving and protecting the work already performed until the PHA or assignee takes possession thereof or assumes responsibility therefore; (4) the actual or estimated cost of legal and accounting services reasonably necessary to prepare and present the termination claim to the PHA; and (5) an amount constituting a reasonable profit on the value of the work performed by the Contractor.

(c) The Contracting Officer will act on the Contractor's claim within days (60 days unless otherwise indicated) of receipt of the Contractor's claim.

(d) Any disputes with regard to this clause are expressly made subject to the provisions of the Disputes clause of this contract.

35. Assignment of Contract

The Contractor shall not assign or transfer any interest in this contract; except that claims for monies due or to become due from the PHA under the contract may be assigned to a bank, trust company, or other financial institution. Such assignments of claims shall only be made with the written concurrence of the Contracting Officer. If the Contractor is a partnership, this contract shall inure to the benefit of the surviving or remaining member(s) of such partnership as approved by the Contracting Officer.

36. Insurance

(a) Before commencing work, the Contractor and each subcontractor shall furnish the PHA with certificates of insurance showing the following insurance is in force and will insure all operations under the Contract:

(1) Workers' Compensation, in accordance with state or Territorial Workers' Compensation laws.

(2) Commercial General Liability with a combined single limit for bodily injury and property damage of not less than $_____ [Contracting Officer insert amount]

per occurrence to protect the Contractor and each subcontractor against claims for bodily injury or death and damage to the property of others. This shall cover the use of all equipment, hoists, and vehicles on the site(s) not covered by Automobile Liability under (3) below. If the Contractor has a "claims-made" policy, then the following additional requirements apply: the policy must provide a "retroactive date" which must be on or before the execution date of the Contract; and the extended reporting period may not be less than five years following the completion date of the Contract.

(3) Automobile Liability on owned and non -owned motor vehicles used on the site(s) or in connection therewith for a combined single limit for bodily injury and property damage of not less than $_____ [Contracting Officer insert amount] per occurrence.

(b) Before commencing work, the Contractor shall furnish the PHA with a certificate of insurance evidencing that Builder's Risk (fire and extended coverage) Insurance on all work in place and/or materials stored at the building site(s), including foundations and building equipment, is in force. The Builder's Risk Insurance shall be for the benefit of the Contractor and the PHA as their interests may appear and each shall be named in the policy or policies as an insured. The Contractor in installing equipment supplied by the PHA shall carry insurance on such equipment from the time the Contractor takes possession thereof until the Contract work is accepted by the PHA. The Builder's Risk Insurance need not be carried on excavations, piers, footings, or foundations until such time as work on the superstructure is started. It need not be carried on landscape work. Policies shall furnish coverage at all times for the full cash value of all completed construction, as well as materials in place and/or stored at the site(s), whether or not partial payment has been made by the PHA. The Contractor may terminate this insurance on buildings as of the date taken over for occupancy by the PHA. The Contractor is not required to carry Builder's Risk Insurance for modernization work which does not involve structural alterations or additions and where the PHA's existing fire and extended coverage policy can be endorsed to include such work.

(c) All insurance shall be carried with companies which are financially responsible and admitted to do business in the State in which the project is located. If any such insurance is due to expire during the construction period, the Contractor (including subcontractors, as applicable) shall not permit the coverage to lapse and shall furnish evidence of coverage to the Contracting Officer. All certificates of insurance, as evidence of coverage, shall provide that no coverage may be canceled or non-renewed by the insurance company until at least 30 days prior written notice has been given to the Contracting Officer.

37. Subcontracts

(a) Definitions. As used in this contract -

(1) "Subcontract" means any contract, purchase order, or other purchase agreement, including modifications and change orders to the foregoing, entered into by a subcontractor to furnish supplies, materials, equipment, and services for the performance of the prime contract or a subcontract.

(2) "Subcontractor" means any supplier, vendor, or firm that furnishes supplies, materials, equipment, or services to or for the Contractor or another subcontractor.

(b) The Contractor shall not enter into any subcontract with any subcontractor who has been temporarily denied participation in a HUD program or who has been suspended or debarred from participating in contracting programs by any agency of the United States Government or of the state in which the work under this contract is to be performed.

(c) The Contractor shall be as fully responsible for the acts or omissions of its subcontractors, and of persons either directly or indirectly employed by them as for the acts or omissions of persons directly employed by the Contractor.

(d) The Contractor shall insert appropriate clauses in all subcontracts to bind subcontractors to the terms and conditions of this contract insofar as they are applicable to the work of subcontractors.

(e) Nothing contained in this contract shall create any contractual relationship between any subcontractor and the PHA or between the subcontractor and HUD.

38. Subcontracting with Small and Minority Firms, Women's Business Enterprise, and Labor Surplus Area Firms

The Contractor shall take the following steps to ensure that, whenever possible, subcontracts are awarded to small business firms, minority firms, women's business enterprises, and labor surplus area firms:

(a) Placing qualified small and minority businesses and women's business enterprises on solicitation lists;

(b) Ensuring that small and minority businesses and women's business enterprises are solicited whenever they are potential sources;

(c) Dividing total requirements, when economically feasible, into smaller tasks or quantities to permit maximum participation by small and minority businesses and women's business enterprises;

(d) Establishing delivery schedules, where the requirements of the contract permit, which encourage participation by small and minority businesses and women's business enterprises; and

(e) Using the services and assistance of the U.S. Small Business Administration, the Minority Business Development Agency of the U.S. Department of Commerce, and State and local governmental small business agencies.

39. Equal Employment Opportunity

During the performance of this contract, the Contractor agrees as follows:

(a) The Contractor shall not discriminate against any employee or applicant for employment because of race, color, religion, sex, national origin, or handicap.

(b) The Contractor shall take affirmative action to ensure that applicants are employed, and that employees are treated during employment without regard to their race, color, religion, sex, national origin, or handicap. Such action shall include, but not be limited to, (1) employment, (2) upgrading, (3) demotion, (4) transfer, (5) recruitment or recruitment advertising, (6) layoff or termination, (7) rates of pay or other forms of compensation, and (8) selection for training, including apprenticeship.

(c) The Contractor shall post in conspicuous places available to employees and applicants for employment the notices to be provided by the Contracting Officer that explain this clause.

(d) The Contractor shall, in all solicitations or advertisements for employees placed by or on behalf of the Contractor, state that all qualified applicants will receive consideration for employment without regard to race, color, religion, sex, national origin, or handicap.

(e) The Contractor shall send, to each labor union or representative of workers with which it has a collective bargaining agreement or other contract or understanding, the notice to be provided by the Contracting Officer advising the labor union or workers' representative of the Contractor's commitments under this clause, and post copies of the notice in conspicuous places available to employees and applicants for employment.

(f) The Contractor shall comply with Executive Order 11246, as amended, and the rules, regulations, and orders of the Secretary of Labor.

(g) The Contractor shall furnish all information and reports required by Executive Order 11246, as amended, Section 503 of the Rehabilitation Act of 1973, as amended, and by rules, regulations, and orders of the Secretary of Labor, or pursuant thereto. The Contractor shall permit access to its books, records, and accounts by the Secretary of Labor for purposes of investigation to ascertain compliance with such rules, regulations, and orders.

(h) In the event of a determination that the Contractor is not in compliance with this clause or any rule, regulation, or order of the Secretary of Labor, this contract may be canceled, terminated, or suspended in whole or in part, and the Contractor may be declared ineligible for further Government contracts, or Federally assisted construction contracts under the procedures authorized in Executive Order 11246, as amended. In addition, sanctions may be imposed and remedies invoked against the Contractor as provided in Executive Order 11246, as amended, the rules, regulations, and orders of the Secretary of Labor, or as otherwise provided by law.

(i) The Contractor shall include the terms and conditions of this clause in every subcontract or purchase order unless exempted by the rules, regulations, or orders of the Secretary of Labor issued under Executive Order 11246, as amended, so that these terms and conditions will be binding upon each subcontractor or vendor. The Contractor shall take such action with respect to any subcontract or purchase order as the Secretary of Housing and Urban Development or the Secretary of Labor may direct as a means of enforcing such provisions, including sanctions for noncompliance; provided that if the Contractor becomes involved in, or is threatened with, litigation with a subcontractor or vendor as a result of such direction, the Contractor may request the United States to enter into the litigation to protect the interests of the United States.

(j) Compliance with the requirements of this clause shall be to the maximum extent consistent with, but not in derogation of, compliance with section 7(b) of the Indian Self-Determination and Education Assistance Act and the Indian Preference clause of this contract.

40. Employment, Training, and Contracting Opportunities for Low-Income Persons, Section 3 of the Housing and Urban Development Act of 1968.

(a) The work to be performed under this contract is subject to the requirements of section 3 of the Housing and Urban Development Act of 1968, as amended, 12 U.S.C. 1701u (section 3). The purpose of section 3 is to ensure that employment and other economic opportunities generated by HUD assistance or HUD-assisted projects covered by section 3, shall, to the greatest extent feasible, be directed to low- and very low-income persons, particularly persons who are recipients of HUD assistance for housing.

(b) The parties to this contract agree to comply with HUD's regulations in 24 CFR Part 135, which implement section 3. As evidenced by their execution of this contract, the parties to this contract certify that they are under no contractual or other impediment that would prevent them from complying with the Part 135 regulations.

(c) The contractor agrees to send to each labor organization or representative of workers with which the contractor has a collective bargaining agreement or other understanding, if any, a notice advising the labor organization or workers' representative of the contractor's commitments under this section 3 clause, and will post copies of the notice in conspicuous places at the work site where both employees and applicants for training and employment positions can see the notice. The notice shall describe the section 3 preference, shall set forth minimum number and job titles subject to hire, availability of apprenticeship and training positions, the qualifications for each; and the name and location of the person(s) taking applications for each of the positions; and the anticipated date the work shall begin.

(d) The contractor agrees to include this section 3 clause in every subcontract subject to compliance with regulations in 24 CFR Part 135, and agrees to take appropriate action, as provided in an applicable provision of the subcontract or in this section 3 clause, upon a finding that the subcontractor is in violation of the regulations in 24 CFR Part 135. The contractor will not subcontract with any subcontractor where the contractor has notice or knowledge that the subcontractor has been found in violation of the regulations in 24 CFR Part 135.

(e) The contractor will certify that any vacant employment positions, including training positions, that are filled (1) after the contractor is selected but before the contract is executed, and (2) with persons other than those to whom the regulations of 24 CFR Part 135 require employment opportunities to be directed, were not filled to circumvent the contractor's obligations under 24 CFR Part 135.

(f) Noncompliance with HUD's regulations in 24 CFR Part 135 may result in sanctions, termination of this contract for default, and debarment or suspension from future HUD assisted contracts.

(g) With respect to work performed in connection with section 3 covered Indian housing assistance, section 7(b) of the Indian Self-Determination and Education Assistance Act (25 U.S.C. 450e) also applies to the work to be performed under this contract. Section 7(b) requires that to the greatest extent feasible (i) preference and opportunities for training and employment shall be given to Indians, and (ii) preference in the award of contracts and subcontracts shall be given to Indian organizations and Indian-owned Economic Enterprises. Parties to this contract that are subject to the provisions of section 3 and section 7(b)agree to comply with section 3 to the maximum extent feasible, but not in derogation of compliance with section 7(b).

41. Interest of Members of Congress

No member of or delegate to the Congress of the United States of America shall be admitted to any share or part of this contract or to any benefit that may arise therefrom.

42. Interest of Members, Officers, or Employees and Former Members, Officers, or Employees

No member, officer, or employee of the PHA, no member of the governing body of the locality in which the project is situated, no member of the governing body of the locality in which the PHA was activated, and no other public official of such locality or localities who exercises any functions or responsibilities with respect to the project, shall, during his or her tenure, or for one year thereafter, have any interest, direct or indirect, in this contract or the proceeds thereof.

43. Limitations on Payments made to Influence Certain Federal Financial Transactions

(a) The Contractor agrees to comply with Section 1352 of Title 31, United States Code which prohibits the use of Federal appropriated funds to pay any person for influencing or attempting to influence an officer or employee of any agency, a Member of Congress, and officer or employee of Congress, or an employee of a Member of Congress in connection with any of the following covered Federal actions: the awarding of any Federal contract; the making of any Federal grant; the making of any Federal loan; the entering into of any cooperative agreement; or the modification of any Federal contract, grant, loan, or cooperative agreement.

(b) The Contractor further agrees to comply with the requirement of the Act to furnish a disclosure (OMB Standard Form LLL, Disclosure of Lobbying Activities) if any funds other than Federal appropriated funds (including profit or fee received under a covered Federal transaction) have been paid, or will be paid, to any person for influencing or attempting to influence an officer or employee of any agency, a Member of Congress, an officer or employee of Congress, or an employee of a Member of Congress in connection with a Federal contract, grant, loan, or cooperative agreement.

44. Royalties and Patents

The Contractor shall pay all royalties and license fees. It shall defend all suits or claims for infringement of any patent rights and shall save the PHA harmless from loss on account thereof; except that the PHA shall be responsible for all such loss when a particular design, process or the product of a particular manufacturer or manufacturers is specified and the Contractor has no reason to believe that the specified design, process, or product is an infringement. If, however, the Contractor has reason to believe that any design, process or product specified is an infringement of a patent, the Contractor shall promptly notify the Contracting Officer. Failure to give such notice shall make the Contractor responsible for resultant loss.

45. Examination and Retention of Contractor's Records

(a) The PHA, HUD, or Comptroller General of the United States, or any of their duly authorized representatives shall, until 3 years after final payment under this contract, have access to and the right to examine any of the Contractor's directly pertinent books, documents, papers, or other records involving transactions related to this contract for the purpose of making audit, examination, excerpts, and transcriptions.

(b) The Contractor agrees to include in first-tier subcontracts under this contract a clause substantially the same as paragraph (a) above. "Subcontract," as used in this clause, excludes purchase orders not exceeding $10,000.

(c) The periods of access and examination in paragraphs (a) and (b) above for records relating to (1) appeals under the Disputes clause of this contract, (2) litigation or settlement of claims arising from the performance of this contract, or (3) costs and expenses of this contract to which the PHA, HUD, or Comptroller General or any of their duly authorized representatives has taken exception shall continue until disposition of such appeals, litigation, claims, or exceptions.

46. Labor Standards - Davis-Bacon and Related Acts

If the total amount of this contract exceeds $2,000, the Federal labor standards set forth in the clause below shall apply to the development or construction work to be performed under the contract.

(a) Minimum Wages.

(1) All laborers and mechanics employed under this contract in the development or construction of the project(s) involved will be paid unconditionally and not less often than once a week, and without subsequent deduction or rebate on any account (except such payroll deductions as are permitted by regulations issued by the Secretary of Labor under the Copeland Act (29 CFR Part 3)), the full amount of wages and bona fide fringe benefits (or cash equivalents thereof) due at time of payment computed at rates not less than those contained in the wage determination of the Secretary of Labor which is attached hereto and made a part hereof, regardless of any contractual relationship which may be alleged to exist between the Contractor and such laborers and mechanics. Contributions made or costs reasonably anticipated for bona fide fringe benefits under Section 1(b)(2) of the Davis-Bacon Act on behalf of laborers or mechanics are considered wages paid to such laborers or mechanics, subject to the provisions of 29 CFR 5.5(a)(1)(iv); also, regular contributions made or costs incurred for more than a weekly period (but not less often than quarterly) under plans, funds, or programs which cover the regular weekly period, are deemed to be constructively made or incurred during such weekly period. Such laborers and mechanics shall be paid the appropriate wage rate and fringe benefits in the wage determination for the classification of work actually performed, without regard to skill, except as provided in 29 CFR 5.5(a)(4). Laborers or mechanics performing work in more than one classification may be compensated at the rate specified for each classification for the time actually worked therein; provided, that the employer's payroll records accurately set forth the time spent in each classification in which work is performed. The wage determination (including any additional classification and wage rates conformed under 29 CFR 5.5(a)(1)(ii) and the Davis-Bacon poster (WH-1321) shall

be posted at all times by the Contractor and its subcontractors at the site of the work in a prominent and accessible place where it can be easily seen by the workers.

(2) (i) Any class of laborers or mechanics, including helpers, which is not listed in the wage determination and which is to be employed under the contract shall be classified in conformance with the wage determination. HUD shall approve an additional classification and wage rate and fringe benefits therefor only when all the following criteria have been met: (A) The work to be performed by the classification requested is not performed by a classification in the wage determination; and (B) The classification is utilized in the area by the construction industry; and (C) The proposed wage rate, including any bona fide fringe benefits, bears a reasonable relationship to the wage rates contained in the wage determination.

(ii) If the Contractor and the laborers and mechanics to be employed in the classification (if known), or their representatives, and HUD or its designee agree on the classification and wage rate (including the amount designated for fringe benefits where appropriate), a report of the action taken shall be sent by HUD or its designee to the Administrator of the Wage and Hour Division, Employee Standards Administration, U.S. Department of Labor, Washington, DC 20210. The Administrator, or an authorized representative, will approve, modify, or disapprove every additional classification action within 30 days of receipt and so advise HUD or its designee or will notify HUD or its designee within the 30-day period that additional time is necessary.

(iii) In the event the Contractor, the laborers or mechanics to be employed in the classification or their representatives, and HUD or its designee do not agree on the proposed classification and wage rate (including the amount designated for fringe benefits, where appropriate), HUD or its designee shall refer the questions, including the views of all interested parties and the recommendation of HUD or its designee, to the Administrator of the Wage and Hour Division for determination. The Administrator, or an authorized representative, will issue a determination within 30 days of receipt and so advise HUD or its designee or will notify HUD or its designee within the 30-day period that additional time is necessary.

(iv) The wage rate (including fringe benefits where appropriate) determined pursuant to subparagraphs (a)(2)(ii) or (iii) of this clause shall be paid to all workers performing work in the classification under this contract from the first day on which work is performed in classification.

(3) Whenever the minimum wage rate prescribed in the contract for a class of laborers or mechanics includes a fringe benefit which is not expressed as an hourly rate, the Contractor shall either pay the benefit as stated in the wage determination or shall pay another bona fide fringe benefit or an hourly cash equivalent thereof.

(4) If the Contractor does not make payments to a trustee or other third person, the Contractor may consider as part of the wages of any laborer or mechanic the amount of any costs reasonably anticipated in providing bona fide fringe benefits under a plan or program; provided, that the Secretary of Labor has found, upon the written request of the Contractor, that the applicable standards of the Davis-Bacon Act have been met. The Secretary of Labor may require the Contractor to set aside in a separate account assets for the meeting of obligations under the plan or program.

(b) Withholding of funds. HUD or its designee shall, upon its own action or upon written request of an authorized representative of the Department of Labor, withhold or cause to be withheld from the Contractor under this contract or any other Federal contract with the same prime Contractor, or any other Federally-assisted contract subject to Davis-Bacon prevailing wage requirements, which is held by the same prime Contractor, so much of the accrued payments or advances as may be considered necessary to pay laborers and mechanics, including apprentices, trainees, and helpers, employed by the Contractor or any subcontractor the full amount of wages required by the contract. In the event of failure to pay any laborer or mechanic, including any apprentice, trainee, or helper, employed or working in the construction or development of the project, all or part of the wages required by the contract, HUD or its designee may, after written notice to the Contractor, take such action as may be necessary to cause the suspension of any further payment, advance, or guarantee of funds until such violations have ceased. HUD or its designee may, after written notice to the Contractor, disburse such amounts withheld for and on account of the Contractor or subcontractor to the respective employees to whom they are due.

(c) Payrolls and basic records.

(1) Payrolls and basic records relating thereto shall be maintained by the Contractor during the course of the work and preserved for a period of three years thereafter for all laborers and mechanics working in the construction or development of the project. Such records shall contain the name, address, and social security number of each such worker, his or her correct classification, hourly rates of wages paid (including rates of contributions or costs anticipated for bona fide fringe benefits or cash equivalents thereof of the types described in section 1(b)(2)(B) of the Davis-Bacon Act), daily and weekly number of hours worked, deductions made, and actual wages paid. Whenever the Secretary of Labor has found, under 29 CFR 5.5(a)(1)(iv), that the wages of any laborer or mechanic include the amount of costs reasonably anticipated in providing benefits under a plan or program described in section 1(b)(2)(B) of the Davis-Bacon Act, the Contractor shall maintain records which show that the commitment to provide such benefits is enforceable, that the plan or program is financially responsible, and that the plan or program has been communicated in writing to the laborers or mechanics affected, and records which show the costs anticipated or the actual cost incurred in providing such benefits. Contractors employing apprentices or trainees under approved programs shall maintain written evidence of the registration of apprenticeship programs and certification of trainee programs, the registration of the apprentices and trainees, and the ratios and wage rates prescribed in the applicable programs.

(2) (i) The Contractor shall submit weekly for each week in which any contract work is performed a copy of all payrolls to the Contracting Officer for transmission to HUD or its designee. The payrolls submitted shall set out accurately and completely all of the information required to be maintained under subparagraph (c)(1) of this clause. This information may be submitted in any form desired. Optional Form WH-347 (Federal Stock Number 029-005-00014-1) is available for this purpose and may be purchased from the Superintendent of Documents, U.S. Government Printing Office, Washington, D.C. 20402. The Contractor is responsible for the submission of copies of payrolls by all subcontractors. (Approved by the Office of Management and Budget under OMB Control Number 1214-0149.)

(ii) Each payroll submitted shall be accompanied by a "Statement of Compliance," signed by the Contractor or subcontractor or his or her agent who pays or supervises the payment of the persons employed under the contract and shall certify the following:

(A) That the payroll for the payroll period contains the information required to be maintained under paragraph (c) (1) of this clause and that such information is correct and complete;

(B) That each laborer or mechanic (including each helper, apprentice, and trainee) employed on the contract during the payroll period has been paid the full weekly wages earned, without rebate, either directly or indirectly, and that no deductions have been made either directly or indirectly from the full wages earned, other than permissible deductions as set forth in 29 CFR Part 3; and

(C) That each laborer or mechanic has been paid not less than the applicable wage rates and fringe benefits or cash equivalents for the classification of work performed, as specified in the applicable wage determination incorporated into the contract.

(iii) The weekly submission of a properly executed certification set forth on the reverse side of Optional Form WH-347 shall satisfy the requirements for submission of the "Statement of Compliance" required by subparagraph (c)(2)(ii) of this clause.

(iv) The falsification of any of the above certifications may subject the Contractor or subcontractor to civil or criminal prosecution under Section 1001 of Title 18 and Section 3729 of Title 31 of the United States Code.

(3) The Contractor or subcontractor shall make the records required under subparagraph (c)(1) available for inspection, copying, or transcription by authorized representatives of HUD or its designee, the Contracting Officer, or the Department of Labor and shall permit such representatives to interview employees during working hours on the job. If the Contractor or subcontractor fails to submit the required records or to make them available, HUD or its designee may, after written notice to the Contractor, take such action as may be necessary to cause the suspension of any further payment, advance, or guarantee of funds. Furthermore, failure to submit the required records upon request or to make such records available may be grounds for debarment action pursuant to 29 CFR 5.12.

(d) (1) Apprentices. Apprentices will be permitted to work at less than the predetermined rate for the work they performed when they are employed pursuant to and individually registered in a bona fide apprenticeship program registered with the U.S. Department of Labor, Employment and Training Administration, Office of Apprenticeship and Training, Employer and Labor Services (OATELS), or with a State Apprenticeship Agency recognized by OATELS, or if a person is employed in his or her first 90 days of probationary employment as an apprentice in such an apprenticeship program, who is not individually registered in the program, but who has been certified by OATELS or a State Apprenticeship Agency (where appropriate) to be eligible for probationary employment as an apprentice. The allowable ratio of apprentices to journeymen on the job site in any craft classification shall not be greater than the ratio permitted to the Contractor as to the entire work force under the registered program. Any worker listed on a payroll at an apprentice wage rate, who is not registered or otherwise employed as stated in this paragraph, shall be paid not less than the applicable wage rate on the wage determination for the classification of work actually performed. In addition, any apprentice performing work on the job site in excess of the ratio permitted under the registered program shall be paid not less than the applicable wage rate on the wage determination for the work actually performed. Where a contractor is performing construction on a project in a locality other than that in which its program is registered, the ratios and wage rates (expressed in percentages of the journeyman's hourly rate) specified in the Contractor's or subcontractor's registered program shall be observed. Every apprentice must be paid at not less than the rate specified in the registered program for the apprentice's level of progress, expressed as a percentage of the journeyman hourly rate specified in the applicable wage determination. Apprentices shall be paid fringe benefits in accordance with the provisions of the apprenticeship program. If the apprenticeship program does not specify fringe benefits, apprentices must be paid the full amount of fringe benefits listed on the wage determination for the applicable classification. If the Administrator of the Wage and Hour Division determines that a different practice prevails for the applicable apprentice classification, fringes shall be paid in accordance with that determination. In the event OATELS, or a State Apprenticeship Agency recognized by OATELS, withdraws approval of an apprenticeship program, the Contractor will no longer be permitted to utilize apprentices at less than the applicable predetermined rate for the work performed until an acceptable program is approved.

(2) Trainees. Except as provided in 29 CFR 5.16, trainees will not be permitted to work at less than the predetermined rate for the work performed unless they are employed pursuant to and individually registered in a program which has received prior approval, evidenced by formal certification by the U.S. Department of Labor, Employment and Training Administration. The ratio of trainees to journeymen on the job site shall not be greater than permitted under

the plan approved by the Employment and Training Administration. Every trainee must be paid at not less than the rate specified in the approved program for the trainee's level of progress, expressed as a percentage of the journeyman hourly rate specified in the applicable wage determination. Trainees shall be paid fringe benefits in accordance with the provisions of the trainee program. If the trainee program does not mention fringe benefits, trainees shall be paid the full amount of fringe benefits listed in the wage determination unless the Administrator of the Wage and Hour Division determines that there is an apprenticeship program associated with the corresponding journeyman wage rate in the wage determination which provides for less than full fringe benefits for apprentices. Any employee listed on the payroll at a trainee rate who is not registered and participating in a training plan approved by the Employment and Training Administration shall be paid not less than the applicable wage rate in the wage determination for the classification of work actually performed. In addition, any trainee performing work on the job site in excess of the ratio permitted under the registered program shall be paid not less than the applicable wage rate in the wage determination for the work actually performed. In the event the Employment and Training Administration withdraws approval of a training program, the Contractor will no longer be permitted to utilize trainees at less than the applicable predetermined rate for the work performed until an acceptable program is approved.

(3) Equal employment opportunity. The utilization of apprentices, trainees, and journeymen under this clause shall be in conformity with the equal employment opportunity requirements of Executive Order 11246, as amended, and 29 CFR Part 30.

(e) Compliance with Copeland Act requirements. The Contractor shall comply with the requirements of 29 CFR Part 3, which are hereby incorporated by reference in this contract.

(f) Contract termination; debarment. A breach of this contract clause may be grounds for termination of the contract and for debarment as a Contractor and a subcontractor as provided in 29 CFR 5.12.

(g) Compliance with Davis-Bacon and related Act requirements. All rulings and interpretations of the Davis-Bacon and related Acts contained in 29 CFR Parts 1, 3, and 5 are herein incorporated by reference in this contract.

(h) Disputes concerning labor standards. Disputes arising out of the labor standards provisions of this clause shall not be subject to the general disputes clause of this contract. Such disputes shall be resolved in accordance with the procedures of the Department of Labor set forth in 29 CFR Parts 5, 6, and 7. Disputes within the meaning of this clause include disputes between the Contractor (or any of its subcontractors) and the PHA, HUD, the U.S. Department of Labor, or the employees or their representatives.

(i) Certification of eligibility.

(1) By entering into this contract, the Contractor certifies that neither it (nor he or she) nor any person or firm who has an interest in the Contractor's firm is a person or firm ineligible to be awarded contracts by the United States Government by virtue of section 3(a) of the Davis-Bacon Act or 29 CFR 5.12(a)(1).

(2) No part of this contract shall be subcontracted to any person or firm ineligible for award of a United States Government contract by virtue of section 3(a) of the Davis-Bacon Act or 29 CFR 5.12(a)(1).

(3) The penalty for making false statements is prescribed in the U. S. Criminal Code, 18 U.S.C. 1001.

(j) Contract Work Hours and Safety Standards Act. As used in this paragraph, the terms "laborers" and "mechanics" include watchmen and guards.

(1) Overtime requirements. No contractor or subcontractor contracting for any part of the contract work which may require or involve the employment of laborers or mechanics, including watchmen and guards, shall require or permit any such laborer or mechanic in any workweek in which the individual is employed on such work to work in excess of 40 hours in such workweek unless such laborer or mechanic receives compensation at a rate not less than one and one-half times the basic rate of pay for all hours worked in excess of 40 hours in such workweek.

(2) Violation; liability for unpaid wages; liquidated damages. In the event of any violation of the provisions set forth in subparagraph (j)(1) of this clause, the Contractor and any subcontractor responsible therefor shall be liable for the unpaid wages. In addition, such Contractor and subcontractor shall be liable to the United States (in the case of work done under contract for the District of Columbia or a territory, to such District or to such territory), for liquidated damages. Such liquidated damages shall be computed with respect to each individual laborer or mechanic (including watchmen and guards) employed in violation of the provisions set forth in subparagraph (j)(1) of this clause, in the sum of $10 for each calendar day on which such individual was required or permitted to work in excess of the standard workweek of 40 hours without payment of the overtime wages required by provisions set forth in subparagraph (j)(1) of this clause.

(3) Withholding for unpaid wages and liquidated damages. HUD or its designee shall upon its own action or upon written request of an authorized representative of the Department of Labor withhold or cause to be withheld, from any moneys payable on account of work performed by the Contractor or subcontractor under any such contract or any Federal contract with the same prime Contractor, or any other Federally-assisted contract subject to the Contract Work Hours and Safety Standards Act, which is held by the same prime Contractor, such sums as may be determined to be necessary to satisfy any liabilities of such Contractor or subcontractor for unpaid wages and liquidated damages as provided in the provisions set forth in subparagraph (j)(2) of this clause.

(k) Subcontracts. The Contractor or subcontractor shall insert in any subcontracts all the provisions contained in this clause, and such other clauses as HUD or its designee may by appropriate instructions require, and also a clause requiring the subcontractors to include these provisions in any lower tier subcontracts. The prime Contractor shall be responsible for the compliance by any subcontractor or lower tier subcontractor with all these provisions.

47. Non-Federal Prevailing Wage Rates

(a) Any prevailing wage rate (including basic hourly rate and any fringe benefits), determined under State or tribal law to be prevailing, with respect to any employee in any trade or position employed under the contract, is inapplicable to the contract and shall not be enforced against the Contractor or any subcontractor, with respect to employees engaged under the contract whenever such non-Federal prevailing wage rate exceeds:

(1) The applicable wage rate determined by the Secretary of Labor pursuant to the Davis-Bacon Act (40 U.S.C. 3141 et seq.) to be prevailing in the locality with respect to such trade;

(b) An applicable apprentice wage rate based thereon specified in an apprenticeship program registered with the U.S. Department of Labor (DOL) or a DOL-recognized State Apprenticeship Agency; or

(c) An applicable trainee wage rate based thereon specified in a DOL-certified trainee program.

48. Procurement of Recovered Materials.

(a) In accordance with Section 6002 of the Solid Waste Disposal Act, as amended by the Resource Conservation and Recovery Act, the Contractor shall procure items designated in guidelines of the Environmental Protection Agency (EPA) at 40 CFR Part 247 that contain the highest percentage of recovered materials practicable, consistent with maintaining a satisfactory level of competition. The Contractor shall procure items designated in the EPA guidelines that contain the highest percentage of recovered materials practicable unless the Contractor determines that such items: (1) are not reasonably available in a reasonable period of time; (2) fail to meet reasonable performance standards, which shall be determined on the basis of the guidelines of the National Institute of Standards and Technology, if applicable to the item; or (3) are only available at an unreasonable price.

(b) Paragraph (a) of this clause shall apply to items purchased under this contract where: (1) the Contractor purchases in excess of $10,000 of the item under this contract; or (2) during the preceding Federal fiscal year, the Contractor: (i) purchased any amount of the items for use under a contract that was funded with Federal appropriations and was with a Federal agency or a State agency or agency of a political subdivision of a State; and (ii) purchased a total of in excess of $10,000 of the item both under and outside that contract.

GENERAL DECISION: **PA20080033** 06/20/2008 PA33

Date: June 20, 2008
General Decision Number: **PA20080033** 06/20/2008

Superseded General Decision Number: PA20070033

State: Pennsylvania

Construction Type: Residential

County: Allegheny County in Pennsylvania.

RESIDENTIAL CONSTRUCTION PROJECTS (consisting of single family homes and apartments up to and including 4 stories)

Modification Number	Publication Date
0	02/08/2008
1	02/22/2008
2	06/20/2008

BRPA0009-039 06/01/2007

	Rates	Fringes
BRICKLAYER	$ 26.93	12.52

CARP0142-004 06/01/2007

	Rates	Fringes
CARPENTER (Including Drywall Hanging and Ashphalt Roofing)	$ 16.88	7.38

CARP1759-007 06/01/2007

	Rates	Fringes
CARPENTER	$ 26.36	10.44
Soft Floor Layer	$ 25.64	10.15

ELEC0005-013 12/21/2007

	Rates	Fringes
ELECTRICIAN	$ 18.00	10.89

* IRON0003-006 06/01/2008

	Rates	Fringes
IRONWORKER, ORNAMENTAL	$ 29.43	19.45

PLAS0526-007 01/01/2008

	Rates	Fringes
CEMENT MASON/CONCRETE FINISHER	$ 25.72	12.47

* PLUM0027-005 06/01/2008

	Rates	Fringes
PLUMBER	$ 32.70	15.02

SHEE0012-006 01/01/2007

	Rates	Fringes
Sheet metal worker Excluding HVAC Duct Work	$ 16.61	8.46

SUPA2003-001 10/31/2003

	Rates	Fringes
Drywall Finishers	$ 15.08	3.40
Laborers, Unskilled	$ 12.70	2.12
PAINTER (Brush and Roller)	$ 15.90	4.35
PLASTERER	$ 18.20	5.16
Power equipment operators: (Backhoe)	$ 17.34	4.06
Roofer (Excluding Asphalt Roofing)	$ 18.70	5.19
Sheet Metal Worker (HVAC Duct Only)	$ 16.00	3.08

WELDERS - Receive rate prescribed for craft performing operation to which welding is incidental.

Unlisted classifications needed for work not included within the scope of the classifications listed may be added after award only as provided in the labor standards contract clauses (29 CFR 5.5(a)(1)(ii)).

In the listing above, the "SU" designation means that rates listed under the identifier do not reflect collectively bargained wage and fringe benefit rates. Other designations indicate unions whose rates have been determined to be prevailing.

WAGE DETERMINATION APPEALS PROCESS

1.) Has there been an initial decision in the matter? This can be:

* an existing published wage determination
* a survey underlying a wage determination
* a Wage and Hour Division letter setting forth a position on a wage determination matter
* a conformance (additional classification and rate) ruling

On survey related matters, initial contact, including requests for summaries of surveys, should be with the Wage and Hour Regional Office for the area in which the survey was conducted because those Regional Offices have responsibility for the Davis-Bacon survey program. If the response from this initial contact is not satisfactory, then the process described in 2.) and 3.) should be followed.

With regard to any other matter not yet ripe for the formal process described here, initial contact should be with the Branch of Construction Wage Determinations. Write to:

Branch of Construction Wage Determinations
Wage and Hour Division
U.S. Department of Labor
200 Constitution Avenue, N.W.
Washington, DC 20210

2.) If the answer to the question in 1.) is yes, then an interested party (those affected by the action) can request review and reconsideration from the Wage and Hour Administrator (See 29 CFR Part 1.8 and 29 CFR Part 7). Write to:

Wage and Hour Administrator
U.S. Department of Labor
200 Constitution Avenue, N.W.
Washington, DC 20210

The request should be accompanied by a full statement of the interested party's position and by any information (wage payment data, project description, area practice material, etc.) that the requestor considers relevant to the issue.

3.) If the decision of the Administrator is not favorable, an interested party may appeal directly to the Administrative Review Board (formerly the

Wage Appeals Board). Write to:

Administrative Review Board
U.S. Department of Labor
200 Constitution Avenue, N.W.
Washington, DC 20210

4.) All decisions by the Administrative Review Board are final.

END OF GENERAL DECISION

WAIS Document Retrieval

GENERAL DECISION: **PA20080004** 07/18/2008 PA4

Date: July 18, 2008
General Decision Number: **PA20080004** 07/18/2008

Superseded General Decision Number: PA20070004

State: Pennsylvania

Construction Types: Heavy and Highway

Counties: Allegheny, Armstrong, Beaver, Bedford, Blair, Butler, Cambria, Cameron, Centre, Clarion, Clearfield, Clinton, Crawford, Elk, Erie, Fayette, Forest, Franklin, Fulton, Greene, Huntingdon, Indiana, Jefferson, Lawrence, McKean, Mercer, Mifflin, Potter, Somerset, Venango, Warren, Washington and Westmoreland Counties in Pennsylvania.

HEAVY AND HIGHWAY CONSTRUCTION PROJECTS (excluding sewer grouting projects and excluding sewage and water treatment plant projects)

Modification Number	Publication Date
0	02/08/2008
1	02/22/2008
2	03/07/2008
3	03/21/2008
4	04/11/2008
5	05/30/2008
6	06/20/2008
7	07/04/2008
8	07/18/2008
9	07/18/2008

BOIL0013-005 09/30/2007

CENTRE, FRANKLIN, POTTER, CLINTON, FULTON, HUNTINDON AND MIFFLIN COUNTIES

	Rates	Fringes
BOILERMAKER.....	$ 36.86	23.81

BOIL0154-004 06/01/2008

ALLEGHENY, ARMSTRONG, BEAVER, BEDFORD, BLAIR, BUTLER, CAMBRIA, CAMERON, CLARION, CLEARFIELD, CRAWFORD, ELK, FAYETTE, FOREST, GREENE, INDIANA, JEFFERSON, LAWRENCE, MCKEAN, MERCER, SOMERSET, VENANGO, WARREN, WASHINGTON AND WESTMORELAND COUNTIES

	Rates	Fringes
BOILERMAKER.....	$ 33.90	22.07

BOIL0744-003 07/01/2008

ERIE COUNTY

	Rates	Fringes

BOILERMAKER.....$ 35.34 18.48

BRPA0009-023 06/01/2007

BEAVER COUNTY

	Rates	Fringes
BRICKLAYER	$ 25.00	12.90

BRPA0009-024 06/01/2007

WASHINGTON (Cross Creek, Hanover, Jefferson, Mt Pleasant, Nottingham, Peters, Robinson, Smith, Union Twps) COUNTY

	Rates	Fringes
BRICKLAYER	$ 26.93	12.52

BRPA0009-025 06/01/2007

BUTLER, LAWRENCE, AND MERCER COUNTIES

	Rates	Fringes
BRICKLAYER	$ 25.00	12.78

BRPA0009-032 06/01/2007

FAYETTE (Jefferson & Washington Twps), GREENE (Except Cumberland, Dunkirk, Greene, Monongahelia Twps), INDIANA, AND WESTMORELAND (Rostraver Twp) COUNTIES

	Rates	Fringes
BRICKLAYER	$ 25.85	12.94

BRPA0009-033 06/01/2007

ARMSTRONG, CLARION (Brady, Madison, Perry, Tobe, Porter, Redbank Twps), FAYETTE (Except Jefferson & Washington Twps), GREENE (Cumberland, Dunkirk, Greene, Monongahelia Twps), INDIANA, AND WESTMORELAND (Except Rostrave Twp) COUNTIES

	Rates	Fringes
BRICKLAYER	$ 26.02	12.77

BRPA0009-034 05/01/2008

ERIE COUNTY

	Rates	Fringes
BRICKLAYER	$ 24.85	12.76

CARP2235-005 01/01/2008

	Rates	Fringes

PILEDRIVERMAN
Piledriverman (welder).....$ 28.15 11.50
Piledriverman.....$ 27.85 11.50

CARP2235-006 01/01/2007

	Rates	Fringes
Diver	$ 40.40	10.77
Tender	$ 26.93	10.77

CARP2274-001 01/01/2008

	Rates	Fringes
CARPENTER (ALLEGHENY, ARMSTRONG, BEAVER, BUTLER, ERIE, FAYETTE, GREENE, LAWRENCE, MERCER, WASHINGTON, AND WESTMORELAND COUNTIES)		
Carpenter (Welders)	$ 27.37	11.52
Carpenters	$ 26.67	11.52
CARPENTER (BEDFORD, BLAIR, CAMBRIA, CAMERON, CENTRE, CLARION, CLINTON, CLEARFIELD, CRAWFORD, ELK, FOREST, FRANKLIN, FULTON, HUNTINGDON, INDIANA, JEFFERSON, MCKEAN, MIFFLIN, POTTER, SOMERSET, VENANGO, AND WARREN COUNTIES)		
Carpenters (Welders)	$ 27.13	11.52
Carpenters	$ 26.42	11.52

ELEC0005-006 12/21/2007

ALLEGHENY, ARMSTRONG, BEDFORD, BLAIR, BUTLER CAMBRIA, CAMERON, CENTRE (Remainder), CLARION, CLEARFIELD, ELK, FAYETTE, FULTON, GREENE, HUNTINGDON, INDIANA, JEFFERSON, MCKEAN, SOMERSET, VENANGO, WASHINGTON, AND WESTMORELAND COUNTIES

	Rates	Fringes
ELECTRICIAN	$ 29.38	17.59

ELEC0056-004 06/01/2006

ERIE, FOREST AND WARREN COUNTIES

	Rates	Fringes
ELECTRICIAN	$ 23.90	15.09

ELEC0126-005 06/03/2007

ALLEGHENY, ARMSTRONG, BEAVER, BEDFORD, BLAIR, CAMBRIA, CENTRE, CLARION, CLEARFIELD, FAYETTE, FULTON, GREENE, HUNTINGDON, INDIANA, JEFFERSON, SOMERSET, WASHINGTON AND WESTMORELAND

	Rates	Fringes

Line Construction:

Groundman	$ 21.27	14.05
Lineman	$ 35.46	14.05
Truck Driver	$ 23.05	14.05
Winch Truck Operator	$ 24.82	14.05

ELEC0126-007 06/03/2007

FRANKLIN AND MIFFLIN COUNTIES

	Rates	Fringes
Line Construction:		
Groundman	$ 19.28	13.26
Lineman	$ 32.14	13.26
Truck Driver	$ 20.89	13.26
Winch Truck Operator	$ 22.50	13.26

ELEC0143-007 06/01/2007

FRANKLIN and MIFFLIN COUNTIES

	Rates	Fringes
ELECTRICIAN	$ 26.50	12.72

ELEC0712-003 12/24/2007

CRAWFORD, BEAVER, LAWRENCE AND MERCER COUNTIES

	Rates	Fringes
ELECTRICIAN	$ 28.45	17.67

ELEC0812-008 06/01/2007

CLINTON COUNTY

	Rates	Fringes
ELECTRICIAN	$ 24.34	14.58

ELEC0812-009 06/01/2007

POTTER COUNTY

	Rates	Fringes
ELECTRICIAN	$ 25.35	14.61

ELEC0812-011 06/01/2007

CENTRE COUNTY (Burnside, Curtin, Liberty, Howard, Marion, Walker, Miles, Haines Townships)

	Rates	Fringes
ELECTRICIAN	$ 25.35	14.61

WAIS Document Retrieval

ELEC1319-004 08/29/2005

BUTLER, CAMERON, CLINTON, CRAWFORD, ELK, ERIE, FOREST, LAWRENCE, MCKEAN, MERCER, VENANGO, WARREN AND POTTER COUNTIES

	Rates	Fringes
Line Construction:		
Groundman	$ 21.35	11.99
Lineman, Dynamite Man, Heavy Equipment Operator	$ 34.44	12.90
Truck Drivers	$ 22.39	12.06
Winch Truck Operators	$ 23.07	12.11

ENGI0066-016 01/31/2008

	Rates	Fringes
Power equipment operators: (ALLEGHENY, ARMSTRONG, BEAVER, BLAIR, BUTLER, CAMBRIA, CENTRE, CLARION, CLEARFIELD, CRAWFORD, ERIE, ELK, FAYETTE, GREENE, INDIANA, JEFFERSON, LAWRENCE, MCKEAN, MERCER, SOMERSET, VENANGO, WARREN, WASHINGTON, AND WESTMORELAND COUNTIES)		
GROUP 1	$ 25.58	13.74
GROUP 2	$ 25.32	13.74
GROUP 3	$ 21.67	13.74
GROUP 4	$ 21.21	13.74
GROUP 5	$ 20.96	13.74
Power equipment operators: (BEDFORD, CAMERON, CLINTON, FOREST, FRANKLIN, FULTON, HUNTINGDON, MIFFLIN, AND POTTER COUNTIES)		
GROUP 1	$ 25.29	13.74
GROUP 2	$ 25.01	13.74
GROUP 3	$ 21.37	13.74
GROUP 4	$ 20.88	13.74
GROUP 5	$ 20.67	13.74

POWER EQUIPMENT OPERATORS CLASSIFICATIONS

GROUP 1 - Asphalt Paving Machine (Spreader), Autograde (C.M.I. and similar); Backfiller, Compactor with Blade, Backhoe - 360 and 180 degree Swing; Cableway; Caisson Drill (similar to Hugh Williams), Central Mix Plant; Cooling Plant; Concrete Paving Mixer, Concrete Pump (self-propelled); Cranes; Cranes (boom or mast over 101ft.$.50 per each additional 50 feet inclusive of jib), Cranes (Tower Stationary- Climbing Tower Crane); Derrick; Derrick Boat; Dozer(greater than 25,000 lbs.); Dragline; Dredge; Dredge Hydraulic; Elevating Grader; Franki Pile Machine; Gradall (remote control or otherwise),Grader (power-fine grade); Hllift (4 cy. and over); Hoist 2 Drums or more (in one unit); Hydraulic Boom Truck with pivotal cab (single motor-Pitman or similar), (Boom and Mast over 101 feet will

be paid an additional 50 feet inclusive of jib if used;) Kocal; Mechanic, Locomotive (std. Gauge); Metro-chip Harvester or similar; Milling Machine (Roto Mill or similar); Mix Mobile; Mix Mobile (with Self Loading Attachment), Mucking Machine (tunnel); Pile Driver Machine; Pipe Extrusion Machine; Prespliter Drill (self contained); Refrigeration Plant (soil Stablization) Rough Terrain Crane (25 ton over) (Boom and Mast over 101 feet will be paid an additional 50 feet inclusive of jib if used); Rough Terrain Crane (under 25 ton), Scrapers; Shovel-Power; Slip form Paver (C.M.I. and similar); Trenching Machine (30,000 lbs. and over), Trenching Machine (under 30,000 lb.), Tunnell Machine (Mark XXI Jarva or similar), Vermeer Saw, Whirley, Mechanic, Pipe bursting machine, Slip Lining machine

GROUP 2: Asphalt plant operator; auger (tractor mtd.); auger (truck mtd.); belt loader (euclid or similar); boring machine; cable placer or layer; compactor with blade, concrete batch plant (electronically synchronized); ~~concrete belt placer (C.M.I. and similar); concrete~~ finishing machine and spreader, concrete mixer (over 1 cy.) concrete pump (stationary); core drill (truck or skid mtd. - similar to penn drill), dozer (25,000 lbs or less); Ditch Witch Saw, force feedloader; fork lift (lull or similar); grader - power; grease unit opertor (head); guard rail post driver (truck mounted) guard rail post driver (skid type); hilift (under 4 cy.); skid steer loader; hydraulic boom truck (non-pivotal cab); job work boat (powered), jumbo operator; locomotive (narrow guage); minor equipment operator (accumulative four units); mucking machine; multi-head saw (groover); overhead crane; roller -power- asphalt; ross carrier; side boom or tractor mounted boom; shuttle buggy (asphalt), stone crusher (screening-washing plants); stone spreader (self propelled) truck mounted drill (davey or similar); welder and repairman; well point pump operator.

GROUP 3: Broom Finisher (C.M.I. or similar); Compactors/Rollers (static or vibratory (Self-propelled) on dirt or stone; Curb Builder; Minor Equipment Opertor (two or three units); Multi-head Tie Tamper; Pavement Breaker (self-propelled or ridden); Soil Stablizer Machine; Tire Repairman; Tractor (snaking and hauling); Well Driller and Horizontal: Winch or "A" Frame Truck (when hoisting and lowering).

GROUP 4: Ballast Regulator; Compressor; Concrete Mixer (1 cy. & under with skip); Concrete Saw (Ridden or selp-propelled); Conveyor; Elevator (Material hauling only); Fork-lift (Ridden or self-propelled); Form Line Machine; Generator; Groute Pump; Heater (Machinical); Hoist (single Drum); Ladavator, Light Plant; Mulching Machine; Personnel Boat (Powered), Pulverizer, Pumps, Seeding Machine, spray Cure Machine (powered Driven); Subgrader; Tie Puller; Tugger; Welding Machine (Gas or Diesel).

GROUP 5: Deck Hand; Farm Tractor; Fireman on Boiler; Oiler; Power Broom; Side Delivery Shoulder Spreader (attachment).

IRON0003-001 06/01/2008

ALLEGHENY, FAYETTE, WESTMORELAND, CAMBRIA, INDIANA, ARMSTRONG, BUTLER, BEAVER, CLARION, AND WASHINGTON COUNTIES

	Rates	Fringes
IRONWORKER	$ 29.43	19.45

IRON0207-002 06/01/2008

LAWRENCE, MERCER, AND VENANGO COUNTIES

	Rates	Fringes
IRONWORKER	$ 26.31	16.03

IRON0348-002 06/01/2008

CRAWFORD, ERIE, FOREST, AND WARREN COUNTIES

	Rates	Fringes
IRONWORKER	$ 25.33	18.55

IRON0404-008 07/01/2008

FRANKLIN (Remainder), HUNTINGDON (Remainder), AND MIFFLIN COUNTIES

	Rates	Fringes
IRONWORKER, STRUCTURAL	$ 25.92	21.20

IRON0549-002 07/01/2006

GREENE COUNTY

	Rates	Fringes
IRONWORKER	$ 24.07	10%+14.94

IRON0568-004 05/01/2008

BEDFORD, FRANKLIN (Southwest 1/3), FULTON, HUNTINGDON (Western 2/3), AND SOMERSET COUNTIES

	Rates	Fringes
Ironworkers:		
Sheeter, Bucker-Up	$ 26.08	11.60
Structural, Ornamental, Reinforcing, Machinery Mover, Rigger & Machinery Erector, Welder, Fence Erector	$ 25.83	11.60

IRON0772-001 06/01/2008

BLAIR, CAMERON, CENTRE, CLEARFIELD, CLINTON, ELK, JEFFERSON, MCKEAN AND POTTER COUNTIES

	Rates	Fringes
IRONWORKER	$ 24.53	18.55

A. HOLIDAYS

The following holidays shall be observed: New Years Day, Goodfriday, Memorial Day, Fourth of July, Labor Day, Veterans Day (Observed the day after Thanksgiving), Thanksgiving Day, Christmas Day.

Any holiday which occurs on Sunday shall be observed the following Monday.

LABO1058-001 01/01/2008

	Rates	Fringes
LABORER (BEDFORD, CAMERON, CENTRE, CLINTON, CRAWFORD, FOREST, FRANKLIN, FULTON, HUNTINGDON, JEFFERSON, MIFFLIN, AND POTTER COUNTIES)		
GROUP 1	$ 22.50	11.85
GROUP 2	$ 22.66	11.85
GROUP 3	$ 23.15	11.85
GROUP 4	$ 23.60	11.85
GROUP 5	$ 24.01	11.85
GROUP 6	$ 19.05	11.85
GROUP 7	$ 20.85	11.85
GROUP 8	$ 23.50	11.85
GROUP 9	$ 25.00	11.85
Laborers: (ALLEGHENY, ARMSTRONG, BEAVER, BLAIR, BUTLER, CAMBRIA, CLARION, CLEARFIELD, ELK, ERIE, FAYETTE, GREENE, INDIANA, LAWRENCE, MCKEAN, MERCER, SOMERSET, VENANGO, WARREN, WASHINGTON, AND WESTMORELAND COUNTIES)		
GROUP 1	$ 22.60	11.85
GROUP 2	$ 22.76	11.85
GROUP 3	$ 23.15	11.85
GROUP 4	$ 23.60	11.85
GROUP 5	$ 24.01	11.85
GROUP 6	$ 19.05	11.85
GROUP 7	$ 20.85	11.85
GROUP 8	$ 23.60	11.85
GROUP 9	$ 25.10	11.85

LABORERS CLASSIFICATIONS

GROUP 1: Asphalt curb sealer; Asphalt tamper; Batcherman (weigh) Blaster,Boatman, Brakeman, Change house attendant, Coffer dam, Concrete curing pitman, Puddler, Drill Runner's helper (Includes Drill Mounted on Truck, Track, or similar and Davey Drill Spots, Clean up, helps to maintain), Electric Brush and or Grinder, Fence Construction

(Including Fence Machine Operator) Form stripper and Mover, Gabion (Erectors and Placers) Hydro jet blaster nozzleman; Landscape laborer, Manually moved emulusion sprayer, Radio actuated traffic control operator Rip rap work, scaffolds and Runways, Sheeters and Shorers (includes lagging) structural concrete Top Surfacer, Walk Behind Street Sweeper, and Wood Chipper

GROUP 2: Air tool operator (all types); Asphalt, batch & concrete plant operator (manually operated) Burner, Caisson; men (open air); Carryable pumps; Chain saw operator including attachments, Cribbing, (concrete or steel); Curb machine operator (asphalt or concrete walk behind); Diamond head Core Drller, Drill runner's helper (tunnel) Fork Lift, (walk behind), Form Setter (Road Forms Line man) Highway Slab reinforcement placers (including joint and Basket Setters) Hydraulic pipe pusher; Liner plates (Tile or Vitrified Clay) Mechanical compacting equipment operators, Mechanical joint sealer, Dope pot and Tar Kettle, Mortar mixer (hand or machine) Muckers, Brakemen & all other Labor, (Includes installation of utility lines) Pipe Layers /Fusion /Heating Iron (Regardless of materials) Portable Single Unit Conveyor, Post Hole Auger, (2 or 4 cycle hand operated) Power wheelbarrows and buggies, Rail porter or similar; Sand blaster;Signal Man,Vibrator operator, Crown Screed Adjuster, All RAILROAD TRACK WORK TO INCLUDE THE FOLLOWING: adzing machine, ballast Router, Bolting Machine, Power Jacks, Rail Drills, Railroad Brakeman,Rail Saws, Spike Drivers (Manually or hand held tool) Spike Pullers Tamping Machine, Thermitweld

GROUP 3: Asphalt Luteman/Raker,Blacksmith, Blaster, Brick, stone and block pavers and block cutters (wood, belgian and asphalt); Cement mortar lining car pusher; Cement mortar mixer (pipe relining); Cement mortar pipe reliners; concrete saw operator (walk behind); Curb cutters and setters; Elevated roadway drainage construction; erector of overhead signs, Form setter (road forms-lead man); Grout machine operator; Gunite or dry pack gun (nozzle and machine man); Manhole or catch basin builder (Brick block concrete or any prefabrication) Miners and drillers (including lining, supporting and form workmen, setting of shields, miscellaneous equipment and jumbos); Multi-plate pipe (aligning and securing); Placing wire mesh on gunite projects; Wagon drill operators (air track or similar); Walk behind ditching machine (trencher or similar)

GROUP 4: Reinforcing Steel Placer (Bending, aligning, and securing, Cadweld)

GROUP 5:High Burner, (Any burning not done from deck), Welder (Pipeline)

GROUP 6: Flagperson

GROUP 7: Certified Flag-person

Group 8: Toxic/Hazardous Waste Removal Laborer Levels C & D

GROUP 9: Toxic/Hazardous Waste Removal Laborer Levels A & B

PAIN0021-019 05/01/2008

CLINTON COUNTY

	Rates	Fringes
Painters:		
Bridge	$ 24.85	11.45
Brush & Roller	$ 23.90	11.45
Spray	$ 24.90	11.45

PAIN0021-024 05/01/2008

FRANKLIN COUNTY

	Rates	Fringes
PAINTER		
Brush	$ 23.65	8.30

PAIN0057-014 06/01/2007

ALLEGHENY, FAYETTE, GREEN, WASHINGTON COUNTIES

	Rates	Fringes
Painters:		
Bridge	$ 28.15	11.53
Brush & Roller	$ 25.73	11.53
Spray	$ 26.23	11.53

PAIN0057-015 06/01/2007

ARMSTRONG, BEAVER, BEDFORD, BLAIR, BUTLER,CAMBRIA, CENTRE, CLARION, CLEARFIELD, ELK, FULTON, HUNTINGTON, INDIANA, JEFFERSON, LAWRENCE, MERCER, MIFFLIN, SOMERSET, VENANGO AND WESTMORELAND COUNTIES

	Rates	Fringes
Painters:		
Bridge	$ 27.80	11.88
Brush and Roller	$ 25.83	11.88
Spray	$ 25.88	11.88

PAIN0057-022 05/01/2008

	Rates	Fringes
Painters: (ERIE, McKEAN, AND WARREN (Including Columbus and Freehold twps) COUNTIES)		
Bridges,Stacks,Towers	$ 22.52	10.60
Brush and Roller	$ 20.52	10.60
Spray and Sandblasting	$ 21.27	10.60

PAIN0057-027 06/01/2007

CAMERON, CRAWFORD, POTTER, WARREN, (Excluding Columbus and Freehold twps)

	Rates	Fringes
PAINTER		
Brush and Roller	$ 20.66	11.03

PLAS0526-002 01/01/2008

	Rates	Fringes
CEMENT MASON/CONCRETE FINISHER	$ 25.72	12.47

* PLUM0027-001 06/01/2008

ALLEGHENY, ARMSTRONG, GREENE (Except extreme Eastern portion) AND WASHINGTON (Except extreme Eastern portion) COUNTIES

	Rates	Fringes
Plumbers and Pipefitters (Bridge Drain Pipe)	$ 32.70	15.02

PLUM0047-005 05/01/2008

BEAVER, BUTLER, MCKEAN, MERCER, VENANGO, CLARION, LAWRENCE, FOREST, WARREN, CRAWFORD, AND ERIE COUNTIES

	Rates	Fringes
Plumbers and Pipefitters (Bridge Drain Pipe)	$ 32.69	15.84

PLUM0354-005 07/01/2007

BEDFORD, BLAIR, CAMBRIA, CAMERON, CLEARFIELD, ELK, FAYETTE, GREENE (Extreme Eastern portion), HUNTINGDON, INDIANA, JEFFERSON, SOMERSE, WASHINGTON (Extreme Eastern portion), AND WESTMORELAND COUNTIES

	Rates	Fringes
Plumbers and Pipefitters (Bridge Drain Pipe)	$ 30.84	17.36

TEAM0040-001 01/01/2008

	Rates	Fringes
TRUCK DRIVER (ALLEGHENY, ARMSTRONG, BEAVER, BLAIR, BUTLER, CAMBRIA, CENTRE, CLARFIELD, CRAWFORD, ERIE, FAYETTE, GREENE, INDIANA, JEFFERSON, LAWRENCE, MCKEAN, MERCER, SOMERSET, VENANGO, WARREN, WASHINGTON, AND WESTMORELAND)		
GROUP 1	$ 23.53	10.64+ A+B

GROUP 2.....$ 23.68 10.71+ A+B
GROUP 3.....$ 24.21 10.95+ A+B

Truck drivers: (BEDFORD, CAMERON, CLAIRON, CLINTON, ELK, FOREST, FRANKLIN, FULTON, HUNTINGDON, MIFFLIN, AND POTTER COUNTIES)

GROUP 1.....$ 23.34 10.56+ A+B
GROUP 2.....$ 23.53 10.64+ A+B
GROUP 3.....$ 24.05 10.88+ A+B

FOOTNOTES: A. Hazardous/toxic waste material/work level A & B receive additional $2.50 per hour above classification rate

B. Hazardous/toxic waste materials/Work level C & D receive $1.00 per hour above classification

TRUCK DRIVERS CLASSIFICATIONS

GROUP 1 - Single Axle (2 axles including steering axle); Includes partsman and warehoueman

GROUP 2 - Tandem - Tri-Axle - Semi-Tractor Trailer (combination) (3 axles or more including steering axle)

GROUP 3 - Specialty Vehicles; Heavy equipment whose capacity exceeds that for which state licenses are issued specifically refers to units in excess of eight (8) feet width (such as Euclids, Atley Wagon, Payloder, Tournawagons, and similar equipment when not self loaded); Tar and Asphalt Distributors Trucks, Heavy Duty Trailer, such as Low Boy, High Boy

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WELDERS - Receive rate prescribed for craft performing operation to which welding is incidental.

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Unlisted classifications needed for work not included within the scope of the classifications listed may be added after award only as provided in the labor standards contract clauses (29CFR 5.5 (a) (1) (ii)).

In the listing above, the "SU" designation means that rates listed under the identifier do not reflect collectively bargained wage and fringe benefit rates. Other designations indicate unions whose rates have been determined to be prevailing.

WAGE DETERMINATION APPEALS PROCESS

1.) Has there been an initial decision in the matter? This can be:

* an existing published wage determination

* a survey underlying a wage determination
* a Wage and Hour Division letter setting forth a position on a wage determination matter
* a conformance (additional classification and rate) ruling

On survey related matters, initial contact, including requests for summaries of surveys, should be with the Wage and Hour Regional Office for the area in which the survey was conducted because those Regional Offices have responsibility for the Davis-Bacon survey program. If the response from this initial contact is not satisfactory, then the process described in 2.) and 3.) should be followed.

With regard to any other matter not yet ripe for the formal process described here, initial contact should be with the Branch of Construction Wage Determinations. Write to:

Branch of Construction Wage Determinations
Wage and Hour Division
U.S. Department of Labor
200 Constitution Avenue, N.W.
Washington, DC 20210

2.) If the answer to the question in 1.) is yes, then an interested party (those affected by the action) can request review and reconsideration from the Wage and Hour Administrator (See 29 CFR Part 1.8 and 29 CFR Part 7). Write to:

Wage and Hour Administrator
U.S. Department of Labor
200 Constitution Avenue, N.W.
Washington, DC 20210

The request should be accompanied by a full statement of the interested party's position and by any information (wage payment data, project description, area practice material, etc.) that the requestor considers relevant to the issue.

3.) If the decision of the Administrator is not favorable, an interested party may appeal directly to the Administrative Review Board (formerly the Wage Appeals Board). Write to:

Administrative Review Board
U.S. Department of Labor
200 Constitution Avenue, N.W.
Washington, DC 20210

4.) All decisions by the Administrative Review Board are final.

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END OF GENERAL DECISION

WAIS Document Retrieval

GENERAL DECISION: **PA20080001** 07/18/2008 PA1

Date: July 18, 2008
General Decision Number: **PA20080001** 07/18/2008

Superseded General Decision Number: PA20070001

State: Pennsylvania

Construction Type: Building

Counties: Allegheny, Beaver, Butler, Fayette, Greene, Washington and Westmoreland Counties in Pennsylvania.

BUILDING ERECTION AND FOUNDATION EXCAVATION PROJECTS (does not include residential construction consisting of single family homes and apartments up to and including 4 stories) EXCLUDING SEWAGE AND TREATMENT PLANT PROJECTS

Modification Number	Publication Date
0	02/08/2008
1	02/22/2008
2	03/07/2008
3	04/11/2008
4	06/20/2008
5	06/27/2008
6	07/18/2008

ASBE0002-001 08/01/2007

	Rates	Fringes
Asbestos Workers/Insulator Includes the application of all insulating materials, protective coverings, coatings and finishings to all types of mechanical systems	$ 31.62	19.81

BOIL0154-001 06/01/2008

	Rates	Fringes
BOILERMAKER	$ 33.90	22.07

BRPA0009-023 06/01/2007

BEAVER COUNTY

	Rates	Fringes
BRICKLAYER	$ 25.00	12.90

BRPA0009-024 06/01/2007

WASHINGTON (Cross Creek, Hanover, Jefferson, Mt Pleasant, Nottingham, Peters, Robinson, Smith, Union Twps) COUNTY

	Rates	Fringes
BRICKLAYER	$ 26.93	12.52

BUTLER COUNTY

	Rates	Fringes
ELECTRICIAN	$ 29.38	17.59

ELEC0005-007 12/21/2007

ALLEGHENY, FAYETTE, GREENE, WASHINGTON, AND WESTMORELAND COUNTIES

	Rates	Fringes
ELECTRICIAN	$ 29.38	17.59

ELEC0126-006 06/03/2007

ALLEGHENY, BEAVER, FAYETTE, GREENE, WASHINGTON, AND WESTMORELAND COUNTIES

	Rates	Fringes
Line Construction:		
Groundhand	$ 21.27	14.76
Line Truck Operator	$ 23.05	14.76
Lineman	$ 35.46	14.76
Winch Truck Operator	$ 23.49	14.76

ELEC0712-005 12/24/2007

BEAVER COUNTY

	Rates	Fringes
ELECTRICIAN	$ 28.45	17.67

ELEC1319-005 08/29/2005

BUTLER COUNTY

	Rates	Fringes
Line Construction:		
Groundman	$ 21.35	11.99
Lineman, Dynamite Man, and Heavy Equipment Operator	$ 34.44	12.90
Winch Truck Operator	$ 23.07	12.11

ELEV0006-001 01/01/2008

	Rates	Fringes
ELEVATOR MECHANIC	$ 37.65	16.285+A&B

FOOTNOTE: A. Employer contributes 8% of regular hourly rate as vacation pay credit for employees with more than 5 years of service, and 6% for 6 months to 5 years of service.

B. Eight Paid Holidays (provided employee has worked 5 consecutive days before and the working day after the holiday): New Years's Day; Memorial Day; Independence Day; Labor Day; Veteran's Day; Thanksgiving Day and the Friday

repairman (when assigned to job), Tower mobile (hoisting or lowering material), Tractors-boom mounted (all types with hydraulic backhoe attached), Trencher Tug Boat, Vermeer Saw, Welder (repairman), Whirley

GROUP 2 - Cranes (hydraulic truck cranes with jib); Cranes-rough terrain & similar 50 ton and under with jib; Cranes (boom or mast 100ft. or over up to and including 150ft.) (Truck, Crawler or Pedestal type); Cranes Mobile (any type 15 ton or over placed on any building structures); Hoist Hod (2 cages over 10 floors); Hoist-single cage with Chicago boom attached; engineer-Lead or Assistant.

GROUP 3 - Cranes (Boom or mast over 150 feet up to and including 200 feet) (Truck, Crawler or Pedestal type), Engineer - Lead or assistant

GROUP 4 - Cranes (Boom or mast over 200 feet) (Truck, Crawler or Pedestal type)

GROUP 5 - Ballast Regulator, Boat - material or personnel carrying machine, Broom power (except push type), Compressor - single or with any one (1) of the following: Air Tugger - Air Pump - Gunite Machine - Sand Blasting Machine, Concrete belt placer, Conveyor 1 to 4 units (regardless of power used), Conveyor more than 4 units (when set up moved or operated), Crane (carry), Crushing and Screening Plants, Curb builder (self propelled), Forklifts (ridden or self propelled), Form Line Machine, Generator (over 5kw), Grout Pump, Heaters - up to and including 6, Hoist (monorail) (regardless of power used), Hoist drum (regardless of power used), Hoist - one drum (4 floors or more), Hoist roof (regardless of power used), Huck machine or similar type Jack motor hydraulic (single type), Mixer concrete (regardless of power used), Mixer mortar (over 10 cu.ft.), Mulching machine, Pavement Breaker (self-propelled or ridden), Pin Puller (powered), Pipe cleaning machine, Pipe dream, Plant (private or industrial air or steam valve), Pulverizer, Pump (regardless of power used), Roller Refrigeration plant, Ross carrier (or similar type), Saw (concrete), Seeding machine, Soil stabilizer (pump type), Spray cure machine (power driven), Spreader side delivery shoulder (attachment), Steam Jenny (or similar type), Stone crusher, Stone spreader (self-propelled), Syphon (steam or air), Tie tamper (multiple heads), Tractor (farm when used for landscaping), Tractors (when used for snaking and hauling), Truck (winch) (when hoisting and placing), Tub finisher (CMI or similar type), Tugger, Water blaster, Well point systems, Compressors (3 within a reasonable distance), Generators Electric (3 - over 5kw up to 20kw), Heater (up to and including 6), Mortar machine over 10 cu. ft. and single unit conveyor, Pumps (1 1/2" discharge or less) (within reasonable distance), Welding machine (300 Amp and over) (other than electrically driven) (1 to 6 units), Welding machines (under 300 Amp) (2 to 6 within reasonable distance) (other than electrically driven)

GROUP 6 - Brakeman, Deck hand, Helicopter signalman (if needed and not in conflict with other trades), Oiler, Compressor - (single 125 CFM and under), Elevator - (Alterations & Remodeling all buildings

LABO0952-004 07/01/2007

	Rates	Fringes
Landscaping		
GROUP 1	$ 17.68	8.07
GROUP 2	$ 18.10	8.07
GROUP 3	$ 18.40	8.07

LANDSCAPING CLASSIFICATIONS

GROUP 1: Landscape laborer to include general landscaping work and the driving of trucks for the distribution of materials on the job site but not to include trucks used to transport supplies to the job

GROUP 2: Skilled Landscape Laborer to plant all types of trees and shrubs without direct supervision.

GROUP 3 - Landscape tractor operator to operate small industrial rubber tire tractor equipped with front end loader and backhoe attachment or a skid loader with landscape attachments used for the sole purpose of landscape work including soil spreading, unloading and loading of materials and such other landscaping work but not for heavy and highway construction work

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PAIN0057-003 06/01/2007

ALLEGHENY, FAYETTE, GREENE AND WASHINGTON COUNTIES

	Rates	Fringes
PAINTER		
Brush	$ 23.43	11.53

PAIN0057-004 06/01/2007

BEAVER, BUTLER, AND WESTMORELAND COUNTIES

	Rates	Fringes
Painters:		
Brush	$ 23.08	11.88
Spray	$ 25.88	11.88

PAIN0057-005 06/01/2008

	Rates	Fringes
DRYWALL FINISHER/TAPER	$ 24.06	12.93

PAIN0751-001 09/01/2007

	Rates	Fringes
GLAZIER	$ 26.05	15.90

PLAS0031-014 06/01/2008

ALLEGHENY, BEAVER, BUTLER, FAYETTE, GREENE, WASHINGTON, AND WESTMORELAND COUNTIES

SFPA0669-002 04/01/2008

BEAVER, BUTLER, FAYETTE, GREENE, WASHINGTON, AND WESTMORELAND COUNTIES

	Rates	Fringes
SPRINKLER FITTER	$ 32.75	15.55

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* SHEE0012-002 07/01/2008

	Rates	Fringes
Sheet metal worker	$ 30.20	18.76

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* TEAM0040-002 01/01/2008

	Rates	Fringes
Truck drivers:		
GROUP 1	$ 23.53	10.64+A+B
GROUP 2	$ 23.68	10.71+A+B
GROUP 3	$ 24.21	10.95+A+B

FOOTNOTES:

A. Hazardous/toxic waste material/work level A & B receive additional $2.50 per hour above classification rate

B. Hazardous/toxic waste materials/Work level C & D receive $1.00 per hour above classification

TRUCK DRIVERS CLASSIFICATIONS

GROUP 1 - Single Axle (2 axles including steering axle); Includes partsman and warehoueman

GROUP 2 - Tandem - Tri-Axle - Semi-Tractor Trailer (combination) (3 axles or more including steering axle)

GROUP 3 - Specialty Vehicles; Heavy equipment whose capacity exceeds that for which state licenses are issued specifically refers to units in excess of eight (8) feet width (such as Euclids, Atley Wagon, Payloder, Tournawagons, and similar equipment when not self loaded); Tar and Asphalt Distributors Trucks, Heavy Duty Trailer, such as Low Boy, High Boy

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WELDERS - Receive rate prescribed for craft performing operation to which welding is incidental.

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Unlisted classifications needed for work not included within the scope of the classifications listed may be added after award only as provided in the labor standards contract clauses (29CFR 5.5 (a) (1) (ii)).

In the listing above, the "SU" designation means that rates listed under the identifier do not reflect collectively bargained wage and fringe benefit rates. Other designations

WAIS Document Retrieval

GENERAL DECISION: **PA20080004** 07/18/2008 PA4

Date: July 18, 2008
General Decision Number: **PA20080004** 07/18/2008

Superseded General Decision Number: PA20070004

State: Pennsylvania

Construction Types: Heavy and Highway

Counties: Allegheny, Armstrong, Beaver, Bedford, Blair, Butler, Cambria, Cameron, Centre, Clarion, Clearfield, Clinton, Crawford, Elk, Erie, Fayette, Forest, Franklin, Fulton, Greene, Huntingdon, Indiana, Jefferson, Lawrence, McKean, Mercer, Mifflin, Potter, Somerset, Venango, Warren, Washington and Westmoreland Counties in Pennsylvania.

HEAVY AND HIGHWAY CONSTRUCTION PROJECTS (excluding sewer grouting projects and excluding sewage and water treatment plant projects)

Modification Number	Publication Date
0	02/08/2008
1	02/22/2008
2	03/07/2008
3	03/21/2008
4	04/11/2008
5	05/30/2008
6	06/20/2008
7	06/27/2008
8	07/04/2008
9	07/18/2008

BOIL0013-005 09/30/2007

CENTRE, FRANKLIN, POTTER, CLINTON, FULTON, HUNTINDON AND MIFFLIN COUNTIES

	Rates	Fringes
BOILERMAKER	$ 36.86	23.81

BOIL0154-004 06/01/2008

ALLEGHENY, ARMSTRONG, BEAVER, BEDFORD, BLAIR, BUTLER, CAMBRIA, CAMERON, CLARION, CLEARFIELD, CRAWFORD, ELK, FAYETTE, FOREST, GREENE, INDIANA, JEFFERSON, LAWRENCE, MCKEAN, MERCER, SOMERSET, VENANGO, WARREN, WASHINGTON AND WESTMORELAND COUNTIES

	Rates	Fringes
BOILERMAKER	$ 33.90	22.07

BOIL0744-003 07/01/2008

ERIE COUNTY

	Rates	Fringes
BOILERMAKER	$ 35.34	18.48

	Rates	Fringes
Diver	$ 40.40	10.77
Tender	$ 26.93	10.77

CARP2274-001 01/01/2008

	Rates	Fringes
CARPENTER (ALLEGHENY, ARMSTRONG, BEAVER, BUTLER, ERIE, FAYETTE, GREENE, LAWRENCE, MERCER, WASHINGTON, AND WESTMORELAND COUNTIES)		
Carpenter (Welders)	$ 27.37	11.52
Carpenters	$ 26.67	11.52
CARPENTER (BEDFORD, BLAIR, CAMBRIA, CAMERON, CENTRE, CLARION, CLINTON, CLEARFIELD, CRAWFORD, ELK, FOREST, FRANKLIN, FULTON, HUNTINGDON, INDIANA, JEFFERSON, MCKEAN, MIFFLIN, POTTER, SOMERSET, VENANGO, AND WARREN COUNTIES)		
Carpenters (Welders)	$ 27.13	11.52
Carpenters	$ 26.42	11.52

ELEC0005-006 12/21/2007

ALLEGHENY, ARMSTRONG, BEDFORD, BLAIR, BUTLER CAMBRIA, CAMERON, CENTRE (Remainder), CLARION, CLEARFIELD, ELK, FAYETTE, FULTON, GREENE, HUNTINGDON, INDIANA, JEFFERSON, MCKEAN, SOMERSET, VENANGO, WASHINGTON, AND WESTMORELAND COUNTIES

	Rates	Fringes
ELECTRICIAN	$ 29.38	17.59

ELEC0056-004 06/01/2006

ERIE, FOREST AND WARREN COUNTIES

	Rates	Fringes
ELECTRICIAN	$ 23.90	15.09

ELEC0126-005 06/03/2007

ALLEGHENY, ARMSTRONG, BEAVER, BEDFORD, BLAIR, CAMBRIA, CENTRE, CLARION, CLEARFIELD, FAYETTE, FULTON, GREENE, HUNTINGDON, INDIANA, JEFFERSON, SOMERSET, WASHINGTON AND WESTMORELAND

	Rates	Fringes
Line Construction:		
Groundman	$ 21.27	14.05
Lineman	$ 35.46	14.05
Truck Driver	$ 23.05	14.05
Winch Truck Operator	$ 24.82	14.05

ELEC0126-007 06/03/2007

Winch Truck Operators.....$ 23.07 12.11

ENGI0066-016 01/31/2008

	Rates	Fringes
Power equipment operators: (ALLEGHENY, ARMSTRONG, BEAVER, BLAIR, BUTLER, CAMBRIA, CENTRE, CLARION, CLEARFIELD, CRAWFORD, ERIE, ELK, FAYETTE, GREENE, INDIANA, JEFFERSON, LAWRENCE, MCKEAN, MERCER, SOMERSET, VENANGO, WARREN, WASHINGTON, AND WESTMORELAND COUNTIES)		
GROUP 1	$ 25.58	13.74
GROUP 2	$ 25.32	13.74
GROUP 3	$ 21.67	13.74
GROUP 4	$ 21.21	13.74
GROUP 5	$ 20.96	13.74
Power equipment operators: (BEDFORD, CAMERON, CLINTON, FOREST, FRANKLIN, FULTON, HUNTINGDON, MIFFLIN, AND POTTER COUNTIES)		
GROUP 1	$ 25.29	13.74
GROUP 2	$ 25.01	13.74
GROUP 3	$ 21.37	13.74
GROUP 4	$ 20.88	13.74
GROUP 5	$ 20.67	13.74

POWER EQUIPMENT OPERATORS CLASSIFICATIONS

GROUP 1 - Asphalt Paving Machine (Spreader), Autograde (C.M.I. and similar); Backfiller, Compactor with Blade, Backhoe - 360 and 180 degree Swing; Cableway; Caisson Drill (similar to Hugh Williams), Central Mix Plant; Cooling Plant; Concrete Paving Mixer, Concrete Pump (self-propelled); Cranes; Cranes (boom or mast over 101ft.$.50 per each additional 50 feet inclusive of jib), Cranes (Tower Stationary- Climbing Tower Crane); Derrick; Derrick Boat; Dozer(greater than 25,000 lbs.); Dragline; Dredge; Dredge Hydraulic; Elevating Grader; Franki Pile Machine; Gradall (remote control or otherwise),Grader (power-fine grade); Hllift (4 cy. and over); Hoist 2 Drums or more (in one unit); Hydraulic Boom Truck with pivotal cab (single motor-Pitman or similar), (Boom and Mast over 101 feet will be paid an additional 50 feet inclusive of jib if used;) Kocal; Mechanic,

PLUMBER.....$ 32.70 15.02

SHEE0012-006 01/01/2007

	Rates	Fringes
Sheet metal worker Excluding HVAC Duct Work....	$ 16.61	8.46

SUPA2003-001 10/31/2003

	Rates	Fringes
Drywall Finishers.....	$ 15.08	3.40
Laborers, Unskilled.....	$ 12.70	2.12
PAINTER (Brush and Roller).....	$ 15.90	4.35
PLASTERER.....	$ 18.20	5.16
Power equipment operators: (Backhoe).....	$ 17.34	4.06
Roofer (Excluding Asphalt Roofing).....	$ 18.70	5.19
Sheet Metal Worker (HVAC Duct Only).....	$ 16.00	3.08

WELDERS - Receive rate prescribed for craft performing operation to which welding is incidental.

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Unlisted classifications needed for work not included within the scope of the classifications listed may be added after award only as provided in the labor standards contract clauses (29 CFR 5.5(a)(1)(ii)).

In the listing above, the "SU" designation means that rates listed under the identifier do not reflect collectively bargained wage and fringe benefit rates. Other designations indicate unions whose rates have been determined to be prevailing.

WAGE DETERMINATION APPEALS PROCESS

1.) Has there been an initial decision in the matter? This can be:

* an existing published wage determination
* a survey underlying a wage determination

END OF GENERAL DECISION

HOUSING AUTHORITY OF THE CITY OF PITTSBURGH

PERFORMANCE BOND

Bond No. 82156244

THIS BOND IS ISSUED SIMULTANEOUSLY WITH PAYMENT BOND IN FAVOR OF THE AUTHORITY CONDITIONED ON THE FULL AND FAITHFUL PERFORMANCE OF THE CONTRACT.

KNOW ALL MEN BY THESE PRESENTS, that we,

Honeywell International Inc., 230 Vista Park Drive, Pittsburgh, PA 15205 as Principal, and

Federal Insurance Company, as Sureties, are held and firmly bound unto the **Housing Authority of the City of Pittsburgh**, its certain attorney, successors, or assigns (the Obligee, hereinafter called the "Authority") in the penal sum of

Twenty Five Million One Hundred Ten Thousand Eight Hundred One and NO/100 Dollars **($25,110,801.00)**

lawful money of the United States, for the payment of which sum well and truly to be made, we bind ourselves, our heirs, personal representatives, successors, and assigns, jointly and severally, firmly by these presents:

WHEREAS, the Principal heretofore has submitted to the said Authority a certain bid, dated

July 29, 2008 (the "Bid"), for construction of

Energy Performance Contract

pursuant to specifications, drawings and other related documents constituting the Invitation for Bids (the "IFB"); and

WHEREAS, the said Authority is a "Contracting body" under provisions of Act No. 385 of the General Assembly of the Commonwealth of Pennsylvania, approved by the Governor on December 20, 1967, known and cited as the "Public Works Contractors' Bond Law of 1967" (8 P.S. 191-202) (the "Act"); and

WHEREAS, the Act, in Section 3 (a), requires that, before an award shall be made to the Principal shall furnish this Bond to the said Authority, with this Bond to become binding upon the award of a Contract to the Principal by the said Authority in accordance with the Bid; and

WHEREAS, it also is a condition of the IFB that this Bond shall be furnished by the Principal to the said Authority; and

WHEREAS, Under the Invitation for Bids, it is provided, inter alia, that if the Principal shall furnish this Bond to the said Authority, and if the said Authority shall make an award to the Principal in accordance with the Bid, then the Principal and the said Authority shall enter into a contract with respect to performance of such work (the "Contract"), the Form of Agreement for which is set forth in the IFB.

NOW, therefore, THE CONDITION OF THIS OBLIGATION IS SUCH, that if the principal shall faithfully perform the Contract on his part as of the time and in the manner therein provided and satisfy all claims and demands incurred in or for the same, or growing out of the same, or for injury or damages to persons or

property in the performance thereof, and shall fully indemnify and save harmless the said Authority from any and all cost and damage which the said Authority may suffer by reason of the principals's failure to do so, and shall fully reimburse and repay the said Authority any and all outlay and expense which it incurs by reason of any such default, then this obligation shall be null and void, otherwise it shall remain in full force and virtue.

It is further understood and agreed that the principal shall guarantee for a period of one (1) year from completion date of the contract against defects in workmanship or materials in accordance with the terms of the Contract.

The said surety, for value received, hereby stipulates and agrees that no change, extension of time, alteration or addition to the terms of the Contract or to the work to be performed thereunder or the Specifications accompanying the same shall in any wise affect its obligations on this bond, and it does hereby waive notice of any such change, extension of time, alteration or addition to the terms of the Contract or to the work or to the Specifications.

For the purposes of this bond, performance under said Contract only includes the installation phase of said Contract, as defined under Schedule A (Scope of Work) and Schedule F (The Installation Schedule), and the one (1) year warranty period, as defined under Section 6.1. This bond does not include coverage for any other performance, including, but not limited to, the Projected Financial Performance and Measurement and Verification Plan (Schedule D) and the Energy Savings Guarantee (Section 4.1 and Schedule B). To the extent language in this bond conflicts with language in the Contract with respect to coverage, it is understood that the bond language will prevail. The Obligee acknowledges and accepts this restriction through its signature at the bottom of this bond form and expressly waives any right to make a claim against this bond for any warranty related issue.

SIGNED, SEALED AND DELIVERED IN TWO ORIGINAL COUNTERPARTS

this **30th** day of **July, 2008**.

IF THE PRINCIPAL IS AN INDIVIDUAL, SIGN HERE

(Printed or Typed Name)	*(Printed or Typed Name)*
Witness	*Principal*
{	{
(Signature and Date)	*(Signature and Date)*

IF THE PRINCIPAL IS A PARTNERSHIP, SIGN HERE

(Printed or Typed Name)	*(Printed or Typed Name)*
Witness	*Partner**
{	{
(Signature and Date)	*(Signature and Date)*
(Printed or Typed Name)	*(Printed or Typed Name)*
Witness	*Partner**
{	{
(Signature and Date)	*(Signature and Date)*

- If the Principal is a partnership, the Bond must be signed in the name of the partnership by at least two general partners, whose names and addresses must be listed on the certificate on page BF-3-P of the Bid.

THE ABOVE TERMS AND CONDITIONS OF THIS BOND HAVE BEEN REVIEWED AND ACCEPTED BY THE OBLIGEE.

ACKNOWLEDGED AND ACCEPTED BY OBLIGEE:

BY: _____

PRINTED NAME/TITLE: _____

DATE: _____

PLEASE RETURN A COPY OF ACCEPTED BOND TO: Rosenberg & Parker, Inc.
455 South Gulph Road, Suite 400
King of Prussia, PA 19406

IF THE PRINCIPAL IS A CORPORATION, SIGN HERE

(CORPORATE SEAL)

HONEYWELL INTERNATIONAL INC.
(Corporate Name)

Lois H. Fuchs
(Printed or Typed Name)

(Printed or Typed Name)

Witness

President
*V.P.***

Lois H Fuchs 7/31/08
(Signature and Date)

(Signature and Date)

Vice President, Risk Management
(Corporate Title)

(Corporate Title)

** If the bidder is a corporation, the Bond must be executed in the Corporation's correct corporate name by its President or Vice President and attested to by its Secretary or Assistant Secretary or Treasurer or Assistant Treasurer, and the Certification of Corporate Principal below must be executed by the Secretary or Assistant Secretary.

CERTIFICATE AS TO CORPORATE PRINCIPLE

I, Thomas F. Larkins, certify that I am the
Secretary/~~Assistant Secretary~~ of the Corporation named a Principal herein; that
(circle one)
Lois H. Fuchs who signed this Bond on behalf of the

Corporation was then Vice President, Risk Management of said Corporation that I know his signature and his signature thereto is genuine; and that said Bond was duly signed, sealed and attested in behalf of said Corporation by authority of its governing body.

(CORPORATE SEAL)

Thomas F. Larkins
(Signature and Date)

SURETY SIGN HERE

(SURETY SEAL)

Julia R. Burnet, Attorney-in-Fact

(Printed or Typed Name)

(Printed or Typed Name)

~~*Attest*~~ *Witness*

(Signature and Date) 7/30/08

FEDERAL INSURANCE COMPANY

(Signature and Date) 7/30/08

***Power of attorney must be attached to this Bond.

The rate of premium charged is $4.50 per thousand.
(To be filled in by Surety)

The total amount of premium charged is $112,999.00
(To be filled in by Surety)

Chubb Surety	POWER OF ATTORNEY	Federal Insurance Company Vigilant Insurance Company Pacific Indemnity Company	Attn: Surety Department 15 Mountain View Road Warren, NJ 07059

Know All by These Presents, That FEDERAL INSURANCE COMPANY, an Indiana corporation, VIGILANT INSURANCE COMPANY, a New York corporation, and PACIFIC INDEMNITY COMPANY, a Wisconsin corporation, do each hereby constitute and appoint David C. Rosenberg, Harry C. Rosenberg, Matthew J. Rosenberg, Sherri L. Feeney, David A. Johnson, Christine A. Dunn, Kimberly G. Tommassello and Julia R. Burnet of Bala Cynwyd, Pennsylvania

each as their true and lawful Attorney- in- Fact to execute under such designation in their names and to affix their corporate seals to and deliver for and on their behalf as surety thereon or otherwise, bonds and undertakings and other writings obligatory in the nature thereof (other than bail bonds) given or executed in the course of business, and any instruments amending or altering the same, and consents to the modification or alteration of any instrument referred to in said bonds or obligations.

In Witness Whereof, said FEDERAL INSURANCE COMPANY, VIGILANT INSURANCE COMPANY, and PACIFIC INDEMNITY COMPANY have each executed and attested these presents and affixed their corporate seals on this 30th day of November, 2004

Kenneth C. Wendel, Assistant Secretary

John P. Smith, Vice President

STATE OF NEW JERSEY
County of Somerset ss.

On this 30th day of November, 2004 before me, a Notary Public of New Jersey, personally came Kenneth C. Wendel, to me known to be Assistant Secretary of FEDERAL INSURANCE COMPANY, VIGILANT INSURANCE COMPANY, and PACIFIC INDEMNITY COMPANY, the companies which executed the foregoing Power of Attorney, and the said Kenneth C. Wendel, being by me duly sworn, did depose and say that he is Assistant Secretary of FEDERAL INSURANCE COMPANY, VIGILANT INSURANCE COMPANY, and PACIFIC INDEMNITY COMPANY and knows the corporate seals thereof, that the seals affixed to the foregoing Power of Attorney are such corporate seals and were thereto affixed by authority of the By- Laws of said Companies; and that he signed said Power of Attorney as Assistant Secretary of said Companies by like authority; and that he is acquainted with John P. Smith, and knows him to be Vice President of said Companies; and that the signature of John P. Smith, subscribed to said Power of Attorney is in the genuine handwriting of John P. Smith, and was thereto subscribed by authority of said By- Laws and in deponent's presence.

Notarial Seal

KATHERINE KALBACHER NOTARY PUBLIC NEW JERSEY

KATHERINE KALBACHER
NOTARY PUBLIC OF NEW JERSEY
No. 2316685
Commission Expires July 8, 2009

Notary Public

CERTIFICATION

Extract from the By- Laws of FEDERAL INSURANCE COMPANY, VIGILANT INSURANCE COMPANY, and PACIFIC INDEMNITY COMPANY:

"All powers of attorney for and on behalf of the Company may and shall be executed in the name and on behalf of the Company, either by the Chairman or the President or a Vice President or an Assistant Vice President, jointly with the Secretary or an Assistant Secretary, under their respective designations. The signature of such officers may be engraved, printed or lithographed. The signature of each of the following officers: Chairman, President, any Vice President, any Assistant Vice President, any Secretary, any Assistant Secretary and the seal of the Company may be affixed by facsimile to any power of attorney or to any certificate relating thereto appointing Assistant Secretaries or Attorneys- in- Fact for purposes only of executing and attesting bonds and undertakings and other writings obligatory in the nature thereof, and any such power of attorney or certificate bearing such facsimile signature or facsimile seal shall be valid and binding upon the Company and any such power so executed and certified by such facsimile signature and facsimile seal shall be valid and binding upon the Company with respect to any bond or undertaking to which it is attached."

I, Kenneth C. Wendel, Assistant Secretary of FEDERAL INSURANCE COMPANY, VIGILANT INSURANCE COMPANY, and PACIFIC INDEMNITY COMPANY (the "Companies") do hereby certify that

(i) the foregoing extract of the By- Laws of the Companies is true and correct,
(ii) the Companies are duly licensed and authorized to transact surety business in all 50 of the United States of America and the District of Columbia and are authorized by the U.S. Treasury Department; further, Federal and Vigilant are licensed in Puerto Rico and the U.S. Virgin Islands, and Federal is licensed in American Samoa, Guam, and each of the Provinces of Canada except Prince Edward Island; and
(iii) the foregoing Power of Attorney is true, correct and in full force and effect.

Given under my hand and seals of said Companies at Warren, NJ this 30th day of July, 2008.

FEDERAL INSURANCE COMPANY INDIANA — PACIFIC INDEMNITY COMPANY WISCONSIN — VIGILANT INSURANCE COMPANY NEW YORK

Kenneth C. Wendel, Assistant Secretary

IN THE EVENT YOU WISH TO NOTIFY US OF A CLAIM, VERIFY THE AUTHENTICITY OF THIS BOND OR NOTIFY US OF ANY OTHER MATTER, PLEASE CONTACT US AT ADDRESS LISTED ABOVE, OR BY Telephone (908) 903- 3483 Fax (908) 903- 6656
e-mail: surety@chubb.com

HOUSING AUTHORITY OF THE CITY OF PITTSBURGH

PAYMENT BOND
(Labor and Materialmen's Bond)

Bond No. 82156244

THIS BOND IS ISSUED SIMULTANEOUSLY WITH PERFORMANCE BOND IN FAVOR OF THE AUTHORITY CONDITIONED ON THE FULL AND FAITHFUL PERFORMANCE OF THE CONTRACT.

KNOW ALL MEN BY THESE PRESENTS, that we,

Honeywell International Inc., 230 Vista Park Drive, Pittsburgh, PA 15205 as Principal, and

Federal Insurance Company, as Sureties, are held and firmly bound unto the **Housing Authority of the City of Pittsburgh**, its certain attorney, successors, or assigns (the Obligee, hereinafter called the "Authority") in the penal sum of

Twenty Five Million One Hundred Ten Thousand Eight Hundred One and NO/100 Dollars **($25,110,801.00)**

lawful money of the United States, for the payment of which sum well and truly to be made, we bind ourselves, our heirs, personal representatives, successors, and assigns, jointly and severally, firmly by these presents:

WHEREAS, the Principal heretofore has submitted to the said Obligee a certain bid, dated

July 29, 2008 (the "Bid"), for construction of

Energy Performance Contract

pursuant to specifications, drawings and other related documents constituting the Invitation for Bids (the "IFB"); and

WHEREAS, the said Authority is a "Contracting body" under provisions of Act No. 385 of the General Assembly of the Commonwealth of Pennsylvania, approved by the Governor on December 20, 1967, known and cited as the "Public Works Contractors' Bond Law of 1967" (8 P.S. 191-202) (the "Act"); and

WHEREAS, the Act, in Section 3 (a), requires that, before an award shall be made to the Principal shall furnish this Bond to the said Authority, with this Bond to become binding upon the award of a Contract to the Principal by the said Authority in accordance with the Bid; and

WHEREAS, it also is a condition of the IFB that this Bond shall be furnished by the Principal to the said Authority; and

WHEREAS, Under the Invitation for Bids, it is provided, inter alia, that if the Principal shall furnish this Bond to the said Authority, and if the said Authority shall make an award to the Principal in accordance with the Bid, then the Principal and the said Authority shall enter into a contract with respect to performance of such work

(the "Contract"), the Form of Agreement for which is set forth in the IFB.

NOW, THEREFORE, THE CONDITION OF THIS OBLIGATION IS SUCH that if said principal and all subcontractors to whom any portion of the work provided for in said contract is sublet and all assignees of said principal and of such subcontractors shall promptly make payment for all material furnished, labor supplied or performed, rental for equipment employed, and services rendered by public utilities in or in connection with the prosecution of the work, whether or not the said material, labor, equipment or services enter into and become component parts of the work or improvement contemplated in said contract, or in any amendment or extension of or addition to said Contract, then the above obligation shall be void; otherwise to remain in full force and effect. PROVIDED, however, that this bond is subject to the following conditions and limitations.

(a) All persons who have performed labor, rendered services or furnished materials or machinery, shall have direct right of action against the principal and surety on this bond, which right of action shall be asserted in proceedings instituted in the State in which such labor was performed, services rendered or materials furnished (or where labor has been performed, services rendered or materials furnished under said Contract is more than one State, then in any such State). Insofar as permitted by the laws of such State, such right of action shall be asserted in a proceeding instituting such action and any or all other persons having claims hereunder, and any other person having a claim hereunder shall have the right to be made a party to such proceeding (but not later than one year after the complete performance of said Contract and final settlement thereof) and to have such claim adjudicated in such action and judgment rendered thereon.

(b) The surety shall not be liable hereunder for any damages or compensation recoverable under any workmen's compensation or employer's liability statute.

(c) In no event shall the surety be liable for a greater sum than the penalty of this bond, or subject to any suit, action or proceeding thereon that is instituted later than one year after the complete performance of said contract and final settlement thereof.

(d) As used herein: The term "person" refers to any individual, firm or corporation who have furnished materials or machinery or public utility services to be used on or incorporated in the work or the prosecution thereof provided for in said Contract or in any amendment or extension of or addition to said Contract, and/or to any person engaged in the prosecution of the work provided for in said Contract or in any amendment or extension of or addition to said Contract, who is an agent, servant or employee of the principal, or of any subcontractor, or of any assignee of said principal or of any subcontractor and also anyone so engaged who performs the work of a laborer or of a mechanic regardless of any contractual relationship between the principal, or any sub-contractor, or any assignee of said principal or of said subcontractor, and such laborer or mechanic, but shall not include office employees not regularly stationed at the site of the work.

The said surety, for value received, hereby stipulates and agrees that no change, extension of time, alteration or addition to the terms of the Contract, or to the work to be performed thereunder or the Specifications accompanying the same, shall in any wise affect its obligations on this bond, and it does hereby waive notice of any such change, extension of time, alteration or addition to the terms of the Contract or to the work or to the Specifications.

SIGNED, SEALED AND DELIVERED IN TWO ORIGINAL COUNTERPARTS

this **30th** day of **July, 2008**.

IF THE PRINCIPAL IS AN INDIVIDUAL, SIGN HERE

	(Printed or Typed Name)		*(Printed or Typed Name)*
Witness	{	*Principal*	{
	(Signature and Date)		*(Signature and Date)*

IF THE PRINCIPAL IS A PARTNERSHIP, SIGN HERE

(Printed or Typed Name)	*(Printed or Typed Name)*
Witness	*Partner**
{	{
(Signature and Date)	*(Signature and Date)*
(Printed or Typed Name)	*(Printed or Typed Name)*
Witness	*Partner**
{	{
(Signature and Date)	*(Signature and Date)*

* If the Principal is a partnership, the Bond must be signed in the name of the partnership by at least two general partners, whose names and addresses must be listed on the certificate on page BF-3-P of the Bid.

IF THE PRINCIPAL IS A CORPORATION, SIGN HERE

(CORPORATE SEAL)

HONEYWELL INTERNATIONAL INC.
(Corporate Name)

Christina Goode
(Printed or Typed Name)

LOIS H. FUCHS
(Printed or Typed Name)

Witness

Christina Goode 7/31/08
(Signature and Date)

*President V.P.***

Lois H Fuchs 7/31/08
(Signature and Date)

Administrative Assistant
(Corporate Title)

Vice President, Risk Management
(Corporate Title)

** If the Principal is a corporation, the Bond must be executed in the Corporation's correct corporate name by its President or Vice President and attested to by its Secretary or Assistant Secretary or Treasurer or Assistant Treasurer, and the Certification of Corporate Principal (Doc. 00625) must be executed by the Secretary or Assistant Secretary.

CERTIFICATE AS TO CORPORATE PRINCIPLE

I, Thomas F. Larkins, certify that I am the **Secretary/~~Assistant Secretary~~** of the Corporation named as Principal herein; that
(circle one)
the Lois H. Fuchs who signed this Bond on behalf of

Corporation was then Vice President Risk Management of said Corporation that I know his signature and his signature thereto is genuine; and that said Bond was duly signed, sealed and attested in behalf of said Corporation by authority of its governing body.

(CORPORATE SEAL)

Thomas F. Larkins
(Signature and Date)

SURETY SIGN HERE

(SURETY SEAL)

(Printed or Typed Name)

Julia R. Burnet, Attorney-in-Fact
(Printed or Typed Name)

~~*Attest*~~ *Witness*

7/30/08
(Signature and Date)

FEDERAL INSURANCE COMPANY

7/30/08
(Signature and Date)

The rate of premium charged is $4.50 per thousand.
(To be filled in by Surety)

The total amount of premium charged is $112,999.00
(To be filled in by Surety)

Chubb Surety

POWER OF ATTORNEY

Federal Insurance Company
Vigilant Insurance Company
Pacific Indemnity Company

Attn: Surety Department
15 Mountain View Road
Warren, NJ 07059

Know All by These Presents, That FEDERAL INSURANCE COMPANY, an Indiana corporation, VIGILANT INSURANCE COMPANY, a New York corporation, and PACIFIC INDEMNITY COMPANY, a Wisconsin corporation, do each hereby constitute and appoint David C. Rosenberg, Harry C. Rosenberg, Matthew J. Rosenberg, Sherri L. Feeney, David A. Johnson, Christine A. Dunn, Kimberly G. Tommasello and Julia R. Burhet of Bala Cynwyd, Pennsylvania

each as their true and lawful Attorney- In- Fact to execute under such designation in their names and to affix their corporate seals to and deliver for and on their behalf as surety thereon or otherwise, bonds and undertakings and other writings obligatory in the nature thereof (other than bail bonds) given or executed in the course of business, and any instruments amending or altering the same, and consents to the modification or alteration of any instrument referred to in said bonds or obligations.

In Witness Whereof, said FEDERAL INSURANCE COMPANY, VIGILANT INSURANCE COMPANY, and PACIFIC INDEMNITY COMPANY have each executed and attested these presents and affixed their corporate seals on this 30th day of November, 2004

Kenneth C. Wendel, Assistant Secretary

John P. Smith, Vice President

STATE OF NEW JERSEY
County of Somerset ss.

On this 30th day of November, 2004 before me, a Notary Public of New Jersey, personally came Kenneth C. Wendel, to me known to be Assistant Secretary of FEDERAL INSURANCE COMPANY, VIGILANT INSURANCE COMPANY, and PACIFIC INDEMNITY COMPANY, the companies which executed the foregoing Power of Attorney, and the said Kenneth C. Wendel, being by me duly sworn, did depose and say that he is Assistant Secretary of FEDERAL INSURANCE COMPANY, VIGILANT INSURANCE COMPANY, and PACIFIC INDEMNITY COMPANY and knows the corporate seals thereof, that the seals affixed to the foregoing Power of Attorney are such corporate seals and were thereto affixed by authority of the By- Laws of said Companies; and that he signed said Power of Attorney as Assistant Secretary of said Companies by like authority; and that he is acquainted with John P. Smith, and knows him to be Vice President of said Companies; and that the signature of John P. Smith, subscribed to said Power of Attorney is in the genuine handwriting of John P. Smith, and was thereto subscribed by authority of said By- Laws and in deponent's presence.

Notarial Seal

KATHERINE KALBACHER NOTARY PUBLIC NEW JERSEY

KATHERINE KALBACHER
NOTARY PUBLIC OF NEW JERSEY
No. 2316685
Commission Expires July 8, 2009

Notary Public

CERTIFICATION

Extract from the By- Laws of FEDERAL INSURANCE COMPANY, VIGILANT INSURANCE COMPANY, and PACIFIC INDEMNITY COMPANY:

"All powers of attorney for and on behalf of the Company may and shall be executed in the name and on behalf of the Company, either by the Chairman or the President or a Vice President or an Assistant Vice President, jointly with the Secretary or an Assistant Secretary, under their respective designations. The signature of such officers may be engraved, printed or lithographed. The signature of each of the following officers: Chairman, President, any Vice President, any Assistant Vice President, any Secretary, any Assistant Secretary and the seal of the Company may be affixed by facsimile to any power of attorney or to any certificate relating thereto appointing Assistant Secretaries or Attorneys- in- Fact for purposes only of executing and attesting bonds and undertakings and other writings obligatory in the nature thereof, and any such power of attorney or certificate bearing such facsimile signature or facsimile seal shall be valid and binding upon the Company and any such power so executed and certified by such facsimile signature and facsimile seal shall be valid and binding upon the Company with respect to any bond or undertaking to which it is attached."

I, Kenneth C. Wendel, Assistant Secretary of FEDERAL INSURANCE COMPANY, VIGILANT INSURANCE COMPANY, and PACIFIC INDEMNITY COMPANY (the "Companies") do hereby certify that

(i) the foregoing extract of the By- Laws of the Companies is true and correct,
(ii) the Companies are duly licensed and authorized to transact surety business in all 50 of the United States of America and the District of Columbia and are authorized by the U.S. Treasury Department; further, Federal and Vigilant are licensed in Puerto Rico and the U.S. Virgin Islands, and Federal is licensed in American Samoa, Guam, and each of the Provinces of Canada except Prince Edward Island; and
(iii) the foregoing Power of Attorney is true, correct and in full force and effect.

Given under my hand and seals of said Companies at Warren, NJ this 30th day of July, 2008.

FEDERAL INSURANCE COMPANY INDIANA — PACIFIC INDEMNITY COMPANY WISCONSIN — VIGILANT INSURANCE COMPANY NEW YORK

Kenneth C. Wendel, Assistant Secretary

IN THE EVENT YOU WISH TO NOTIFY US OF A CLAIM, VERIFY THE AUTHENTICITY OF THIS BOND OR NOTIFY US OF ANY OTHER MATTER, PLEASE CONTACT US AT ADDRESS LISTED ABOVE, OR BY Telephone (908) 903- 3493 Fax (908) 903- 6656
e-mail: surety@chubb.com

FEDERAL INSURANCE COMPANY

STATEMENT OF ASSETS, LIABILITIES AND SURPLUS TO POLICYHOLDERS

Statutory Basis

DECEMBER 31, 2007

(in thousands of dollars)

ASSETS		*LIABILITIES AND SURPLUS TO POLICYHOLDERS*	
Cash and Short Term Investments	$ 268,650	Outstanding Losses and Loss Expenses	$ 11,665,892
United States Government, State and Municipal Bonds	11,760,927	Unearned Premiums	3,576,372
Other Bonds	3,748,134	Reinsurance Premiums Payable	388,475
Stocks	1,228,819	Provision for Reinsurance	152,814
Other Invested Assets	1,813,473	Other Liabilities	1,010,325
TOTAL INVESTMENTS	18,820,003	TOTAL LIABILITIES	16,793,878
Investments in Affiliates:			
Chubb Investment Holdings, Inc.	2,488,838	Capital Stock	20,980
Pacific Indemnity Company	1,842,863	Paid - In Surplus	3,106,790
Chubb Insurance Investment Holdings Ltd.	886,556	Unassigned Funds	9,749,409
Executive Risk Indemnity Inc.	820,609		
CC Canada Holdings Ltd.	567,070		
Great Northern Insurance Company	374,275	SURPLUS TO POLICYHOLDERS	12,877,179
Chubb European Investment Holdings SLP.	304,522		
Chubb Insurance Company of Australia	178,307		
Vigilant Insurance Company	150,317		
Other Affiliates	257,152		
Premiums Receivable	1,552,350		
Other Assets	1,428,195		
TOTAL ADMITTED ASSETS	$ 29,671,057	TOTAL LIABILITIES AND SURPLUS TO POLICYHOLDERS	$ 29,671,057

Investments are valued in accordance with requirements of the National Association of Insurance Commissioners. Investments valued at $478,269,830 are deposited with government authorities as required by law.