

P-09 10003

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**Albuquerque
Metropolitan
Arroyo
Flood
Control
Authority**

2600 Prospect N.E., Albuquerque, NM 87107
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January 28, 2008

Mr. Shahab Biazar, P.E.
Advanced Engineering & Consulting, LLC
4416 Anaheim Ave. NE
Albuquerque, NM 87113

Re: PWDN 60111 – Vista Verde Estates, ZAP P-10

Dear Mr. Biazar:

I recently sent comments on this case through the County review process. I am enclosing a copy for reference. The purpose of this letter is to follow-up with detailed analysis, design and construction requirements for the drainage component of the project.

Drainage Management Analysis

The area that comprises this 50-acre subdivision was included in the Amole-Hubbell Drainage Management Plan (DMP), which was prepared for AMAFCA in 1999. It is part of the South Rio Bravo Arroyo basin and contains the downstream end of the arroyo. The Amole-Hubbell DMP was updated by the Borrega Detention Dam and North Borrega Channel DMP (April 2000), which called for diversion of a large amount of runoff from the upstream South Rio Bravo basin to the Borrega basin and, subsequently, away from the Vista Verde property. Development plans for a majority of the upstream drainage basins have been submitted and approved, and they follow the DMP's.

The remaining drainage basin south of Dennis Chavez Boulevard, east of Grace Vigil/Karroll Road, north of the Borrega Dam outlet and west of the Gun Club Lateral is approximately 60 acres. It was not studied in any detail in the Borrega DMP, so I have created a mini-DMP for the area. Attached is a basin map that shows the following development assumptions:

- Vista Verde Estates will drain to the South Rio Bravo Arroyo.
- The lots south of Meade have already been developed into one-acre lots, and I assumed those will remain.
- I assumed approximately 10 acres adjacent to Dennis Chavez will drain to the storm drain outfall proposed for a portion of Ceja Vista Subdivision, Phase One.
- The County-owned property that has the historic Hubbell House will drain to the Hubbell Channel.
- Runoff from the remaining area should be calculated at six dwelling units per acre (6du's/acre) as specified for this area in the County Zoning, Building, and Planning Department's Southwest Area Plan.

A future conditions hydrologic model should be compiled based on these assumptions. The offsite basin flow will be used as the comparison flow for the size of the South Rio Bravo channel or pipe. Runoff from Vista Verde Estates should be added at the end to determine the total comparison flow and volume for the detention pond. As stated in my previous comments, results from the future conditions model should be compared to the results from the existing, interim model to determine the controlling flow rate and volume.

Design Parameters

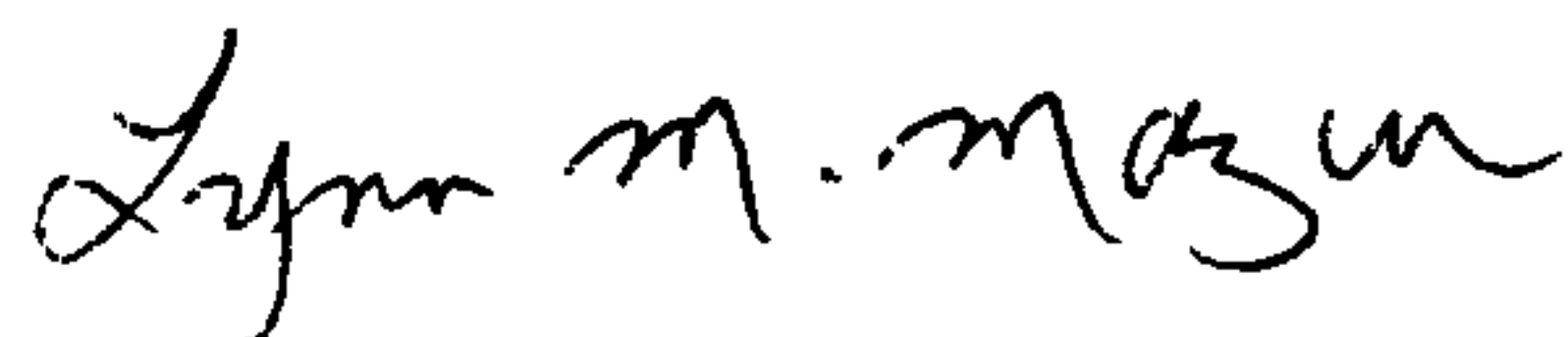
- Swales or berms should be placed close to the east property line to convey onsite runoff from Vista Verde to the detention pond.
- To avoid a submittal to the Office of the State Engineer, the maximum pond storage should be less than 10 acre-feet and the height of the berm should be less than 10 feet.
- The pipe outfall to the Hubbell Dam will require a ring chamber dissipator with riprap downstream of the dissipator. A design manual is in the AMAFCA library.
- AMAFCA has Lidar topo of the offsite area that can be used for a portion of the pipe design. For the portion of pipe through the Hubbell Dam embankment, AMAFCA will require a topo survey since it has been eroded by the South Rio Bravo Arroyo.

Construction

- The outfall pipe from the pond will pass under the existing culvert in the Gun Club Lateral. Contact Ray Gomez at MRGCD for an application for a utility crossing license. It may be beneficial for ease of construction and MRGCD maintenance to remove the existing culvert and replace it with an open ditch.
- Construction of the outfall pipe through the Hubbell Dam embankment will require a turnkey agreement and private storm drain license with AMAFCA, which will require approval from the Board of Directors.

If you have any questions, please call me at 884-2215.

Sincerely,
AMAFCA



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

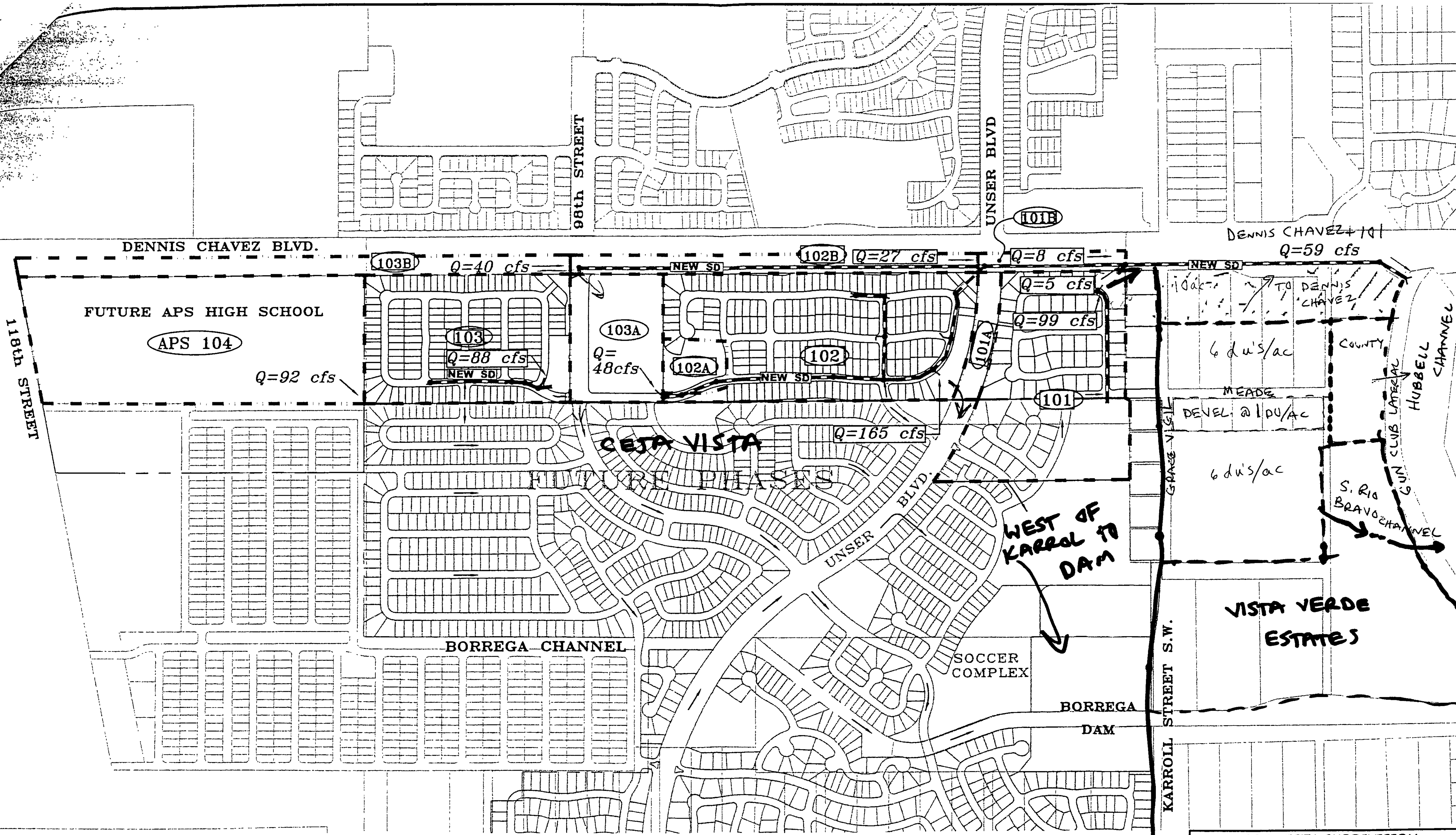
Cc: Jame Eisenberg, County Public Works
Brad Bingham, City Planning, Hydrology
Ray Gomez, MRGCD

Preliminary Comments

To: Jame Eisenberg, BC PWD
From: Lynn Mazur, AMAFCA
Date: January 16, 2008
Re: AMAFCA Comments for PWDN 60111

PWDN 60111 Resubmittal – Vista Verde Estates, ZAP P-10

1. AMAFCA will require compliance with the Amole-Hubbell Drainage Management Plan, which proposes an improved drainage conveyance for the South Rio Bravo Arroyo to the Hubbell Dam. This facility can be an open channel or a pipe. A pipe will be acceptable if onsite and offsite flow are collected in an onsite detention pond.
2. The future developed flow rate and volume from the offsite basin east of Karroll Road will need to be compared with the existing, interim flow rate and volume that has already been calculated. The greater of the two will control the size of the detention pond and pipe outfall.
3. The pipe outfall will cross the Gun Club Lateral; therefore, a license with MRGCD will be required.
4. Construction within AMAFCA right-of-way at Hubbell Dam will require a license. AMAFCA will accept maintenance of the riprap beyond the pipe outlet.
5. A Drainage Easement for the pipe or channel and the detention pond will be required and can be dedicated by plat. Whether it will be a public or private easement will be determined at a later date.



DENNIS CHAVEZ BLVD.

98th STREET

UNSER BLVD

DENNIS CHAVEZ + 101
Q=59 cfs

FUTURE APS HIGH SCHOOL

APS 104

118th STREET

Q=92 cfs

103B

Q=40 cfs

NEW SD

102B

Q=27 cfs

Q=8 cfs

NEW SD

103

Q=88 cfs

NEW SD

103A

Q=48 cfs

102A

NEW SD

102

101A

Q=5 cfs

Q=99 cfs

101

NEW SD

6 du's/ac

MEADE

DEVEL. @ 1 DU/AC

6 du's/ac

VISTA VERDE ESTATES

CEJA VISTA

FUTURE PHASES

Q=165 cfs

UNSER BLVD.

WEST OF KARROLL TO DAM

SOCCER COMPLEX

BORREGA CHANNEL

BORREGA

DAM

KARROLL STREET S.W.

S. RIO BRAVO CHANNEL

HUBBELL CHANNEL

LEGEND

103

PROPOSED BASIN ID

--- PROPOSED BASIN BOUNDARY

SOUTH RIO BRAVO CHANNEL
MINI-DMP



SCALE: 1" = 600'

CEJA VISTA SUBDIVISION
FUTURE DEVELOPED CONDITIONS
DRAINAGE BASIN MAP

dmg MARK GOODWIN & ASSOCIATES, P.A.
CONSULTING ENGINEERS
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