

Drainage Technical Memorandum

To: City of Litchfield Park
From: Michael Delmarter, P.E.
Date: February 11, 2014
Subject: Wigwam Redevelopment
Parcel B – Northwest Corner of Wigwam Boulevard and Litchfield Road



Purpose

This memorandum has prepared to support the rezoning and general plan amendment effort for approximately 14.88 acres of currently undeveloped land located at the Northwest Corner of Wigwam Boulevard and Litchfield Road in Litchfield Park, Arizona. This memorandum is intended to summarize the existing onsite and offsite drainage conditions affecting the property and proposed drainage concepts that will be further defined with the development of an overall site plan for the property.

Property Description

The undeveloped 14.88 acre site, formerly part of the “Rosewood Plaza” project is located in the south half of Section 21, T.2N., R.1W., GSRBM, and is located at the Northwest Corner of Wigwam Boulevard and Litchfield Road. The site is bounded on the north by Village Parkway, on the east by Litchfield Road, on the south by Wigwam Boulevard and on the east by the Renaissance Villas on the Park Condominium project.

Existing Conditions

The parcel is currently vacant having been historically cleared of vegetation, however it currently has minimal vegetation consisting of some weeds and grasses. The parcel appears to drain towards the southeast corner of the site to a temporary retention basin. This basin has an emergency outfall via a scupper into the back of the catch basin constructed on Litchfield Road immediately north of Wigwam Boulevard.

The site is located in FEMA Zone X per FIRM Map 04013C2155L dated October 16, 2013. Zone X is defined as Areas of 0.2% annual chance flood; areas of 1% annual flood with average depths of less than 1 foot or with drainage areas less than 1 square mile; and areas protected by levees from 1% annual chance flood.

Proposed Development

The parcel is proposed to be rezoned for a mixed use development consisting of Commercial Retail and Residential uses. No specific site plan has been developed at this time.

Proposed Drainage Conditions

The proposed development will utilize surface drainage or storm drains to convey onsite generated stormwater runoff to retention basins. If these basins are incorporated into landscape areas, the maximum water depth will be 3 feet. If site planning dictates that underground storage is necessary, these basins will be located in portions of the site under pavement and/or landscape areas.

The parcel will be required to retain the runoff generated by the 100 year-6 hour design storm event. The stormwater storage requirement is calculated by the formula $V = C * I * A$ where C equals the composite Runoff Coefficient, I = the precipitation value of 2.47 is based on NOAA Atlas 14, and A = the area in acres.

For mixed use, the C Value is assumed to be 0.95. Note: This value may be further refined using composite c values upon development of the final site plans for the parcel.

Therefore, the required retention for the southern parcel = $14.88 * 2.47 / 12 * 0.95 = 2.91$ acre feet.

All basins will be required to bleed of or infiltrate within the Maricopa County 36 hour requirement.

Attachments:

1. FEMA MAP
2. Assessor's Map showing property limits

