OSU-C SUSTAINABLE WATER SYSTEM WATER PLANNING
EXHIBIT 5 to RFQ 2021-005505

LRDP Campus Water Demand Estimates

PN# 2117-18

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MEMORANDUM

Date: May 11, 2017

To: Beth Foster, PAGE and Eric Ridenour, SERA

From: Crystal Grinnell, Biohabitats, Inc.

RE: OSU-Cascades LRDP
Subject: Campus Water Demand Estimates

Based on programming provided by PAGE/SERA on February 6, 2017, detailed per capita water demand estimates have been refined for both Business as Usual (Baseline) and High Efficiency scenarios for the OSU-Cascades campus. Matrices presenting these calculations will be included in the final LRDP report. Both scenarios assume a 5,000 student campus (3,900 full time equivalent) with 40% of students living on campus (2,000 beds). A summary of the average daily values have been included, below, to assist with communications with the City of Bend. These values present water demand estimates for a **weekday, during the school year**, at full campus build-out and exclude outdoor demand, such as irrigation. These values do not include the Innovation District.

Baseline indoor water demand (potable and non-potable) is estimated at approximately 197,000 gallons per day (gpd) during the school year

- Estimated demand based on 'Typical' wastewater generation rates[1]

High Efficiency indoor water demand (potable and non-potable) is estimated at approximately 154,000 gpd during the school year. If OSU-Cascades treats wastewater onsite for reuse, the demand for potable City water could be reduced by an amount equal to the non-potable demand. Thus, the demand for City water could be reduced from approximately 154,000 gpd to 93,000 gpd.

- Campus-wide emphasis on water conservation
- High efficiency fixtures
- Potable demand (includes drinking, cooking, hand-washing and laundry), approximately 93,000 gpd
- Non-potable demand (toilet-flushing), approximately 61,000 gpd

[1] Metcalf & Eddy, Inc. and George Tchobanoglous and H. David Stensel and Ryujiro Tsuchihashi and Franklin Burton. Wastewater Engineering: Treatment and Resource Recovery, 5th ed. 2014.