



*We Think the World of Water*

**PACIFIC**

**WATER RESOURCES, INC.**

4905 SW Griffith Drive, Suite 200, Beaverton, Oregon 97005

503.671.9709  
fax: 503.671.0711  
info@pacificwr.com  
www.pacificwr.com

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Joel B. Komarek, PE  
Project Director, Lake Oswego Interceptor Replacement  
4101 Kruse Way  
Lake Oswego, OR 97034

**Re: Pump Rate Required for Maintaining Oswego Lake Drawdown; PWR File #1294**

Dear Joel:

Pacific Water Resources, Inc. (PWR) estimates a 150 cubic feet per second (cfs) firm pumping rate would be required to draw the lake down to a planned elevation of 74.6 feet (i.e. 24-foot drawdown; all elevations NGVD29) to achieve a 90%-probability of a maximum drawdown elevation of 76.6 feet (i.e. 22-foot drawdown) during the period October 15 through January 15. The 2.0-foot lake stage variation between the plan and maximum drawdown provides storage that attenuates stormwater inflows to the lake and reduces the firm pumping capacity required. A higher nominal pumping capacity is recommended to provide for pump redundancy.

For the period January 16 through March 21, PWR estimates a 50 cfs firm pumping rate would be required to maintain the lake at a planned elevation of 80.5 feet (i.e. 18.1-foot drawdown) in order to achieve a 90%-probability of a maximum drawdown elevation of 82.6 feet (i.e. 16-foot drawdown). The 2.1-foot lake stage variation between the plan and maximum drawdown provides storage that attenuates stormwater inflows and reduces the firm pumping capacity required. A higher nominal pumping capacity is recommended to provide for pump redundancy. Under actual operation, the lake will be allowed to fill from the pre-January 15 22-foot plan drawdown to the 18.1-foot plan drawdown through March 21. This 3.9-foot storage volume avoids some of the required pumping volume, but PWR has not yet estimated its effect on potentially reducing the firm pumping rates.

The above estimates are based on modeling inflow, storage and outflow in Oswego Lake from a 58-year simulation of continuous hourly watershed runoff. Details of the model will be documented in a separate report anticipated for completion next month. The 90% probability discussed above means that under the drawdown scenario modeled, maximum drawdown elevation for each year exceeded the desired maximum lake stage 10% of the years. Beyond this probability regional flooding from the Tualatin River overflows the headgate into Oswego Lake. These overflows were not included in this analysis as they quickly exceed the local inflow rates and were deemed impractical for pumping.

Sincerely,  
Pacific Water Resources, Inc.

Seth Jelen, PE  
Vice President