

February 18, 2022

File: 1158-13-01

MEMORANDUM - LETTER OF AVAILABILITY

From: Bryant Griffin, P.E.

To: Jon Foutch, DUD Manager

Re: **The Overlook Subdivision - Review of Water Availability**

We have completed our review of the proposed Overlook Subdivision - a preliminary plat prepared by Ragan Smith, Inc., and submitted for review by the Property Owner, David Wileman. In general, the development will consist of subdividing a parcel of land into 61 separate tracts for residential homes. Provisions for sewage treatment were not identified on the preliminary plat. The proposed entrance to the development is located approximately 0.10 miles west of the intersection of Dale Ridge Road and Long Branch Road.

Existing water lines within the DeKalb Utility District (DUD) distribution system that are near the proposed development include a 6-inch PVC Class 200 water line along Dale Ridge Road. Proposed water service for the subdivision can be provided from this existing water line.

Based on current operating conditions within the distribution system, static water pressure will range between 50-60 psi at the point of connection to DUD. The water pressure at the proposed point of connection was determined by performing a hydrant flow test. The existing hydrant adjacent to Dale Ridge Road located approximately 0.10 miles southwest of the intersection of Dale Ridge Road and Ashburn Circle was flowed. A peak demand of 35 gallons per minute (gpm) was estimated for the 61 proposed residential homes. See attached "Hydrant Flow Test Report" and "Location Map" showing flow results, hydrant location, and existing water lines in the area of the proposed development.

Summary of Findings

The water system is capable of providing domestic water service to the proposed development. Since the proposed development is approximately 200 feet lower in elevation than the point of connection to the DUD water system, the static water pressure in the subdivision will exceed 100 psi. It is H&D's recommendation that individual pressure reducing valves be installed on the customer's side of each water meter and box. It should be noted that the



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available pressures stated above are at the point of connection to DUD, and does not include losses that may occur due to metering, private service lines, backflow prevention, and changes in site elevation or multi-story construction.

In order to provide fire flow capabilities, the Water System must be able to meet TDEC's fire flow requirements of 500 gpm at 20 psi. **Fire flow requirements cannot be met for the proposed subdivision.** Therefore, H&D does not recommend the installation of fire hydrants on the existing water main.

Please call if you have questions or require additional information.

Thanks,

A handwritten signature in blue ink that reads "Bryant Griffin".

Bryant Griffin, P.E.

Attachments: Hydrant Flow Test Report and Location Map

Hydrant Flow Test Report

Test Date 1/14/2022

Test Time 9:45 AM

Location

Dell Ridge Road
Smithville, TN

Tested by

Hunter Hethcoat -H&D
John Foutch - DUD

Notes

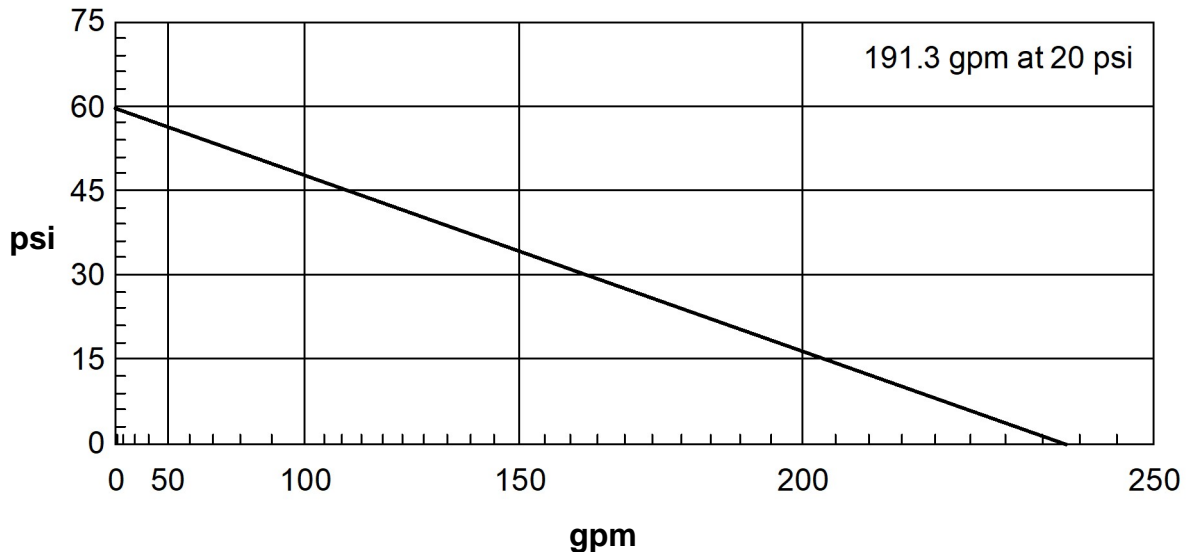
Read Hydrant

60 psi static pressure
1 psi residual pressure
hydrant elevation

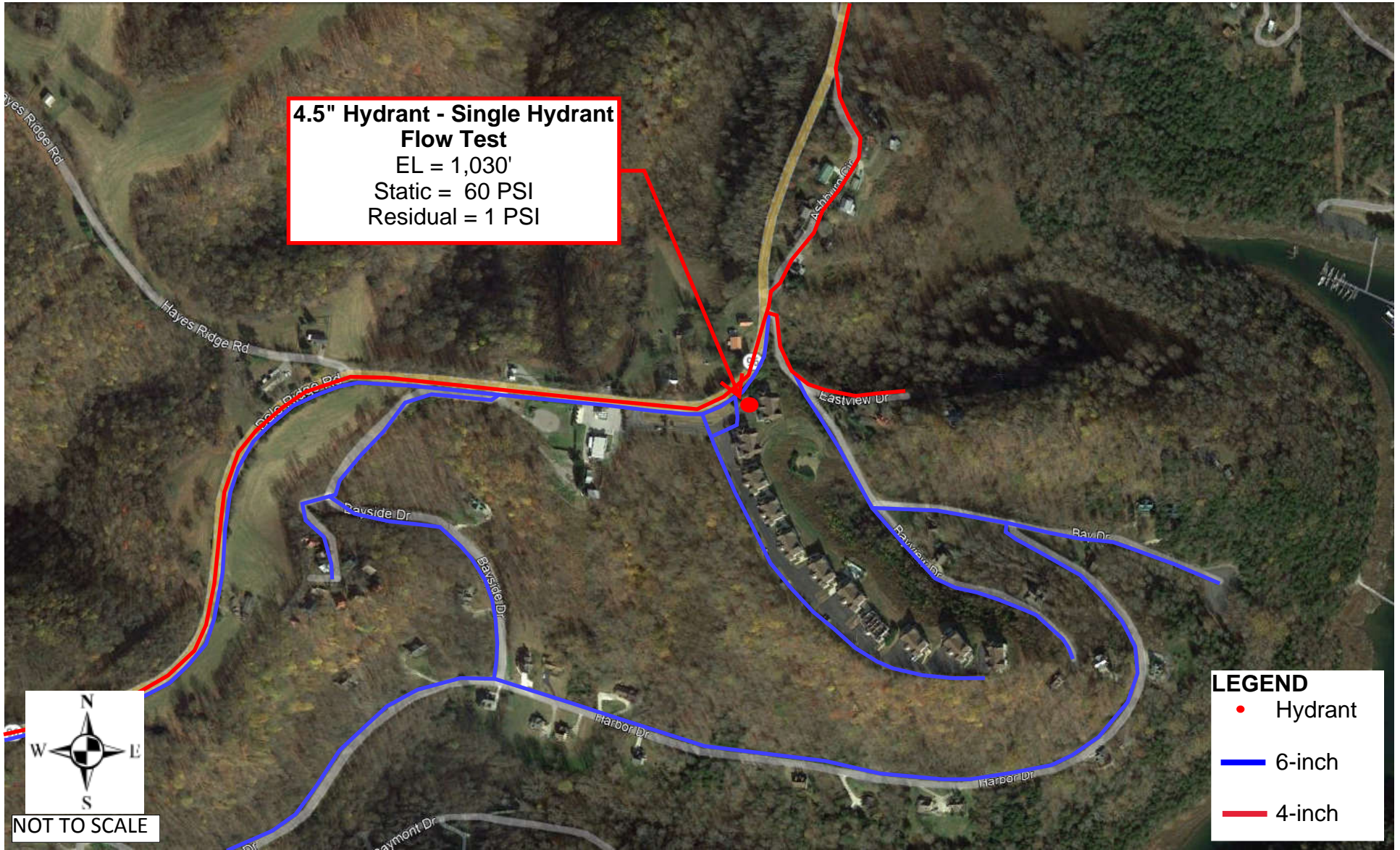
Flow Hydrant(s)

Outlet	Elev	Size	C	Pitot Pressure	Flow
#1		2	1.4	2	236 gpm

Flow Graph



LOCATION MAP



01.14.22 Fire Flow Test
Dale Ridge Road
10:00 AM CST
DeKalb Utility District