CITY OF West Linn

# Memorandum

Date: June 17, 2010

To: Chris Jordan, City Manager

From: Dennis Wright, City Engineer

Subject: Water Master Plan (WMP) Questions from Councilor Cummings

Below are answers to inquiries presented by Councilor Cummings at the June 14, 2010 City Council meeting:

1) Have we set a new storage standard with the 2008 Water Master Plan?
*With the 2008 Water Master Plan, a different method of water system evaluation was introduced. Formerly the City evaluated adequate storage by considering the various components of storage (equalization, operational, fire, and emergency). The City now uses the System Performance Methodology which differs in that it takes a more holistic look at the different uses for water and considers all of the components in the water system that function to meet those uses. A clear comparison between the 2004 and 2008 plans cannot be given but the following hopefully will provide some insight:*
*The 1999 WMP recommended 2.66* Average Daily Demand (ADD) of storage capacity which was reduced to 1.57* ADD by the 2004 WMP Update. The storage increase to buildout has changed as well over the last three plans: the 1999 WMP called for 6.65 million gallons (mg) of additional storage; the 2004 WMP recommended construction of 1.5 mg, while the 2008 WMP recommends 2.3 mg.*

2) We know the system needs to be larger as 20% - 25% of our land has not yet built out; to what extent is the new system larger than the old system?
*Physically, the extent of the system has not changed between 1999, 2004, and 2008 as all only consider the existing Urban Growth Boundary (UGB). Reservoir capacity is recommended to be increased from 5.5 mg by 2.3 mg. Specifically, pages 6-14 through 6-15 of the 2008 WMP state:*
*"Where feasible, improvements are configured to address deficits in more than one (1) pressures zone.*

- *Bolton Reservoir Replacement: Construction of a new ground level reservoir to replace the existing Bolton Reservoir would address the current issues with the long-term maintenance of the Bolton Reservoir as well as the 0.8 mg deficit in the Willamette pressure zone and the 0.4 mg deficit in the Robinwood pressure zone. The capacity of the Bolton Reservoir will depend on a number of factors as previously discussed. For the purposes of this analysis, it is recommended that a 4.0 mg reservoir be constructed to replace the existing Bolton Reservoir. This reservoir volume provides replacement capacity for the existing Bolton Reservoir of 2.0 mg, addresses the combined storage deficit of the Willamette and Robinwood pressure zones of 1.2 mg and provides and additional 0.8 mg of storage to offset emergency supply needs. Further refinement of the required capacity should be completed based on the outcome of discussion with neighboring water suppliers to secure reliable peak season emergency supply capacity.*
- *0.3 mg Bland Reservoir No. 2: Construction of a new ground level 0.3 mg reservoir in the Bland pressure zone would address this pressure zone deficit.*

- *Bland Intertie Supply to Rosemont: Construction of a new booster pump station at the Bland Reservoir site to supply the Rosemont pressure zone would address the deficiency in the Rosemont and Horton pressure zones by providing adequate emergency supply capacity. Included with this improvement is a provision for installation of backup power supply to operate the pump station during an emergency."*

3) Staff mentions about an overall reduced cost in their 10/31/2008 memo. What does that mean in comparison to the need to increase the rates?
*Specifically the October 2008 memo states: "This whole system approach results in an overall reduced cost to maintain adequate levels of service." The System Performance Method of evaluating the City's water system results in lower quantities of storage required (less reservoir storage construction) than would have otherwise been recommended in the plan. As noted above, the recommended increase in storage is greater than that recommended by the 2004 WMP Update. Increased rates are needed for system improvements identified in the WMP.*

4) The City raised water rates in 2005, 2006, 2007... The 10/31/2008 memo mentions that only an emergency project was done on Buck Street. Why were the rates raised but only one project done?
*Water line replacement projects done during the time previous to 2005 were funded predominately from the Water Fund contingency, spending the fund to a level lower than normally acceptable for West Linn. The initial rate increases were used to rebuild the contingency, to prepare for unexpected system failures such as funding the emergency on Buck Street, and to comply with bond covenant requirements.*

5) The need to replace aging pipes is understood; but, to what extent is this 2008 Water System Master Plan upsizing pipes? It is based on a new water storage standard that is much higher?
*The State of Oregon increased required residential fire flow from 1,000 gallons per minute (gpm) to 1,500 gpm in 2007. Much of the pipe upsizing is required to ensure delivery of this increased quantity of water to residences should a fire occur. There are also pipes to be upsized to accommodate for development/growth in the City which will be paid for by system development charges assessed on new development. The waterline line increases are predominantly unrelated any increase in water storage standard.*

6) To what extent are the pumping capacity and storage increased from the 2004 plan?
*Storage increase was addressed in the answer to question #1 above.*
*The 2004 WMP called for an additional pump in the Bolton pump station (three pumps are installed and one vacant space for one additional pump remains) and a new View Drive pump station (constructed by developer and turned over to City in conjunction with subdivision approval). The 2008 WMP recommends expansion of the emergency intertie pump station with Lake Oswego (two pumps are installed and one vacant space for one additional pump remains) and construction of a pump station at the Bland reservoir site with an intertie to the Rosemont pressure zone.*