INTRODUCTION

Hansen, Allen & Luce, Inc. has been asked to review the above referenced development to determine effects of the development on the City water system. The following document were included in our review:

- FCCBH MOAB 18-419 Drawings dated July 24, 2019
- Irrigation Related Drawings Sheets LI101, LP101, and LP102 dated July 1, 2019
- Water Fixer Count Spreadsheet dated January 6, 2020

WATER DEMAND PROJECTIONS

A water demand estimate has been provided by the developer's engineer. We offer the following comments:

1. The water demand calculations don't account for outdoor use. The calculations should be updated to include the outdoor use.

2. The water demand calculations provide conflicting fixture count information in different columns. The fixture count information should be clarified.
3. Fixture count information is helpful in determining the meter and service line size; however, peak and average day water demand calculations should also be provided. It is recommended that these be based on the Utah Division of Drinking Water rule {R309-510-7 U.A.C}.

4. The required fire flow demand should be included in the water demand calculations.

LOCAL MODEL CALIBRATION

It is recommended that a fire flow test be performed on the fire hydrant near the proposed development (300 North). Information from the flow test can be used to calibrate the water system model as this location.

MODELING RESULTS

Even though final water demand values are not available, preliminary modeling was done for the site with HAL estimates. Initial modeling results predict that the peak day water pressure will typically be around 80 psi to 85 psi at the site. If a fire were to occur at the site, a fire flow of 1,500 gpm is expected to be available, with local pressures dropping to 65 psi. However, some areas of the City, particularly those at a higher elevation, may experience less than adequate pressure. This issue is discussed in the City water master plan. Once final water demand values are available, additional modeling can be performed to confirm the results.

OTHER COMMENTS


2. A new water line is shown as being installed between 200 North and 300 North. In 300 North, the water line will connect to the existing 6-inch diameter line. In 200 North, the plans don’t show the connection. Connection details should be provided. See Sheet C-301.

3. Note 8, referencing the new north-south water line, states that it will be provided by “others.” It should be clarified who is constructing this line. See Sheet C-301.

4. Multiple sets of sheet notes, with conflicts, are included on Sheet C-301. These should be corrected. Note 8 refers to both a 2-inch diameter line and an 8-inch diameter line.

5. The building water demand notes do not match the provided water demand calculations.

6. A post indicator valve should be included on the plans and should be constructed in accordance with fire code. This requirement should be discussed with the fire official.

7. A service connection and water meter are shown as tying into the new water main. This would put the water meter on private property. The City may wish to have the water
meter located in the public right of way or may wish to obtain easements for access.

8. A note should be added clarifying that the trench section detail titled "Excavation & Backfill / Irrigation and Water Pipe" applies to pipes on private property. The trench section for water lines on the public right of way shall be according to the Utah APWA standards.