AN ORDINANCE BY

11-O-0740

CITY UTILITIES COMMITTEE

AN ORDINANCE TO AMEND CHAPTER I. ENTITLED "ADMINISTRATION" OF APPENDIX C ENTITLED "PLUMBING CODE AMENDMENTS" TO ADOPT SECTION 1300 ENTITLED "REQUIREMENTS FOR RAINWATER CATCHMENT SYSTEMS FOR RESIDENTIAL POTABLE USE"; TO REGULATE POTABLE RAINWATER CATCHMENT FOR RESIDENTIAL USE; TO INSTITUTE SAFEGUARDS THAT ENSURE POTABLE RAINWATER CATCHMENT SYSTEMS DO NOT INTERFERE WITH THE CITY OF ATLANTA WATER SUPPLY; TO STREAMLINE THE INSTALLATION OF POTABLE RAINWATER CATCHMENT SYSTEMS; TO AMEND CHAPTER 154 "UTILITIES", ARTICLE V. "SEWAGE DISPOSAL," DIVISION 3 "RATES AND CHARGES," SECTION 277 "SEWER SERVICE CHARGE", SUBSECTION (D) TO EXEMPT RESIDENTIAL RAINWATER CATCHMENT SYSTEMS FROM THE REQUIREMENT TO INSTALL AND MEASURE WATER USAGE THROUGH METERS TO DETERMINE SEWER SERVICE CHARGES; AND FOR OTHER PURPOSES.

WHEREAS, the City of Atlanta ("City"), pursuant to its charter, has the responsibility of providing water and sewer service to its residents and customers; and

WHEREAS, water is a vital resource and it is in the best interest of the City to encourage utilization of alternative water sources that can aid the City in meeting future water demands; and

WHEREAS, potable rainwater catchment systems represent both a potential alternative water supply source and may also improve the management of stormwater for the protection of water quality and land; and

WHEREAS, potable rainwater catchment systems may relieve, not replace, some of the burden placed on the City's drinking water system, especially during times of drought and high demand; and

WHEREAS, the interest in potable rainwater catchment systems has grown significantly in recent years due to droughts and water shortages worldwide; and

WHEREAS, in 2009 the Georgia Amendments to the International Plumbing Code introduced Appendix I 'Rain Water Recycling Systems' to allow rainwater systems catchment statewide; and

WHEREAS, effective and explicit laws and guidelines are necessary to ensure the safety of potable rainwater catchment systems within the City and to provide clarity on their implementation and usage within the City; and

NOW THEREFORE, BE IT ORDAINED BY THE CITY COUNCIL OF THE CITY OF ATLANTA, as follows:

SECTION 1: That a new Section 1300 Entitled "Potable Rainwater Catchment Systems" of Appendix C "Plumbing Code Amendments," Chapter I. "Administration" is hereby added to read as follows:

1300.1 Preliminary Information.

(a) An individual seeking to install a potable rainwater catchment system shall request approval from the City of Atlanta. A building official or inspector shall recognize the installation of potable rainwater catchment systems in accordance with this appendix. The Bureau of Buildings, Chief Plumbing Inspector may maintain a list of registered City of Atlanta contractors and laboratories that may be contacted with specific technical questions regarding potable rainwater catchment systems and treatment. Maintenance of said list shall not constitute a warranty or create liability on the part of the City or by any officer or employee thereof for any injury or damages that result from reliance on this list.

(b) Rainwater catchment systems used for potable water applications present potential risks if not installed, maintained and properly operated. The City of Atlanta does not oversee the maintenance and therefore safety of your system. It is the sole responsibility of the owner of the system to maintain and use the system in a safe and responsible manner. This appendix is intended to set out construction standards dealing with the initial installation of the system components, recommended materials, water treatment and frequency of water testing. Following the standards of this appendix will improve the quality of the water collected and help the installer recognize potential safety problems. The proper system design, maintenance and use are the responsibility of the building owner. This ordinance shall not create liability on the part of the City or by any officer or employee thereof for any damages or injury that results from reliance on this ordinance or any administrative decision lawfully made hereunder.

(c) Building owner shall indemnify, defend and hold harmless the City of Atlanta, its agents and employees from and against any and all liabilities, claims, losses, lawsuits, judgments and/or expenses including attorney fees, arising, either directly or indirectly, from any act or failure to act by the City of Atlanta or any of its officers or employees, that occur during or arise from the rainwater catchment systems for potable and non-potable uses in residential areas. The building owner understands that he/she is choosing to harvest rainwater for potable and/or non-potable uses at his/her own risk.

(d) The applicant shall provide an agreement holding the City of Atlanta harmless for liability for the construction and maintenance of said rainwater catchment system, and the owner shall record the agreement in land records of the county or counties in which the property is located that assigns all legal responsibility to the owners for construction and maintenance of said rainwater catchment system.

1300.2 System Requirements.

(a) Potable rainwater catchment systems shall have chlorination, UV, ozone or iodine treatment.

(b) The following permits are required for the installation of a potable rainwater catchment system: (1) a plumbing permit for rainwater catchment systems; (2) an electrical permit for the pump and other electrical controls; (3) building permits for cistern footings, foundations, enclosures and roof structures; and (4) grading and erosion control permits for system construction.

(c) Potable rainwater catchment systems are intended for single-family homes and shall be maintained in functioning order for the life of the system. It is solely the property owner's responsibility to maintain the system according to manufactures recommendations and keep written documentation of maintenance provided for each year of service of the system. Filtration and disinfection shall be serviced according to manufactures recommendations.

(d) Rainwater catchment system abandonment and potable water installations require a permit, inspection and approval. If the owner of a rainwater catchment system elects to cease use of, or fails to properly maintain such system, they shall abandon the system and either (1) remove the system entirely, or (2) replace the rainwater catchment pipe system with an approved potable water supply pipe system. Where an existing potable pipe system is already in place, fixtures may be re-connected to the existing system; and (3) the abandonment shall be recorded in the City of Atlanta noting the deletion of the system.

1300.3 Materials.

(a) All building materials that may come into contact with water collected in the rainwater catchment system shall meet national standards and be non-toxic and incapable of leaching into the collected water. This includes under normal conditions or conditions of lowered PH caused by acid rain.

(b) All surfaces, tanks and equipment shall be washed clean before it is put into service.

(c) All float switches shall be non-mercury.

1300.4 Water Uses.

(a) Harvested rainwater may be used for private potable uses if it has been treated to EPA primary drinking water standards.

1300.5 Rainwater Collection.

(a) Rainwater shall only be collected from roof surfaces. Roof surfaces shall be constructed of asphalt, tar, slate, metal, tile, concrete, fiberglass, or other approved material. Roofing of wood, gravel, asbestos, or composting shingles shall not be used. Painted roof surfaces shall be coated in a NSF/ANSI 61 standard coating. Copper roofing materials (including gutters and roofing conveyance materials) and lead flashing are not approved for potable water.

(b) Roof catchment surfaces shall be thoroughly washed before used to collect rainwater.

(c) A City of Atlanta on-site rainwater catchment system shall be protected from cross

connection in accordance with the International Plumbing Code. A Backflow Prevention Device shall be fitted to the potable rainwater catchment system. The Department of Watershed Management shall provide an on-site evaluation or inspection of the rainwater catchment system in order to determine which type of backflow preventer will be required. The Department of Watershed Management will also issue applicable permits and perform inspections as necessary. If the Department of Watershed Management determines at any time that a serious threat to the public health exists, the water service will be terminated immediately.

(d) Manhole openings shall have a minimum diameter of sixteen inches, and have a watertight cover with edges projecting above the level of the surrounding surface.

1300.6 Gutters.

(a) Gutters shall be designed to keep out leaves, debris and other large contaminants.

(b) Gutters shall have a continuous grade with a minimum slope of one-sixteenth (1/16) inch per foot to the outlet leader with no sags or flat portions where water will collect or stand. Gutters shall be cleaned prior to use and maintained in a clean manner on a regular basis. Run off of wash water shall be diverted from the storage tanks to a location which will not cause damage to property or cause erosion.

(c) Gutter outlets may be connected indirectly to the rain leader with a screened leaf protected receptor inlet.

(d) Gutters intended to capture rainwater for catchment shall be the continuous or seamless type. Lead-bearing soldered seams are prohibited.

1300.7 Downspouts, Rain Leaders and Piping.

(a) Except for first-flush diverters, no section of piping shall be installed in a manner that will hold water and not drain completely. All sections of wet piping shall be drainable. Trapping of piping is prohibited.

(b) Metal rain leaders shall be seamless aluminum or be coated with an approved non-toxic material. Copper and lead-bearing soldered joints are prohibited.

(c) Piping from down spouts to storage tanks shall be a minimum of three (3) inches interior diameter. The overflow device shall consist of a pipe three (3) inches in diameter minimum or a pipe with a cross sectional area equal to or greater than the total of all downspouts.

(d) There shall be no direct connection of any rainwater catchment pipe system and any domestic potable water pipe system without an approved backflow prevention device.

1300.8 Pre-Filtration and First-Flush Diverters.

(a) All potable rainwater catchment systems shall be fitted with a pre-filtration device. It is recommended that pre-filter screens are a maximum of one-thirty-second inch (1/32"). The

screen should be washed clean of debris after each rain event.

(b) All potable rainwater catchment systems shall have a first-flush diverter installed in a manner which will divert the first flow of water from the catchment surface. First-flush diverters shall be installed after the pre-filtration device.

(c) Water drained from the first-flush diverter will be piped away from the storage tank and terminate in a location which will not cause damage to property or erosion.

(d) First-flush diverters shall be sized so that the minimum volume of the water diverted is at least equal to one (1) gallon (3.8L) per each one hundred (100) square foot (9.3 m2) of catchment area served.

(e) First-flush diverter vessels shall have a cleanout fitting in the bottom of the device. Cleanouts shall be removed and the accumulated debris washed out after each rain event. First-flush diverters shall be provided with an automatic means of self-draining between rain events.

1300.9 Storage Tanks.

(a) Storage tanks shall be opaque or painted to prohibit algae growth.

(b) Storage tanks shall be listed for use with potable water in accordance with NSF/ANSI 61, including liners or epoxy coatings when specified. Storage tanks that have been previously used for other purposes or manufactured from recycled materials are prohibited. Storage tanks shall be completely covered and any vent or other opening screened to prevent mosquito breeding. Covers shall be sturdy and constructed in such a way that they will not allow water to pond or collect on the surface. Covers shall be adequately secured to prevent unauthorized access.

(c) Storage tanks shall provide adequate access for cleaning and maintenance purposes.

(d) Storage tanks shall be as close to the catchment area as is practical and protected from direct sunlight in an approved manner. Adequate protections shall be implemented to protect the tank and connected piping from freezing.

(e) Storage tanks shall be provided with an overflow equal or greater in size to the tank inlet. Overflows shall be piped away from the tank and the water shall be disposed of in a manner that will not cause damage to property or erosion. Overflow drains shall be equipped with durable animal guards or screens. The discharge location of the overflow water shall be in accordance with City of Atlanta codes and ordinances.

(f) Above ground storage tanks shall be placed on a stable, level surface of sufficient strength to accommodate the size and weight of a full tank.

(g) Buried plastic storage tanks shall be reinforced and able to withstand the weight of the surrounding fill and soil and full capacity of water. Underground tanks shall also have physical protection from surface water intrusion. Concrete tanks which are above ground or underground shall be constructed to withstand the load of water capacity and any other

applicable structural forces.

(h) Tanks shall be vented. The vent shall turn down and be equipped with a screen with no opening greater than one-sixteenth (1/16) inch (approximately 2 mm).

1300.10 Sewer Charges Applicable to Rainwater Systems.

Owners or occupants of a lot, parcel of land, premises or facility discharging wastewater, industrial wastewater, or other liquids which either directly or indirectly enter into the City's water pollution control facilities, or ultimately enter the facilities, that is primarily supplied with water from potable rainwater catchment systems shall be exempt from the requirement in Atlanta City Code § 154-277 (d) to install and maintain a meter on the supplies from the potable rainwater catchment system. Said owner or occupant shall instead be charged a flat annual sewer charge. Said flat annual charge shall be calculated by charging the applicable base sewer service charge in addition to the lowest tier rate per hundred cubic foot of water usage. For purposes of said flat annual sewer charge, one hundred cubic feet of water usage shall be equivalent to seventy-five (75) gallons of storage capacity in the potable rainwater catchment system's cistern and/or in-ground storage tank. For purposes of said flat annual sewer charge, storage capacity measurements shall be rounded to the nearest seventy-five (75) gallon increment.

1300.11 Pressure Tanks and Pumps.

(a) If pressure tanks and pumps are used, they shall be manufactured and installed in accordance with the International Plumbing Code.

(b) It is recommended that water intake supply from storage tanks are from a floating, submerged intake screen. If a non-floating intake pipe is used, the pipe shall not be less than four (4) inches (101.6 mm) above the bottom of the tank.

1300.12 Water Treatment.

(a) All potable water rainwater catchment systems shall be treated to prevent sediment and water borne organisms that may exist from reaching the end point of use. Treatment shall occur between the storage tank and point of end use.

(b) Sediment filtration of 5 microns or less shall be provided for reduction of contaminants that may mask bacteria or cloud the water before disinfection. All filters shall be of adequate size to extend service time. Cartridge filter elements shall be replaced as recommended by the manufacturer. All filters shall be NSF/ANSI 51: Food Equipment Materials (plastics, materials and components used in food equipment).

(c) Carbon filtration shall be provided for improving taste and reduction of odor and organic chemicals. All filters shall be NSF/ANSI 51.

(d) All filtration shall be installed before disinfection systems according to manufacturers recommendations. Filtration and disinfection systems shall be located as close to the final point of use as possible.

(e) Following the above filters an automatic disinfection device either chemical injection, ozone generators, or ultraviolet (UV) light shall be installed.

(f) If ozone generators are used, provisions shall be made for venting per manufacturer recommendations.

(g) UV light systems shall be sized based upon the maximum rated flow. UV lamps shall be maintained as per the manufacturers requirements but shall be replaced after not more than ten thousand (10,000) hours of operation. UV light systems shall have a bulb life monitor that provides some indication when the bulb life is dying or dead. NSF/ANSI 55 standard for Class A UV treatment systems or units with comparable performance capabilities are recommended for UV light systems. Ozone generators or chorine pump injectors shall be sized and maintained as per the manufacturer's recommendation. A failsafe in any automatic unit is recommended to shut off a valve, preventing water flow if any fault occurs in the unit.

(h) Installation of a manual City water hand valve after the backflow prevention device is recommended to be able to switch to City water in the event of a power outage.

1300.13 Testing.

(a) Harvested rainwater shall be tested (1) whenever a new system is constructed, (2) when major repairs occur to an existing system, and (3) whenever the residential building changes ownership to ensure an analytical testing laboratory finds the rainwater safe before drinking.

(b) Testing for general water quality parameters at least every six (6) months is recommended. Standard coliform tests for microbial contaminants are also recommended at least every six (6) months. Potable rainwater catchment system owners should contact an approved analytical testing laboratory to learn the proper method of obtaining a sample for testing. If chemical disinfectants are used, chemical residual levels should be tested as recommended by the disinfection system manufacturer. Chemical testing for heavy metals (lead, mercury, arsenic, cadmium, at a minimum) are also recommended at least once a year.

(c) System owners shall remedy any failure of any water quality test. Until an approved analytical testing laboratory deems the potable rainwater catchment system safe, the system shall not be active. This includes reconnecting to the City water system until the rainwater catchment system passes subsequent general water quality parameter and coliform tests. A host of chemical contaminants can be found in collected rainwater from environmental sources, animal sources and from materials used in and around the neighborhood from which the rainwater is collected. Insects, animals, bacteria, viruses and parasites create potential sources of contamination of a water supply that is not properly serviced and maintained.

1300.14 Severability.

If the provisions of any section, subsection, paragraph, subdivision or clause of Section 1300 shall be adjudged invalid by a court of competent jurisdiction, such judgment shall not affect or invalidate the remainder of any section, subsection, paragraph, subdivision or clause of Section 1300.

SECTION 2: That Section 154-277 (d) of the Atlanta City Code be amended to read as follows:

Independent water supply; installation of meter. In the event a lot, parcel of land, premises or facility discharging wastewater, industrial waste, water, or other liquids which either directly or indirectly enters into the City's water pollution control facilities, or ultimately enters the facilities, is supplied either in whole or in part with water from wells or any source other than the City Bureau of Operations – Drinking Water, those wells or other sources of supply shall be registered with the City Bureau of Operations – Drinking Water on or before the effective date of this article, and if not measured by a water meter, the owner or occupant shall, at his own cost, install and maintain a meter on the supplies in such a location and in such a manner as is satisfactory to the commissioner. These meters shall serve as a control for the establishment of the sewer service charge and shall be read monthly or bimonthly by employees of the City Bureau of Operations – Drinking Water. Rainwater catchment systems installed and operated pursuant to Atlanta City Code Section 1300 of Appendix C "Plumbing Code Amendments," Chapter I shall be exempt from the requirements of this subsection.

SECTION 3: If the provisions of any section, subsection, paragraph, subdivision or clause of this ordinance shall be adjudged invalid by a court of competent jurisdiction, such judgment shall not affect or invalidate the remainder of any section, subsection, paragraph, subdivision or clause of this ordinance.

SECTION 4: That all ordinances or parts of ordinances in conflict herewith are hereby waived to the extent of the conflict.

TRANSMITTAL FORM FOR LEGISLATION

TO: MAYOR'S OFFICE **ATTN: CANDACE L. BYRD**

Dept.'s Legislative Liaison: Bill Hosken

Contact Number: 404-954-8490

Originating Department: Mayor's Office – Office of Sustainability

Committee(s) of Purview: ~~Finance Executive Committee~~ CUC

Chief of Staff Deadline: April 22, 2011

Anticipated Committee Meeting Date(s): May 10-11, 2011

Anticipated Full Council Date: May 16, 2011

Legislative Counsel's Signature: MARC GONCHER

Commissioner's Signature:

Chief Information Officer Signature (*for IT Procurements*) N/A

Chief Procurement Officer Signature: N/A

CAPTION

AN ORDINANCE TO AMEND CHAPTER I. ENTITLED "ADMINISTRATION" OF APPENDIX C ENTITLED "PLUMBING CODE AMENDMENTS" TO ADOPT SECTION 1300 ENTITLED "REQUIREMENTS FOR RAINWATER CATCHMENT SYSTEMS FOR RESIDENTIAL POTABLE USE"; TO REGULATE POTABLE RAINWATER CATCHMENT FOR RESIDENTIAL USE; TO INSTITUTE SAFEGUARDS THAT ENSURE POTABLE RAINWATER CATCHMENT SYSTEMS DO NOT INTERFERE WITH THE CITY OF ATLANTA WATER SUPPLY; TO STREAMLINE THE INSTALLATION OF POTABLE RAINWATER CATCHMENT SYSTEMS; TO AMEND CHAPTER 154 "UTILITIES", ARTICLE V. "SEWAGE DISPOSAL," DIVISION 3 "RATES AND CHARGES," SECTION 277 "SEWER SERVICE CHARGE", SUBSECTION (D) TO EXEMPT RESIDENTIAL RAINWATER CATCHMENT SYSTEMS FROM THE REQUIREMENT TO INSTALL AND MEASURE WATER USAGE THROUGH METERS TO DETERMINE SEWER SERVICE CHARGES; AND FOR OTHER PURPOSES.

Received by Mayor's Office/Brenda Gonzalez 4/22/2011

FINANCIAL IMPACT: (if any) N/A

Mayor's Staff Only

Received by CPO: _____ **(date)**

Received by LC from CPO: _____ **(date)**

Received by Mayor's Office: _____ **(date)**

Reviewed by: _____ **(date)**

Submitted to Council: _____ **(date)**

Part II: Legislative White Paper: (This portion of the Legislative Request Form will be shared with City Council members and staff)

A. To be completed by Legislative Counsel:

Committee of Purview: Finance Executive Committee

Caption: AN ORDINANCE TO AMEND CHAPTER I. ENTITLED "ADMINISTRATION" OF APPENDIX C ENTITLED "PLUMBING CODE AMENDMENTS" TO ADOPT SECTION 1300 ENTITLED "REQUIREMENTS FOR RAINWATER CATCHMENT SYSTEMS FOR RESIDENTIAL POTABLE USE"; TO REGULATE POTABLE RAINWATER CATCHMENT FOR RESIDENTIAL USE; TO INSTITUTE SAFEGUARDS THAT ENSURE POTABLE RAINWATER CATCHMENT SYSTEMS DO NOT INTERFERE WITH THE CITY OF ATLANTA WATER SUPPLY; TO STREAMLINE THE INSTALLATION OF POTABLE RAINWATER CATCHMENT SYSTEMS; TO AMEND CHAPTER 154 "UTILITIES", ARTICLE V. "SEWAGE DISPOSAL," DIVISION 3 "RATES AND CHARGES," SECTION 277 "SEWER SERVICE CHARGE", SUBSECTION (D) TO EXEMPT RESIDENTIAL RAINWATER CATCHMENT SYSTEMS FROM THE REQUIREMENT TO INSTALL AND MEASURE WATER USAGE THROUGH METERS TO DETERMINE SEWER SERVICE CHARGES; AND FOR OTHER PURPOSES.

Council Meeting Date: May 16, 2011

Requesting Dept.: Mayor's Office – Division of Sustainability

B. To be completed by the department:

1. Please provide a summary of the purpose of this legislation (Justification Statement).

The purpose of this legislation is to create a billing rate structure and provide guidelines for the use of residential potable rainwater catchment systems.

2. Please provide background information regarding this legislation.

The City seeks to be a global leader in sustainability initiatives. City residents want guidelines for potable rainwater catchment systems. The City should establish minimum criteria under which potable rainwater catchment systems may operate. The City needs to identify a billing method for the wastewater treatment of rainwater, since currently residents are not paying for this service.

3. <u>If Applicable/Known:</u>

(a) Contract Type (e.g. Professional Services, Construction Agreement, etc): N/A

(b) **Source Selection: N/A**

(c) **Bids/Proposals Due: N/A**

(d) **Invitations Issued: N/A**

(e) **Number of Bids: N/A**

(f) **Proposals Received: N/A**

(g) **Bidders/Proponents: N/A**

(h) **Term of Contract: N/A**

4. **Fund Account Center: N/A**
5. **Source of Funds: N/A**
6. **Fiscal Impact: N/A**
7. **Method of Cost Recovery: N/A**

This Legislative Request Form Was Prepared By: Bill Hosken