



MEMORANDUM

DATE: February 28, 2023
TO: Royce Swensen, Elk Ridge City
FROM: Ryan Selee
PROJECT: Longview & Highlands Subdivisions
RE: Longview & Highlands Subdivisions Storm Drain Review

Mr. Royce Swensen,

Jones and DeMille Engineering (JDE) has completed the preliminary review of the storm drain systems for the proposed Longview Meadow and Highlands at Elk Ridge Phase 1 Subdivisions including the approved final plats and their associated storm drain reports, the letters prepared by Red Brick Solution Consulting Engineers, hired by the residents for review of the proposed subdivisions, and the proposed amendments to the approved final plats and their associated storm drain reports. JDE concurs with the development engineer's sizing of the amended basin design.

In reviewing the original approved final plats, we understand that the detention basin in the Longview Meadow subdivision approved plat will discharge into the City's storm drain system which ultimately discharges into the drainage along Loafer Canyon Road at approximately 11200 South. Since the release rate is in line with the pre-development release rates it shouldn't impact the drainage beyond the current impacts. It's unclear if the existing storm drain is sized, or has accounted for, the detention release waters. The Highlands approved plat uses a retention basin for onsite storm water and does not release onsite storm water. It does, however, allow the Loafer Canyon drainage to flow water at pre-developed discharge rates which should not adversely impact the same drainage.

It appears in the drawings that the Highlands basin may encroach onto adjacent property which may be just a drawing scaling error. The developer should stake the property boundary to ensure no improvements are conducted outside their property boundary.

The basin that has been included as part of the amended plat replaces the Longview Meadow and Highlands basins in the originally approved plats. This new basin is located along or near the existing drainage along Loafer Canyon Road. This newer basin is a retention basin and has been sized using conservative infiltration values from nearby field investigations. We believe this basin has been sized appropriately and, since it is a retention basin it should not release water for the design storm events. An emergency spillway has been included that appears to release water into the nearby drainage.

Additionally, this single basin approach for the two subdivisions would require a permanent public utilities easement for the infrastructure installed to connect the Longview subdivision to Highlands as well as the basin. The easements should be provided prior to beginning construction for either development and the improvements should be constructed with Longview subdivision or whichever subdivision is constructed first.

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After reviewing all the provided information for the final approved plat and the amended plat, it appears the basins have been sized appropriately. However, regardless of which basin is constructed, there wasn't enough information to address a few other concerns. It was difficult to determine if these basins will have embankments rather than be excavated below the existing surface. If they will be constructed using embankments, they may be subject to a dam safety review which may require a dam breach analysis and will determine the fill material specifications and methods of installation. Additionally, landscape plans should be provided to verify the infiltration capabilities. The basin designed for the amended plat seems to better meet the intent of the City's requirements but requires additional information.

To verify this basin the following additional information is needed:

1. Cut sections to determine the shape, size and type (excavated or filled) of berms/embankments.
2. Based on that, whether or not the basin needs to be reviewed by Utah Dam Safety.
3. Landscape plan.

Pending this additional information to verify additional state requirements and confirm meeting Elk Ridge City's adopted standards, the amended storm drain plans generally meet Elk Ridge City Standards. The currently approved final plats were also reviewed and pending the same additional information, generally meet the Elk Ridge City Standards.

Sincerely,
Ryan Selee, PE



Jones & DeMille Engineering

