

Sunrise Ranch West Unit 2 Revisited CPN 675782

September 2019- Curtis Cherne, DRC

Items to complete:

1. 1/2 street section on 106th st from existing road north to Sunset Gardens.
2. 60" storm drain from existing storm drain north to Sunset Gardens. - *confirm report first*
3. Maintain existing drainage capacity of combination of swale and inlet/pipe flow.
4. Possible edge treatment to keep drivers out of new pond/swale. *if match Section on south end of 106th, else*
5. Approved grading plan drainage report for how #3 above will work. *included not req'd*
6. Engineers certification of grading and drainage after it is complete.

Latest FG was \$176k. Sounds about right for this amount of work.

Performing a site visit tomorrow to see if there are any additional issues.

1. NO visible signs of
significant off-site flows.

2 new drainage report may change
requirement for 60" SD

Cherne, Curtis

From: JL Murtagh <JL@wcinm.com>
Sent: Wednesday, September 25, 2019 1:27 PM
To: Biazar, Shahab; Cherne, Curtis
Cc: LaBadie, Charlotte T.
Subject: RE: Sunrise Ranch West Unit 2 Project Number 675782

Thank you Shahab.

I can meet with Curtis any time he has availability this week.

Thanks,
JL

✓ done in file
for notes, I had
meeting w/ Rick.
L

From: Biazar, Shahab [<mailto:sbiazar@cabq.gov>]
Sent: Wednesday, September 25, 2019 1:24 PM
To: Cherne, Curtis
Cc: JL Murtagh; LaBadie, Charlotte T.
Subject: RE: Sunrise Ranch West Unit 2 Project Number 675782

Curtis,

Can you please look into Sunrise Ranch West Unit 2, City Project Number 675782. Mr. Murtagh likes to meet with us on this project.

Thanks



SHAHAB BIAZAR, P.E.

city engineer

development review services

o 505.924.3999

e sbiazar@cabq.gov

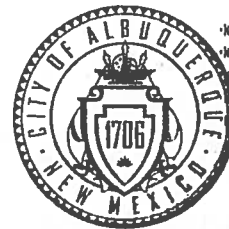
cabq.gov/planning

From: JL Murtagh [<mailto:JL@wcinm.com>]
Sent: Wednesday, September 25, 2019 10:54 AM
To: Biazar, Shahab
Subject: Sunrise Ranch West Unit 2 Project Number 675782

Good morning Shahab,

I have taken over on this project from Rick Beltramo, and I am trying to determine the scope of work required to complete the project and get the bond released. I believe that Rick and you and City staff communicated several years ago about the above project and its required infrastructure. At the current time, I only have the original plans and the

CITY OF ALBUQUERQUE



May 20, 2015

David Thompson, P.E.
Thompson Engineering Consultants, Inc.
PO Box 65760
Albuquerque, NM 87193

**Re: Sunrise Ranch West Subdivision
Analysis for 106th St SW
Drainage Report, Engineer's Stamp Date 3-24-2015 (File: L08D14)**

Dear Mr. Thompson:

Based upon the information provided in your submittal received 3-24-15, the above referenced Submittal cannot be approved until the following conditions/ comments are addressed:

- Provide a plan view of the stub out improvement, reflecting the slope of 0.0057 used to calculate the flow.
- Original storm drain design captured flows from the west. With the grated manhole closed all flows from the west will be carried in the channel. Channel should be widened for this additional capacity allowing 1 foot of free board.

PO Box 1293

Albuquerque

If you have any questions, you can contact me at 924-3695.

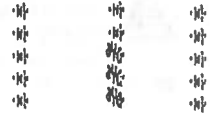
New Mexico 87103

www.cabq.gov

Sincerely,

Rita Harmon, P.E.
Senior Engineer, Planning Dept.
Development Review Services

Orig: Drainage file
c.pdf Addressee via Email, Monica Ortiz



March 24, 2015

Mr. Curtis Cherne, P.E.
Principal Engineer, Planning Department
Development and Building Services
City of Albuquerque
P.O. Box 1293
Albuquerque, NM 87103

Re: SUNRISE WEST RANCH SUBDIVISION 106TH STREET CAPACITY

Dear Mr. Cherne:

This letter presents our summary of our analysis of the capacity of 106th Street SW as it exists today adjacent to the Sunrise West Ranch subdivision. We used the information provided in the Drainage Report for the Sunrise Ranch West Subdivision dated September 7, 2001 prepared by Mark Goodwin & Associates to determine the offsite flows reaching 106th Street from the west. Based on our analysis, 106th Street has adequate capacity to convey the offsite flows to the existing detention pond at the corner of 106th Street and Eucariz Ave.

According to the Sunrise Ranch West Subdivision Drainage Report, the runoff from basins 20101A and 20104A drain to the 106th Street right-of-way. Figure 4 of the Drainage Report shows that Basin 20101A discharges 195 CFS to 106th Street and Basin 20104A discharges 14.1 CFS to 106th Street. Therefore, a total of 219.1 CFS is conveyed in 106th Street during a 100-year storm.

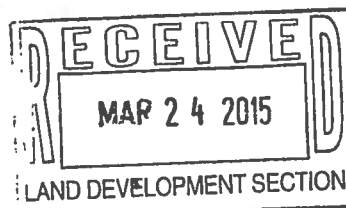
Currently, 106th Street includes a ½ paved street section with a 24 foot-wide paved width and an asphalt-lined channel with a 10-foot wide bottom width and a 6:1 side slope that is 10 feet -wide and a 2:1 side slope that is also 10 feet-wide. The invert of the channel section is about 1.11 feet lower than the flow line of the ½ paved street section.

To calculate the street capacity we used software that calculates flow capacity for an irregular cross section with varying Mannings roughness coefficients. For a peak flow of 219.1 CFS, the depth of flow in the street section is 1.612 feet. The maximum depth in the street section is 0.502 feet deep. The velocity of the peak flow is 7.05 fps. So, there is more than enough capacity in 106th Street to convey the peak flow to the pond.

If you should have any questions about this analysis, please call me at 271-2199.

Sincerely,

David B. Thompson, P.E.



Manning Formula:

Irregular Section

Input

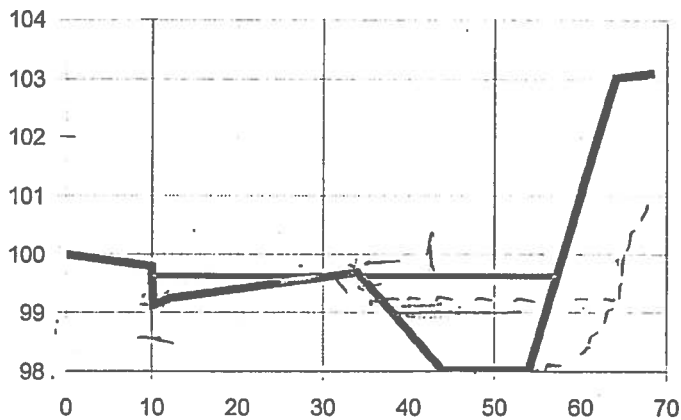
Flow 219 cfs
Slope 0.0057 ft/ft

Sta	Elev	n	Sta	Elev	n	Sta	Elev	n	Sta	Elev	n
0.0	100.0	0.013	4.0	99.92	0.013	10.0	99.80	0.03	10.17	99.13	0.013
12.17	99.25	0.013	34.0	99.69	0.017	44.0	98.02	0.017	54.0	98.02	0.017
64.0	103.02	0.017	68.0	103.1	0.030						

Output

WSElev 99.632 ft
Flow Area 31.0 sf
Velocity 7.05 fps
Velocity Head 0.773 ft
Top Width 44.0 ft
Froude Number 1.48
Critical WSElev 99.872 ft
Critical Slope ft/ft

manning



note pre and post

IV. INTERIM DRAINAGE CONDITIONS

To develop the entire project site, offsite flows presently entering the site from west which includes an arroyo located within a FEMA floodplain will need to be intercepted and directed south to the existing 60" storm sewer in Eucariz. An attempt to acquire a temporary offsite detention pond on the property to the west (SB 160A) to intercept and attenuate a majority of the offsite flows outside of the public right-of-way was unsuccessful. The alternative solution is to intercept a portion of these flows into the proposed 60" storm sewer in 106th street through a 5'x5' median drop inlet with the remaining flows to be conveyed through a temporary swale located within the western half of the 106th street right-of-way. Flows intercepted by the storm sewer will be conveyed south and continue east in the existing 60" Eucariz storm sewer to the Snow Vista Sedimentation Pond. Flows conveyed in the temporary swale will discharge into the existing offsite 106th St. detention pond located at 106th street and Eucariz. There is excess capacity in the existing 106th street detention pond to accommodate a portion of the additional runoff from the flows originating from the 100 year floodplain arroyo. The combination of the temporary swale and outfall structure have been designed to intercept runoff from the 100-year storm. Capacity calculations and rating tables for the outfall structures are in Appendix B.2.

The Snow Vista Basin "existing conditions" AHYMO model has been revised to reflect this interim condition and demonstrates that capacity exists in the offsite 106th St. pond and does not exceed the downstream capacity in the Snow Vista channel (refer to Appendix A.3). The outfall structure in the existing pond will be modified to remove the 30" CMP inlet on the 24" RCP. Details for this modification will be designed at DRC.

The original AMAFCA Snow Vista Basin existing conditions AHYMO model has been revised to reflect changed 'existing conditions' in the area as well as changes as a result of the proposed Sunrise Ranch West development. The revised Snow Vista Basin "existing conditions" is schematically shown in Figure 4. The revisions to the original 'existing conditions' Snow Vista Basin Management Plan AHYMO model are as follows:

1. Original subbasins 20101 and 20104 were revised to eliminate the area east of 106th street which is now the project site.
2. Offsite flows from subbasin 20101A and 20104A were routed south into the offsite 106th St. Sunrise Terrace detention pond located at 106th street and Eucariz.
3. The portion of the original subbasins 20101 and 20104 east of 106th street was renamed as Subasin 180 (proposed Sunrise Ranch West) and routed through the 60" storm sewer in Eucariz which discharges into the Snow Vista Sedimentation Pond.
4. The 30" CMP outfall structure in the 106th St. Sunrise Terrace pond was removed, allowing the existing 24" RCP to become the 'flow restricting' outfall structure. The rating table for this pond was revised to reflect this new configuration and existing topo conditions verified in the field.

All of these changes have been incorporated into AMAFCA's Snow Vista Basin 'existing conditions' AHYMO model to make sure that the Snow Vista master planned storm sewer will function conceptually and that the