KASH SRINIVASAN
COMMISSIONER

City of Wilmington
Delaware

LOUIS L. REDDING CITY/COUNTY BUILDING
800 FRENCH STREET-6TH FLOOR
WILMINGTON, DELAWARE
19801-3537

DEPARTMENT OF PUBLIC WORKS
Water Division

January 31, 2010

Katherine E. Bunting-Howarth, J.D., PhD. Director
Department of Natural Resources and Environmental Control
89 Kings Highway
Dover, DE 19901

RE: Certification of Adequate Water Supply/Consumer Water Conservation Plan
City of Wilmington

Dear Ms. Bunting-Howarth:

In response to your letter dated December 8, 2009, the City is pleased to provide a single filing in accordance with the Water Self-Sufficiency Act, Title 26, Chapter 14. The City previously submitted a response in September and November 2009, but you cited inconsistencies with these responses. We trust that this submittal clarifies these inconsistencies and meets the demand analysis requirement. If you have a specific format, or additional information is required, please let us know. In the future, guidance information from DNREC may help standardize Utility responses to the Act.

If you have any further questions, please contact Colleen Arnold, Assistant Water Division Director at 302-576-3017.

Sincerely,

Kash Srinivasan
Commissioner of Public Works

CC: Sean Duffy, Matt Demo

City of Wilmington Certification of Adequate Water Supply for Projected Year (2012)

Previous water usage, future growth potential and water supply self-sufficiency projections from the UD Water Resources Agency (2/20/2009) were reviewed.

As documented previously, the Brandywine Creek is Wilmington's primary source of water supply. For Water Year 2008, USGS reports that the Brandywine Creek annual average flow was 411 cfs or 266 MGD. This is well above the City's water supply needs.

The City uses Hoopes Reservoir as a secondary water source. The City recently completed an expansion of the Hoopes Reservoir whereby the spillway was raised 2 feet, capturing an additional 150,000 gallons. The reservoir now stores a nominal volume of 2.15 Billion Gallons, 1.95 BG of which is usable.

The City of Wilmington has sufficient sources of water supply to provide adequate supply to meet the projected demand for the Reporting Year 2009, which in this case is Calendar Year 2012. The Water Resource Agency projected maximum monthly demand of 26.5 MGD for the City of Wilmington for 2012 compared to a supply of 38.3 MGD. The City is well positioned to meet this demand with a projected surplus of about 12 MGD.

During a drought of record, based on the previous drought of 2002, the Brandywine Creek can fall below the City's supply needs. For example, during the record drought of 2002, the Brandywine Creek streamflow fell below the City's demand for 16 consecutive days to a record low of 21 MGD, well below the 7Q10 of 49 mgd. During 2002, Hoopes Reservoir supplied up to 20 MGD to meet the City's water demand, with the remaining demand met by supply from the Brandywine Creek. In addition during this same period, the City was able to make releases of water from Hoopes Reservoir to the Red Clay Creek at the request of United Water Delaware to supplement stream flows at United Water's intake at Stanton.

It should be noted that even during a drought of record, the City is well positioned to take advantage of limited precipitation events (when flows in the Brandywine Creek will increase for short periods of time) and decrease the releases of water from Hoopes Reservoir and at times even replenish reservoir water.

The City would be able to provide adequate supply to meet demand for up to 90 consecutive days of continuous historical record low water flows in the Brandywine Creek. This scenario is extremely unlikely and much more extreme than the conditions experienced during the 2002 drought of record.

City of Wilmington Water Conservation Rates

The City of Wilmington approved Water Conservation Rates for residential water customers in fiscal year 2006. These rates took effect July 1, 2005. The purpose of the conservation rate structure was to promote water conservation among City of Wilmington water customers, by sending a price signal.

Since July 2005, residential rates are **Inclining Block Rates**, where rates are designed on a tiered structure with higher rates for the usage at the higher blocks. The rate structure varies between the Residential and Non-Residential class of customers.

Inside-City Residential Customers: (Up to one inch meter size): These customers are provided a quarterly allowance of 8,000 gallons as part of the meter size based quarterly Facilities Charge. Any usage over 8,000 gallons and up to 15,000 gallons is charged at the rate of $3.059 per 1,000 gallons, per quarter. Usage over 15,000 gallons is charged at the rate of $3.822 per 1,000 gallons, per quarter

Inside City Residential Customers: (Greater than one inch meter size): These customers do not have any usage allowance as part of their quarterly Facilities Charge. All usage up to 15,000 gallons is charged at the rate of $3.059 per 1,000 gallons, per quarter. Usage over 15,000 gallons is charged at the rate of $3.822 per 1,000 gallons, per quarter

Outside-City residential customers: These customers have a similar rate structure with identical usage allowance as the inside city residential customers. However, the rates per tier are different. Usage up to 15,000 gallons is charged at $5.536 per 1,000 gallons, per quarter; and usage greater than 15,000 gallons is charged at $6.918 per 1,000 gallons, per quarter.

In addition, in order to encourage low water consumption, the quarterly usage allowance for residential customers was decreased from 10,000 gallons to 8,000 gallons on July 1, 2005. This means that customers who use less than 8,000 gallons or less per quarter are charged a Quarterly Facilities Charge only.

The City recently launched a new financial accounting system including a Customer Information and Billing (CIS/Billing) system. As such and stated previously, accurate water consumption data is not readily available prior to Fiscal Year 2008. However, the tables on the following page show the water production data going back to July 1996. A consistent declining trend in production is evident since July 2005 when conservation rates were enacted. Please note however that other factors such as an increased focus on leak detection may also account for the decline.

Wilmington Water Production - July 1996 through June 2009

Conservation Rates began

FY	Time Frame	PFP Total Water Filtered (MG)	BFP Total Water Filtered (MG)	Total Water Produced (MG)	% Difference from Previous Year	Total Known Consumption (MG)
FY97	Jul 96 - Jun 97	7,398	2,790	10,188		
FY98	Jul 97 - Jun 98	6,510	2,608	9,119	10%	
FY99	Jul 98 - Jun 99	6,656	2,172	8,828	3%	
FY00	Jul 99 - Jun 00	5,938	2,496	8,433	4%	
FY01	Jul 00 - Jun 01	5,736	2,283	8,018	5%	
FY02	Jul 01 - Jun 02	6,422	2,306	8,728	-9%	
FY03	Jul 02 - Jun 03	6,027	1,970	7,998	8%	
FY04	Jul03 - Jun04	6,333	2,029	8,362	-5%	
FY05	Jul04 - Jun05	5,817	2,346	8,163	2%	
FY06	Jul05 - Jun06	4,886	2,537	7,423	9%	
FY07	Jul06 - Jun07	5,045	1,832	6,877	7%	
FY08	Jul07 - Jun08	5,179	1,651	6,830	1%	4,129
FY09	Jul08 - Jun09	5,608	1,112	6,525	4%	4,241

	Annual Flow Produced (MG)	**Average Daily Flow (MGD)**
4 Year Average Before Conservation Rates	8,313	22.8
4 Year Average Daily Flow after Conservation	6,963	18.9