



6162 S. Willow Drive, Suite 320
Greenwood Village, CO 80111
303.770.8884 • GallowayUS.com

September 29, 2020

Aurora Water
15151 E. Alameda Ave., Suite 3600
Aurora, CO 80012

RE: Utility Conformance Letter – Lot 1, Block 8 Citadel on Colfax Filing No. 1 – Murphy Express

To Whom It May Concern,

The purpose of this letter is to show conformance of the proposed development in Lot 1, Block 8 of the Citadel on Colfax Filing No. 2 with the previously completed *Master Utility Report – Citadel on Colfax* by Galloway & Company, Inc. in November 2017, hereinafter referred to as the *Master Study*. The subject property is 1.07 acres and is proposed to be developed as a fueling station. The lot is a pad ready lot as part of the infrastructure installed with the overall development for the Citadel on Colfax.

The Master Study identifies this lot as a portion of Planning Area 3 (PA-3) which is consistent with the Master Plan prepared for the site. Planning Area 3 is made up of three separate lots. The Master Study identified the use for these lots as commercial use with an area of 3.28 acres and a building area of 30,000 sf. The Murphy Express lot area is 1.07 acres with a building area of 2,824 sf. Therefore, the Murphy site accounts for approximately 33% of the land area of PA-3 while only accounting for approximately 10% of the building area.

Water System

There is currently an 8" water main that runs through the access road to the south of the lot. The water main within the subdivision has been installed through the site creating the necessary loop. The proposed water service will connect to the 8" water main near the southwest corner of the site. A fire hydrant is proposed at the southeast corner of the site.

As was mentioned previously the Murphy site accounts for only 10% of the building area while accounting for one third of the land area. The Master Study planned for a max day and max hour demand of 9.96 gpm and 14.05 gpm respectively for all of PA-3. Based on Section 5.02.3 of the Aurora Water, Sewer, and Storm Drainage Standards (current edition at the time the master study was completed), the proposed Murphy site will have a max day and max hour demand of 0.94 gpm and 1.32 gpm respectively. Calculations assume 14.46 gpm/acre-building for max day and 20.40 gpm/acre-building for max hour demand.

The City of Aurora has adopted the 2015 IFC for their fire code. The proposed Murphy has a floor area of 2,824 sf. The building construction type II-B (non-sprinklered). Per Table B105.1(2) in Appendix B of the IFC Type II-B buildings require a fire flow of 1,500 gpm. Based on Section 5.02.2 of the Aurora Water, Sewer, and Storm Drainage Standards, the required fire flow for commercial use is 2,500 gpm. The water model in the Master Study shows an available fire flow of 3,000 gpm for the fire hydrant located at the southeast corner of the lot (J-50).

Per the WaterCAD model all of the demands, including the fire demand, work within the existing water system as it was designed in the Master Study. No modification is necessary to the existing system.



Sanitary Sewer System

There is currently an 8" sanitary sewer main constructed within the access road south of the site. The alignment of the sanitary sewer main is being changed during this design and the easement release and rededication for the sanitary sewer is in progress. The Murphy Express sanitary sewer service is proposed from the south side of the building and would connect to the existing 8" sewer main within the access drive.

The Master Study planned for a Peak Daily Flow with Inflow & Infiltration of 21,648 gpd for PA-3. Based on the assumption of 1500 gpd/acre for commercial wastewater average day flow in the Master Study, the Murphy Express would have an average day flow of 1,605 gpd and a peak daily flow (with inflow and infiltration) of 7,062 gpd. This is less than one third of the planned 21,648 gpd in the Master Study.

Based on this the sanitary sewer is in conformance with the Master Plan. No changes to the sanitary sewer are required as a result of this project.

Conclusion

In conclusion, the proposed development conforms with the intent and planned demands presented in the Master Study that was completed for the subdivision. The proposed water and sewer demands are less than what was previously planned. The proposed development will have no adverse effects on any of the downstream systems.

Sincerely,
GALLOWAY

Zachary Stone, PE
Civil Project Engineer
ZacharyStone@gallowayus.com
303-770-8884