

Ronald D. Brown, Chair
Bruce M. Thomson, P.E., Vice Chair
Tim Eichenberg, Secretary-Treasurer
Cynthia D. Borrego, Assistant Secretary-Treasurer
Deborah L. Stover, Director

Jerry M. Lovato, P.E.
Executive Engineer



**Albuquerque
Metropolitan
Arroyo
Flood
Control
Authority**

2600 Prospect N.E., Albuquerque, NM 87107
Phone: (505) 884-2215 Fax: (505) 884-0214
Website: www.amafca.org

April 8, 2015

Mr. James D. Hughes, P.E.
D. Mark Goodwin & Associates, P.A.
P.O. Box 90606
Albuquerque, NM 87199

Via: Electronic Mail

Re: Juan Tabo Hills Estates Onsite Drainage Analysis Report, Volume 1 of 4
Engineer's Stamp Dated 8/20/14

Dear Mr. Hughes:

I have reviewed the referenced report and approve the drainage concept for Preliminary Plat. Although it is not evaluated in the report, the Tijeras Arroyo bank protection will need to be on the Infrastructure List. The report addresses preliminary design of onsite drainage and water quality facilities. I have the following comments for final design:

1. The storm drain into the stormwater quality pond should be at an angle much greater than 90 degrees to provide a smooth hydraulic transition. The outfall should have riprap to mitigate erosion and headcutting on the pipe. Will the City maintain the pond?
2. Some design elements of the stormwater quality pond will need to be revised. There is nothing to keep floatable debris from spilling over into the arroyo. It should have a pipe outfall to the arroyo with a ported riser or similar debris-catching device in the pond.
3. Since the bank protection will be shotcrete, the overflow weir and spillway should also be shotcrete and tie into the bank protection with a riprap dissipator bowl at the bottom of the arroyo.

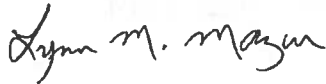
As you proceed with design analysis and plans for the Tijeras Arroyo bank protection, please take the following into consideration:

1. The AMAFCA Board of Directors commented at the October 25, 2012 meeting that drainage impacts on adjacent properties must be considered. Results of hydraulic analyses of existing and proposed conditions must be compared to ensure that increased flow rates and velocities in the Tijeras Arroyo will not cause damage and excessive, long-term erosion. AMAFCA is aware of existing erosion problems on Kirtland Air Force Base that are endangering their crossing structures and other facilities.

2. AMAFCA has a prudent line study of the Tijeras Arroyo on its project schedule. The starting date is pending. Lacking a document to specify an equilibrium slope and locations of future grade control structures, you should calculate the existing potential equilibrium slope from the Juan Tabo bridge to the Wyoming bridge. (This will be a straight grade calculation. Compare it to the 1.25% equilibrium slope from the 1990 DMP). The elevation should be compared to the local scour, and bank protection should extend to the greater depth of the two.
3. The upstream end of the bank protection must tie into something.
4. AMAFCA will need an access road to the bottom of the arroyo.

We can have another meeting to discuss the arroyo design parameters. In the meantime, if you have any questions, please call me at 884-2215.

Sincerely,
AMAFCA

A handwritten signature in cursive script, reading "Lynn M. Mazur".

Lynn M. Mazur, P.E., C.F.M.
Development Review Engineer

c: Rita Harmon, City Hydrology