

Town of Mamaroneck – Honeywell Agreement

ECM 2: Street Lighting Upgrade

Scope of Work:

- 1) Replace/retrofit lighting fixtures as detailed in Exhibit A-2 attached.
- 2) Furnish and install Relume Sentinel control system for the street lighting system.
- 3) The following street lighting control strategies will be implemented subject to the notes below:
 - a) Scheduling based on actual dusk and dawn times to allow lights to come on approximately one (1) hour later and turn off approximately one (1) hour earlier than actual dusk and dawn times.
 - b) During the six (6) hours of darkness with the least pedestrian and street traffic, all fixtures will be controlled to 50% of illumination.
 - i. Scheduling of this time is typically between the 11pm and 5am or midnight and 6am.
 - ii. The Town shall select the six hour window of time.
 - c) Task tuning all fixtures during full operational hours to meet existing perceived light levels and maximize savings.
- 4) Update the Con Ed register.
- 5) Con Ed will coordinate billing with the New York Power Authority to reflect new changes.
- 6) Test and commission the new lighting system.

Once the post-retrofit data has been validated, the savings will be stipulated for the full term of the energy guarantee. Equipment numbers and locations will not vary and operating hours are not projected to change after the project is implemented.

The Town will be responsible to insure that the lamps are maintained and replaced as necessary and the control strategies are continuously implemented.

Once the retrofit is complete Honeywell will update the street light registry for the average watts per fixture and submit for approval to Con Edison. Once approved Con Edison will adjust the NYPA (New York Power Authority) bill in accordance with the approved register. The cost avoidance will be stipulated for the term of the contract once lighting data has been validated.

Notes:

- a) Sentinel requires an FCC licensed frequency in the 450-465 MHz band for operation. The Town must obtain the FCC license in this band prior to commencement of the street light work and maintain the license for the entire term of the energy savings guarantee.
- b) The Town has indicated an intent to adopt a Street Lighting Plan which will dictate hours of operation and lighting levels for the street lights. Implementation of the street lighting control strategy is contingent upon the Town adopting a Street Lighting Plan which is consistent with the control strategy defined above. The Street Lighting Plan adopted by the Town shall dictate how the customer directs Honeywell to control the street lighting. The Town's adoption of a Street Lighting Plan may impact or alter the control strategies included in this scope of work and the energy savings reflected in Attachment G. The savings projected are stipulated for the current scope of work independent of any changes made by the Town after the retrofit is completed and handed over to the Town
- c) Prior to commencement of the street light work, the involved utility must address all safety concerns including blanketing of high voltage lines where fixtures are within 36 inches. Utility charges or fees shall be at the Town's expense.
- d) Street light work is subject to the indemnification/limitation of liability set forth in the General Conditions in Part 2 of this Attachment A Scope of Work.

ECM 3: Boiler Plant Upgrades

De-commission four (4) existing older boiler modules and install one (1) 2,000 MBH Fulton dual fuel high efficiency condensing boiler at Mamaroneck Town Center.

Building	Boiler Type	Qty	Boiler Input	Boiler Output	Peak Boiler Efficiency
Mamaroneck Town Center	Fulton Condensing	1	2,000 MBH	1,900 MBH	95%

Table A-3

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Scope of Work:

- 1) Disconnect and remove four (4) existing hot water boilers and associated breeching. Four (4) existing oil fired boilers to remain.
- 2) Modify/rearrange piping as needed for remaining boilers.
- 3) The existing fuel oil system shall remain.
- 4) Furnish and install one (1) 2,000 MBH Fulton dual fuel condensing boiler.
- 5) Reconfigure the piping into a primary/secondary hot water system.
- 6) Install dedicated flue for the new boiler.
- 7) Reconnect fuel oil piping to the new boiler.
- 8) Tie the new boiler burner into existing natural gas line.
- 9) Upgrade combustion air to code.
- 10) Insulate new hot water piping with fiberglass insulation.
- 11) This scope of work assumes that the existing natural gas service to the building can support the new equipment. There are no natural gas service upgrades included in this scope of work.

ECM 4: Ice Rink Upgrades

Chiller Plant Mechanical and Refrigeration Scope of Work:

- 1) Demo and remove existing refrigeration system, including piping, and electrical system
- 2) Remove and reuse existing ethylene glycol – supplement as required
- 3) Furnish and install one (1) new 108 ton R134A chiller plant including pumps, piping, controls, and heat reclaim to be used for new snow melt, and sub soil heating per attached schematic flow diagrams:
 - a) Exhibit A-3 – Heat Reclaim Diagram
 - b) Exhibit A-4 – Secondary Flow Diagram
- 4) Furnish and install refrigerant leak detection.
- 5) Start up and commission.

Electrical Scope of Work:

- 1) Demo and remove existing electrical to refrigeration system.
- 2) Furnish and install transformers, switch gear, breaker panels, breakers, disconnects and miscellaneous electrical parts for new refrigeration system, dehumidification system, and infrared heaters.
- 3) Furnish and install control wiring to new refrigeration system.
- 4) Furnish and install lighting, plugs, and switches as required by code to new addition.
- 5) Furnish and install new 1200 amp, 208V panel to replace the existing 800 amp panel. Honeywell's scope of work does not include any incoming service work required by the utility, and does not include any transformer upgrades.

Civil / Site / Building Construction Scope of Work:

- 1) Demolition:
 - a) Dismantle old dasher boards and remove from site
 - b) Remove existing glycol tubing below rink floor sand
 - c) Remove existing sub-soil heat piping
 - d) Clean existing concrete around dasher board foundation
 - e) Re-use existing dasher board concrete foundation (re-level as required)
 - f) Cut and remove asphalt and concrete for pipe trench (50 linear feet, 4' wide, 24" deep). Backfill and patch as required
- 2) Site Work:
 - a) Install twenty (20) 25 ft helical piles (15-20 ton / 2-7/8" – shaft)
 - b) Excavate for City water and hydrant relocation (40" trench to below frost include dewatering if necessary) – pipe size to new location to match existing.
 - c) Excavate for footings and foundation for addition
 - d) Remove and stockpile sand from existing rink base (if existing sand is contaminated there will be additional costs for removal of contaminated sand, as well as furnishing new sand)
 - e) Grade and patch asphalt as required for new building and new access road behind building. Existing driveway/access road is to be replaced by the Town after construction is complete. Work area surrounding the new addition will be prepared for new pavement as part of the scope.
 - f) Backfill and grade surrounding area along with any topsoil and seed necessary
 - g) Grade inside of rink in preparation for new sub-soil heat and glycol tubing installation



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- h) Reinstall sand in rink area including fine grading
 - i) Furnish and install new dasher boards on existing dasher board foundation.
- 3) New Building:

Building Details	
Building Type:	Single Slope Clear Span
Size:	29'0" x 92'0"
Roof Pitch:	1/2" in 12"
Eave Height at Front of Building:	16'0"
Ground Snow Load:	35 Pounds per Sq. Ft.
Roof Live Load:	30 Pounds per Sq. Ft.
Wind Load:	100 MPH
Collateral Load:	5 Pounds per Sq. Ft.

Table A-4

- a) Pricing is based on the attached building layout:
 - i. Exhibit A-5 – Mechanical/Zamboni Room Layout Plan
 - ii. New 6" concrete pad to be built (existing blacktop to be removed) between the 12' garage door on the new zamboni room and the 10' dasherboard gate leading into the ice rink.
- b) Engineering and plans for building system including: stamped steel erection drawings, stamped anchor bolt drawings, building reactions and stamped steel permit drawings. Site engineering and architectural drawings including foundation/pilings, floor plans, elevations and sections will be by owner. *BBS*
- c) Building to be designed to New York State Building Code. *TRG 4/3/14*
- d) Building to be designed with standard "x" bracing in right endwall, rear sidewall, and in the front sidewall. Roof bracing to be "x" rods as required.
- e) Form and pour concrete for new addition foundation and floor to match existing elevation with necessary anchors for new steel structure.
- f) Building to have 4" wall insulation and 6" roof insulation with WMP-10 reinforced vinyl facing.
- g) Building to have full gutters and downspouts connected to owner's drain piping.
- h) Install new 8" CMU full-height demising wall between chiller room and Zamboni storage area.
- i) Wall system to consist of Nucor's "Classic" panel to match existing siding. These panels are 26 gauge steel with siliconized polyester paint finish in owner's choice of colors. These panels provide 36" width coverage with decorative shadow line and semi-concealed fasteners. Major ribs are 12" on center and these panels carry a 25 year manufacturer's finish warranty.
- j) Roof system to consist of Nucor's "CFR" standing seam panel. These panels are 24 gauge galvalume coated steel. These panels provide 24" width coverage with major ribs 24" on center and two minor ribs for additional rigidity, site seamed for additional weather tightness. These panels carry a 20 year manufacturer's finish warranty.
- k) Provide and install two (2) framed openings to provide openings for overhead doors.
- l) Provide and install two (2) framed opening to provide opening for exhaust fans.
- m) Provide and install four (4) steel personnel doors. Doors to be pre-hung, insulated units complete with hinges, leverset, hydraulic closer, and weather-stripping.
- n) Provide and install two (2) overhead steel insulated doors with weather seal and chain hoists.
- o) Replace two full sections of Low-E ceiling above goal nets on both sides.

Ice Rink Air Handling Unit Replacement Scope of Work:

- 1) Furnish and install one (1) new Munters model A20-1000G dehumidification system with natural gas regeneration, including a 40 ton chilled water coil for space cooling, ductwork, and controls. Connect to existing duct trunk line.
- 2) Furnish and install louvers and dampers as required
- 3) Furnish and install gas infrared radiant tube heaters over the existing bleachers – heaters shall extend from the skate changing room to the concession area.
- 4) Furnish and install control wiring to dehumidification system, and infrared heaters

Ice Rink Roof Coating Scope of Work:

- 1) This scope of work is based on the following (all square footages shown are approximate values):



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Facility	Approximate Roof Area (ft ²)
Hommocks Ice Rink	37,500

Table A-5

- 2) Power wash roof area with 4,000 psi commercial grade pressure washer
- 3) Prime rust areas as needed
- 4) Seal all fasteners and horizontal seams with United Coatings Roof Mate Butyl Tape
- 5) Spray apply United Coatings Roof Mate Acrylic Coating at the rate of 1.5 gallons per square foot to the entire roof area
- 6) Perform clean up and inspection
- 7) Manufacturer will provide ten (10) year standard warranty see Exhibit A-7 for warranty terms.

Ice Rink Perimeter Ceiling Ventilation Scope of Work:

- 1) Furnish and install material and labor required to implement perimeter ceiling ventilation as detailed in the attached drawing:
 - a) Exhibit A-6 – Perimeter Ceiling Ventilation Detail
 - b) Those items that are cross-out in Exhibit A-6 are not included in this scope of work

Ice Rink Event Deck Scope of Work:

- 1) Provide Event Deck cover for ice rink
 - a) Cover consists of individual modules that interconnect to form larger flooring sections
 - b) Modules allow for connection in both directions for greater flexibility in floor design
 - c) Modules incorporate multi-directional structural support ribbing for distribution of weight and loads
 - d) Material made of high-impact polypropylene co-polymer with UV inhibitors added

Ice Rink Rubber Floor Mats Scope of Work:

- 1) Furnish and install Mondo Sport Impact Rubber Flooring for the area surrounding the ice rink (including underneath the existing bleachers), the lobby area, the hallway leading to the community conference room, and the community conference room itself (square footage shown is an approximate value).
 - a) Durable and resilient surface that absorbs shock
 - b) Sound absorbent and non-reflective
 - c) Slip resistant
 - d) Final standard colors to be selected by the Town.
 - e) Bathrooms and mechanical equipment room off of the hallway to the community conference room are excluded from this scope of work – also excluded is the kitchen/concession room and the closet off of the community conference room.
 - f) Removing and reinstalling furniture, benches, tables, vending machines and bleachers is excluded from this scope of work. Any modifications that may need to be made due to the increased height of the flooring is excluded from this scope of work
 - g) Rubber flooring is going over the existing flooring – removal or modifications to the existing flooring is excluded from this scope of work

Facility	Approximate Floor Area (ft ²)
Hommocks Ice Rink	17,000

Table A-6

ECM 5: Building Management System Upgrades

Scope of Work:

Mamaroneck Town Center:

- 1) Controller and wiring for one (1) new boiler and four (4) existing hot water boilers. Three (3) hot water circulating pumps.
- 2) Thirty three (33) programmable thermostats for the existing air handling units with DX-cooling and hot water heating. The fresh air dampers on these units are currently controlled by a timer to open only during occupied periods. This operation shall remain except in the four (4) units that serve part of the Police Station which is manned around the clock.
- 3) The ability to change setpoint and start/stop the units based on schedule shall be done remotely.



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Hommocks Ice Rink:

- 1) Controller and wiring for one (1) HB Smith hot water boiler with two (2) circulating pumps.
- 2) Integrate new Munters unit BACnet card being provided in ECM 4. Exhaust fans shall be interlocked with new Munters unit.
- 3) Furnish and install ice rink space CO₂ sensor and building exterior reference CO₂ sensor to allow for a demand control ventilation strategy to be implemented.
- 4) Integrate new Chiller BACnet card being provided in ECM 4
- 5) Two (2) programmable thermostats for the existing air handling units. The ability to change setpoint and start/stop the units based on schedule shall be done remotely.

Weaver Street Fire Headquarters:

- 1) Nine (9) programmable thermostats for the existing air handling units; eight (8) air handling units with gas fired heating and DX cooling, and one (1) air handling unit with gas fired heating only.
- 2) The ability to change setpoint and start/stop the units based on schedule shall be done remotely.

Building Management System Front End:

- 1) This system shall allow for remote access to schedules and setpoints and will also be capable of trending various system parameters.
- 2) The Town shall be responsible to ensure that the Mamaroneck Town Center, Hommocks Ice Rink, and Weaver Street Fire Headquarters are connected on the Town LAN to allow communication with the Building Management System Front End.
- 3) The Town shall be responsible to provide and terminate new LAN connections in the Mamaroneck Town Center, Hommocks Ice Rink, and Weaver Street Fire Headquarters which will be used to connect the new controllers for integration into the Building Management System.
- 4) The Town shall provide VPN access to Honeywell for remote access into the Building Management System for M&V and service functions.

ECM 6: Building Envelope Improvements

Provide all equipment, materials and labor to seal the air leakage paths for the following buildings (the square footages and linear footages shown are approximate values):

Facility
Hommocks Ice Rink
Mamaroneck Town Center
Weaver Street Fire Headquarters

Table A-7

Scope of Work:

Mamaroneck Town Center:

- 1) Eight (8) single commercial doors to be weather-stripped.
- 2) Three (3) double commercial doors to be weather-stripped
- 3) One (1) single commercial roof access door to be weather-stripped
- 4) Nine (9) roof top ventilators to be opened, dampers lubed and perimeters sealed, thirty six (36) linear feet (located on flat roof above court room)
- 5) Four (4) duct penetrations, attic bypass, to be sealed (located in 1888 building attic space)

Hommocks Ice Rink:

- 1) Six (6) single commercial doors to be weather-stripped
- 2) Seven (7) double commercial doors to be weather-stripped
- 3) One (1) double commercial interior door to be weather-stripped (between ice rink and lobby)
- 4) One (1) overhead door to be weather-stripped, fifty six (56) linear feet
- 5) One (1) roll-up garage door to be weather-stripped, thirty eight (38) linear feet

Weaver Street Fire Headquarters:

- 1) Six (6) single commercial doors to be weather-stripped



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ECM 7: Pipe Insulation

Scope of Work:

Provide all equipment, materials and labor to insulate the missing/damaged pipe insulation on existing steam, condensate return and hot water piping at the following buildings (linear footages shown are approximate values):

Facility	Pipe Diameter (inches)							
	4.00	3.00	2.50	2.00	1.50	1.00	0.75	0.50
Mamaroneck Town Center – Heating Hot Water	-	81.6	-	-	20.1	64.8	29.2	6.7
Hommocks Ice Rink – Heating Hot Water	1.0	-	2.0	25.2	1.0	16.6	15.3	17.9
Hommocks Ice Rink – Domestic Hot Water	-	-	-	-	-	-	2.5	2.5

Table A-8

The following insulation thickness table will be used to insulate pipes:

Piping	Type	Pipe Size	Insulation Thickness (Note1)
Interior Domestic Hot Water Supply & Return	Fiber Glass	All	1”
Interior Heating Hot Water Exposed & Concealed	Fiber Glass	½ - 4”	1”
Interior Heating Hot Water Exposed & Concealed	Fiber Glass	5 – 10”	1 ½ “
Interior Steam Piping Exposed & Concealed	Fiber Glass	½ - 2”	1”
Interior Steam Piping Exposed & Concealed	Fiber Glass	2 ½ - 4”	1 ½ ”
Interior Steam Piping Exposed & Concealed	Fiber Glass	5 – 10”	2”
Steam Condensate Piping Exposed & Concealed	Fiber Glass	All	1”
Boiler Feed Water	Fiber Glass	All	1”

Table A-9

Note 1 - In conformance with the 2010 Energy Conservation Construction Code of New York State, Table 503.2.8

ECM 8: Install Window Film

Scope of Work:

- 1) Furnish and install Vista VE50 window film on windows facing South, East and West at the buildings listed in the table below (the square footages shown are approximate values):

Facility	Approximate Window Area (ft ²)
Mamaroneck Town Center	2,332
Weaver Street Fire Headquarters	631

Table A-10

ECM 9: Replace Condensing Units

Facility	Manufacturer	Quantity	Tonnage	Type
Mamaroneck Town Center	Lennox	10	3.0	Air Cooled
	Lennox	13	5.0	Air Cooled

Table A-11

Scope of Work:

- 1) Remove and dispose of existing condensing units, associated coils, and refrigerant piping
- 2) Furnish and install new condensing units and coiler per table above
- 3) Furnish and install new refrigerant piping as required
- 4) Re-use existing housekeeping pads
- 5) Reconnect to existing controls



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- 6) Start up and commissioning

ECM 10: Generator Upgrade

Scope of Work:

- 1) Disconnect existing generator at the Weaver Street Fire Headquarters and leave in place
- 2) Remove existing transfer switch and reconfigure wiring appropriately
- 3) Supply and install one (1) new Kohler 80 kW diesel fired generator at grass area behind the parking lot in rear of the building
- 4) Supply and install one (1) new 800 Amp transfer switch
- 5) Furnish and install new concrete pad and chain link fencing around new generator
- 6) Reconfigure existing service feeders to accommodate new installation
- 7) Coordination with utility company as required
- 8) Cut existing parking lot as required. Backfill and patch pavement and landscaping at areas of removed generator and new work.
- 9) Excludes utility company fees if required

PART 2 – GENERAL

A. GENERAL CONDITIONS

1. Honeywell is not responsible for bringing existing lighting/electrical systems up to code.
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 new ballast will be provided to be installed by the Customer's work force.
3. If Honeywell encounters any materials or substances classified as toxic or hazardous in performance of the Work, including asbestos, Honeywell will notify Customer and will stop work in that area until such area has been made safe by the Customer, or Customer's Representative, at Customer's expense. In the event such conditions cause a delay in Honeywell's performance, Honeywell shall be entitled to recovery of all costs associated with such delay, as well as an extension of time of performance.
4. Waste shall be disposed of as follows:
 - a) Construction waste and/or Non-hazardous waste:
Construction waste (cardboard, metal, wood crates, plastic, wiring, etc.), and/or non-hazardous waste (non-PCB ballast's, batteries, etc.), shall be removed offsite by Honeywell or its subcontractors for disposal and/or recycling. The Customer's name and address shall be listed on the shipping documents as the owner/generator of the waste. The transportation of waste materials will meet local regulatory requirements.
 - b) Hazardous waste:
If and to the extent Honeywell is responsible for removal of hazardous waste pursuant to the express provisions of the Attachment A Scope of Work, Honeywell or its subcontractors shall contract with a licensed transporter for the removal of the applicable hazardous waste (PCB's, mercury, asbestos, etc.). The Customer's name and address shall be listed on the shipping documents as the owner/generator of the waste. The transportation of waste materials will meet local regulatory requirements.
5. 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, Honeywell 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.
6. Electrical: Honeywell will only be responsible for repairing existing electrical wiring problems that occur within three feet (36 inches) of the device being installed or the nearest wall or ceiling penetration, whichever is smaller.
7. Piping: Honeywell will only be responsible for repairing existing piping problems that occur within two feet (24 inches) of the device being installed or the nearest wall or ceiling penetration, whichever is smaller. Piping includes, but is not limited to, domestic hot and cold water, cooling cold water, heating hot water, condensate, fuel oil, and cooling tower condensing water.



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8. Routine Maintenance: Routine maintenance up such as vacuuming, coil cleaning and filter change of air handling devices, etc. is the responsibility of the Customer, or as included in Attachment D.
9. Utility Meter: If new utility meters are required, provision and coordination of utility meters is the responsibility of the customer.
10. Phone Lines: CUSTOMER is responsible for implementation and costs for remote Honeywell access through CUSTOMER's firewall(s) to the controllers and front-end computer(s) by one (1) Measurement and Verification Specialist using one or more of the following processes:
 - a) Phone Lines:
To be provided by customer for off-site monitoring, two (2) lines for each front end, one (1) line for each separate remote bus, as well as on-going maintenance of the lines. OR
 - b) TCP/IP Remote Access:
A dedicated static IP address, installation and on-going maintenance and subscription and licensing fees for access hardware and software and one (1) station license dedicated to the remote user
11. Efficiency Values: Honeywell 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 Honeywell or a Honeywell subcontractor, with "equipment" of equal or greater efficiency for the full contract guarantee term.
12. LIMITATION OF LIABILITY/INDEMNIFICATION. TO THE FULLEST EXTENT ALLOWED BY LAW, CUSTOMER SHALL INDEMNIFY AND HOLD HONEYWELL HARMLESS FROM AND AGAINST ANY AND ALL CLAIMS AND COSTS OF WHATEVER NATURE, THAT IN ANY WAY RESULTS FROM OR ARISES UNDER THE IMPLEMENTATION OF THE STREET LIGHT CONTROL STRATEGIES. HONEYWELL SHALL NOT BE RESPONSIBLE FOR ANY CLAIMS OR COSTS RELATED TO THE IMPLEMENTATION OF THE STREET LIGHT CONTROL STRATEGIES (I.E., THE DIMMING OR DISABLING OF STREET LIGHTS). THIS INDEMNIFICATION SHALL SURVIVE TERMINATION OF THIS AGREEMENT FOR WHATEVER REASON.
13. Honeywell 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 Honeywell.
14. The following areas are specifically excluded from this scope of work. 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 Customer.
 - 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 Attachment D – Support Services Agreement.



**ATTACHMENT G
SCHEDULE OF SAVINGS**

1. Schedule of Savings

The total energy and operational Cost Avoidance over the Term of the contract is equal to or greater than \$8,212,598 as defined in the table below:

Year	Energy	Operational	Total
1	\$ 189,377	\$ 101,030	\$ 290,407
2	\$ 196,005	\$ 104,566	\$ 300,571
3	\$ 202,865	\$ 108,225	\$ 311,090
4	\$ 209,965	\$ 112,013	\$ 321,978
5	\$ 217,314	\$ 115,934	\$ 333,248
6	\$ 224,920	\$ 119,991	\$ 344,911
7	\$ 232,792	\$ 124,191	\$ 356,983
8	\$ 240,940	\$ 128,538	\$ 369,478
9	\$ 249,373	\$ 133,037	\$ 382,410
10	\$ 258,101	\$ 137,693	\$ 395,794
11	\$ 267,135	\$ 142,512	\$ 409,647
12	\$ 276,484	\$ 147,500	\$ 423,984
13	\$ 286,161	\$ 152,663	\$ 438,824
14	\$ 296,177	\$ 158,006	\$ 454,183
15	\$ 306,543	\$ 163,536	\$ 470,079
16	\$ 317,272	\$ 169,260	\$ 486,532
17	\$ 328,377	\$ 175,184	\$ 503,561
18	\$ 339,870	\$ 181,315	\$ 521,185
19	\$ 351,765	\$ 187,661	\$ 539,426
20	\$ 364,077	\$ 194,230	\$ 558,307
TOTALS	\$ 5,355,513	\$ 2,857,085	\$ 8,212,598

or the sum of the Retrofit and Support Costs for such Guarantee Year, whichever is less. Provided further, in no event shall the cost avoidance guarantee provided herein exceed the total installation, maintenance, and financing costs for the Work under this Agreement. Proforma budget neutral or positive cash flows are not guaranteed.

The Term of the Guarantee Performance Period is 20 years, subject to Attachment F.

1.1 Energy Savings. The first year amount of energy savings is the sum of the below listed ECMs. The Cost Avoidance is based on the listed Energy and Operational Cost Avoidance Guarantee Practices contained in Section 1.3 herein.

Att. A No. [a]	ECM Description	Electric Year 1	Fuel Year 1	Total Year 1
1	Lighting Retrofit and Vending Misers	\$ 30,063	\$ (2,008)	\$ 28,054
2	Street Lighting Upgrade	\$ 105,794	\$ -	\$ 105,794
3	Boiler Plant Upgrades	\$ -	\$ 13,109	\$ 13,109
4	Ice Rink Upgrades	\$ 12,007	\$ 11,920	\$ 23,927
5	Building Management System Upgrades	\$ 385	\$ 10,382	\$ 10,767
6	Building Envelope Improvements	\$ -	\$ 3,202	\$ 3,202
7	Pipe Insulation	\$ -	\$ 2,255	\$ 2,255
8	Install Window Film	\$ 282	\$ 1,135	\$ 1,417
9	Replace Condensing Units	\$ 852	\$ -	\$ 852
10	Generator Upgrade	\$ -	\$ -	\$ -
	Totals	\$ 149,382	\$ 39,995	\$ 189,377

[a] Att A: Attachment A, Scope of Work.



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Customer agrees that the baseline for the unit cost of energy will be adjusted each year of the guarantee term. This annually adjusted value of energy unit cost is stipulated as the new baseline in each succeeding year. Customer agrees that baseline adjustment is stipulated to be an escalation of 3.5% per year for the unit cost of electric utilities, 3.5% per year for gas and fuel oil utilities starting next year used in the determination of cost avoidance each year.

1.2 Operational Cost Savings. The annual guarantee of operational cost avoidance strategies are listed below. The Savings are based on the listed Energy and Operational Cost Avoidance Guarantee Practices contained in Section 1.3 herein. The operational cost savings described below and identified in Section 1 are deemed satisfied upon contract execution. The Customer acknowledges and agrees that, if it did not enter into this agreement, it would have to take future steps to achieve the same ends as does the work included in Attachment A of this contract, and that, in doing so, it would incur operational costs of at least the amount per year over the life of the performance period as presented below and in the Schedule of Savings. The Customer agrees that, by entering into this agreement, it will avoid future operational costs in at least these amounts.

Further, the Customer acknowledges that operational cost savings categorized as capital cost avoidance are part of, or are causally connected to scope of work specified in Attachment A (i.e., the ECMs being implemented), and are documented by industry standard engineering methodologies acceptable to the Customer.

Customer agrees that the baseline for the unit cost of operations will be adjusted each year of the guarantee term. This annually adjusted value of operational unit cost is stipulated as the new baseline in each succeeding year. Customer agrees that baseline adjustment is stipulated to be an escalation of 3.5% per year for operational costs used for lighting material savings due to reduced lighting equipment plus extended lighting material life due to mass retrofit, for boiler and chiller plants upgrade savings due to the elimination of preventive maintenance and repair cost of existing boilers and chiller, and for the cost reduction in paper, ink and toners for installing GreenPrint printing software. in the determination of operational cost avoidance each year.

The operational cost avoidance values were identified, reviewed, and agreed to by the district.

OSD #	Operational Savings Description (OSD)	Att. A Ref.	Cost Avoidance Category (O&M, Capital,)	1 st Year Cost Avoidance
1	Lighting Retrofit and Vending Misers	A1	O&M	\$ 4,420
2	Street Lighting Upgrade	A1	O&M	\$ 35,000
3	Boiler Plant Upgrades	A1	O&M	\$ 5,000
4	Ice Rink Upgrades	A1	O&M	\$ 40,000
5	Replace Condensing Units	A1	O&M	\$ 16,610
Total				\$ 101,030

[a] O&M: operations and maintenance.

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. 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 Baseline Period specified in this Agreement. The following data was collected with the assistance of the town administrator, Mr. Stephen Altieri.

The Baseline Period is defined as calendar year 2013.

The Contractual Baseline consists of the Baseline Conditions and Baseline Operating Parameters collected from the Baseline Period.

Baseline operating parameters are stipulated in Baseline Operating Parameters attached hereto and incorporated herein as Exhibit G-1. See Energy Savings Calculations, attached hereto and incorporated herein as Exhibit G-5 for further information regarding stipulated baseline parameters.



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1.3.1.1 Pre-Retrofit Baseline Adjustments: The following describes the adjustments that have been made during the determination of the Baseline, prior to the determination of the projected cost avoidance and the guaranteed cost avoidance. The adjustments are due to those projects included in Attachment A, or other known events, which increase energy use prior to the application of the ECMs.

A. No adjustments were made to the baseline.

1.3.2 GUARANTEE PERIOD Operating Parameters of the facility(s) and system(s) after completion of Work. The Customer agrees to operate, or cause to effect the operation of the Work in such manner that is in accordance with the Guaranteed Period Operating Parameters. 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. And, further, that they are agreed to be reasonable and may be used in the calculation of the cost avoidance, as if the site is actually operating per the parameters outlined in this section.

Guarantee Period operating parameters are stipulated in Guarantee Period Operating Parameters attached hereto and incorporated herein as Exhibit G-2.

1.3.2.1 Post-Retrofit Baseline Adjustments: The following describes known future events, events not captured in section 1.3.1.1., which generally increase energy use compared to the Baseline Period. This energy use is added to the baseline to determine an adjusted baseline against which the energy and energy cost avoidance will be determined. Energy increases are variable and dependant on the actual use of equipment.

No Post-Retrofit Adjustments are made to the baseline data.

1.3.3 Operational Cost Avoidance: The following parameters, methodologies, and/or calculations were used in determining the Operational Costs and/or avoided costs due to the Retrofit and Support Services implementation and are agreed to be reasonable and may be used in the calculation of the cost avoidance.

Operational cost avoidance methodology and/or calculation details are attached hereto and are incorporated herein as the exhibits outlined in the following table.

OSD #	Operational Savings Description	Cost Avoidance Methodology	Exhibit
1	Lighting Retrofit and Vending Misers	Calculation of Material Savings due to reduced lighting equipment plus extended lighting material life due to mass retrofit.	G-6
2	Street Lighting Upgrade	Calculation of Material Savings due to reduced lighting equipment plus extended lighting material life due to mass retrofit.	G-6
3	Boiler Plant Upgrades	Elimination of existing repair cost of existing boilers	G-6
4	Ice Rink Upgrades	Elimination of repair cost of existing ice rink chiller and associated equipment.	G-6
5	Replace Condensing Units	Elimination of existing repair cost of existing condensing units	G-6

The operational savings measures and which budget line items or invoice categories that are affected, are cross-referenced in each Operational Savings Cost Avoidance Detail in the Exhibits.

[a] O&M: operations and maintenance.

1.3.4 Other Energy and Operating Savings Measures: The following measures were not included in the guarantee but may be used during the term in the determination of realized cost avoidance, or calculation of performance versus the guarantee, or to show value-add to the Customer:

Att A No.	Description of Attachment A Tasks not included in Sections 1.1 or 1.2 above
	N/A

1.4 Guarantee Savings Measurement and Verification Plan



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1.4.1 Measurement and Verification Methodology(s):

Energy Conservation Measure	Electric Savings Verification Method	Fuel Savings Verification Method
Lighting Retrofit and Vending Misers	OPTION A w/ Stipulated Burn Hours for Town Center and fire HQ. OPTION C for Hommocks Ice Rink	OPTION C
Street Lighting Upgrade	Option A	N/A
Boiler Plant Upgrades	N/A	OPTION C
Ice Rink Upgrades	OPTION C	OPTION C
Building Management System Upgrades	OPTION C at the Ice Rink	OPTION C
Building Envelope Improvements	N/A	OPTION C
Pipe Insulation	N/A	OPTION C
Install Window Film	OPTION A	OPTION C
Replace Condensing Units	OPTION A	N/A
Generator Upgrade	N/A	N/A

A description of M&V options applicable to this program are included in the Measurement and Verification Options Matrix, attached hereto and incorporated herein as Exhibit G-7.

1.4.2 Energy Cost Avoidance: The following describes the Measurement and Verification procedures, formulas, and agreed upon values which may be used in the calculation of the energy cost avoidance. The calculation of energy cost avoidance is based upon the utility rate paid during the Guarantee Year, or the Baseline Period utility rate, whichever produces the higher cost avoidance and/or as defined heretofore. Energy cost avoidance may also include, but is not limited to, Savings from demand charges, power factor correction, taxes, ratchet charges, rate changes and other utility tariff charges that are reduced as a result of the HONEYWELL involvement. The Customer is responsible for procuring a ratchet reset from the local utility company, as applicable. In case any ratchets are not reset the following adjustment will be made - energy cost avoidance will be calculated as if the ratchet has been reset at the end of the installation of electrical demand reducing ECMs.

1.4.3 Specific ECM M&V Plan(s): The Measurement and Verification procedures, formulas, and agreed upon values which may be used in the determination of cost avoidance and/or performance against the Guarantee for each specific ECM in addition to the general Energy Cost Avoidance procedure are outlined in Exhibit G-5.

1.4.4 Constants: The constants and/or agreed upon values defined in the Exhibits to Attachment G, or as defined herein, are mutually agreed to by the Customer to be reasonable and may be used in the determination of the cost avoidance.

1.4.5 Exhibits and Schedules: The following Exhibits are attached hereto and are made a part of this Agreement by reference.



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1.4.5.1 Exhibits

Exhibit G-1	Baseline Operating Parameters
Exhibit G-2	Guarantee Period Operating Parameters
Exhibit G-3	Utility Baseline Exhibit
Exhibit G-4	Baseline Regression for Option C Meters
Exhibit G-5	Energy Savings Calculations
Exhibit G-6	Operations Cost Avoidance
Exhibit G-7	M&V Plan



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**ATTACHMENT A
SCOPE OF WORK**

PART 1 – PRODUCTS & EXECUTION

Contractors will be required to pay prevailing wage rates in accordance with New York State Department of Labor regulations.

ECM 1: Lighting Retrofit and Vending Misers

A. Lighting Retrofit and Vending Misers

Scope of Work:

- 1) Provide all equipment, materials and labor to implement the lighting retrofit as detailed in Exhibit A-1 attached. Facilities include:

Facility
Hommocks Ice Rink
Mamaroneck Town Center
Weaver Street Fire Headquarters
Chatsworth Avenue Parking Lot

Table A-1

- 2) Coordinate all lighting retrofit activities with the Town to minimize disruptions.
- 3) Provide for the disposal/recycling of all replaced fixtures and lamps.
- 4) Provide a certificate showing the lamps and ballasts have been disposed of properly.
- 5) Provide pre and post retrofit wattage readings on a representative sample (5%) of typical retrofitted circuits to verify effectiveness of upgrade.
- 6) Provide 2% of attic stock for lamps and ballasts.
- 7) Provide all required job supervision.
- 8) Existing T5 fixtures above Hommocks Ice Rink to be removed and returned to the Town in current condition for reuse.
- 9) New LED fixtures above the Hommocks Ice Rink shall at a minimum maintain the existing light levels.

Warranty:

The lamps and ballasts are warranted as follows:

- a) All T8 linear fluorescent lamps are covered by a manufacturer warranty for a period of two (2) years.
- b) All T5 linear fluorescent lamps are covered by a manufacturer warranty for a period of two (2) years.
- c) All linear fluorescents ballasts are covered by manufacturer warranty for a period of five (5) years from date of manufacture.
- d) All HID lamps are covered by the manufacturer warranty for a period of one (1) year.
- e) All HID ballasts are covered by the manufacturer warranty for a period of three (3) years from the date of manufacture.
- f) All LED lamps are covered by a manufacturer warranty for a period of seven (7) years.
- g) All exit signs and compact fluorescents are covered by the manufacturer for a period of one (1) year.

B. Vending Misers

Provide all equipment, materials and labor to implement Vending Miser Controls on the equipment detailed in Exhibit A-1. Facilities include:

Facility
Hommocks Ice Rink
Mamaroneck Town Center

Table A-2

