

Drainage Reports

Abbreviated Water & Sewer Need Reports

Water Study

Wastewater Study

Stormwater Waiver Application

BELLISSIMA ESTATES

NW QUARTER SECTION 20

TOWNSHIP 3 NORTH, RANGE 5 EAST

GILA & SALT RIVER BASE AND MERIDIAN

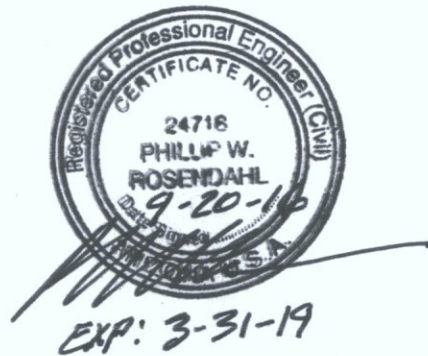
MARICOPA COUNTY, ARIZONA

WASTEWATER DESIGN REPORT

Accepted For:
City of Scottsdale
Water Resources Department
9379 E. San Salvador
Scottsdale, Arizona

By: Don Mann
Date: 9.29.16

SEE COMMENTS



4-PP-2016
9/26/2016

ROSENDAHL ENGINEERING PLLC

URBAN DESIGN & INFRASTRUCTURE

RESIDENTIAL & COMMERCIAL

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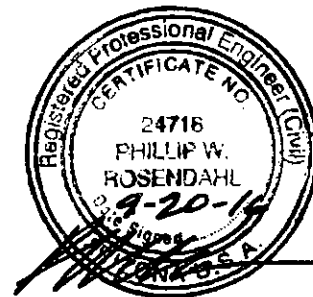
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APPENDIX

Location Map

POCKET

Site Plan



EXP: 3-31-19

A. INTRODUCTION:

Bellissima Estates is anticipated to be a 6-lot-subdivision located in the NW quadrant of E. Jenan Drive and N. 98th Street, being a portion of the NW quarter of Section 20, Township 3 North, Range 5 East of the Gila and Salt River Base and Meridian. It is described as Lot 2 of the Minor Land Division-Lot Line Adjustment of Bellissima Farms. The property is a 5.79 acre parcel on property that has been used as a horse property for breeding and training horses. Due to the recent demolition of out buildings and corrals the site is relatively void of vegetation except for the bushes around the perimeter of the property. It is mild sloping at slightly less than 1% from North to South. N. 98th Street is paved without curb and gutter and E. Jenan Drive is paved on the South side of the street with a 4 inch rolled curb. The site is zoned R1-35 as is the surrounding property.

B. DESIGN DOCUMENTATION:

The wastewater system for this project will be designed in compliance with the City Design Standards & Policies Manual and in accordance with the requirements of Maricopa County Environmental Services Department.

This project being relatively simple will require the use of some basic hydraulic design tools, such as Manning's Open Channel Equation for showing the cumulative effect of this development on the existing sewer system that it will be tied into.

C. EXISTING CONDITIONS:

As previously mentioned, this area is zoned R1-35 for single family residences, which is compatible with the neighborhood development. Being formerly used as horse property and requiring some demolition to proceed with this project the area is relatively void of vegetation except around the perimeter. It is gently sloping from North to South at 1%, very uniformly. There is a 6 inch ACP water line in N. 98th Street, tying into an 8 inch diameter water line in E. Jenan Drive these existing lines will adequately service the 6 homes domestic water needs. There is an 8 inch sewer line in N. 98th Street running from E. Cactus Road approximately 400 feet South, however this line is too shallow to be of any use to these 6 lots. There exists a sewer manhole on an 8 inch sewer line in E. Jenan Drive approximately 116 feet from the centerline of N. 98th Street, this manhole is of adequate depth to extend to N. 98th Street and then North to service the northerly most lot, as the existing terrain slope assists to this end.

D. PROPOSED CONDITIONS:

It will be necessary to extend the sewer line in E. Jenan Drive to N. 98th Street and then North approximately 850 feet to service all 6 lots of the development, each lot having a sewer service located in the approximate center of the lot. A copy of the site plan has been included in the pocket, showing the sewer line extension. The sewer line extension will become the property of the City and therefore will be under their maintenance jurisdiction.

E. COMPUTATIONS:

From the City Design Standards & Policies Manual, for the 6 homes planned for this development the average daily flow of wastewater will be 1,500 gallons per day, the peaking factor to be used for the wastewater system design is 4 for a peak daily flow of 6,000 gallons/day. This equates to 0.0093 cubic feet per second. The plan will be to extend the existing sewer in E. Jenan Drive at a 1% slope to a point that will provide sewer service to Lot 1 of this development. Using Manning's Equation and an 8" PVC sewer pipe flowing half full at the 1% slope, the pipe will carry 0.63 ft.³/sec. At the peak daily flow this development will add 0.0093 ft.³/sec. to this flow or 1.4%. The velocity in the pipe under these hydraulic conditions will be 3.5 ft./sec. We did not calculate the depth of flow in the pipe for this small amount of flow at uppermost reach of the sewer line.

F. DESIGN DOCUMENTATION:

Nothing further.

G. SUMMARY:

We anticipate extending the existing 8" sewer line in E. Jenan Drive to N. 98th Street then North to where Lot 1 can be serviced. All the design standards and policies of the City have been met. The extension of the sewer line will begin as soon as possible after the Preliminary Plat, Improvement Plans have been approved and the Final Plat recorded. This will most likely happen close to the end of the year. Construction of the improvements will begin in early January and be complete early to mid March.

Pls Note No Bldg permit will be issued until the sewer construction has been accepted by the city

No FEE credit Available

MAY FILE A STANDARD PAYBACK AGREEMENT for properties to the west of 98th. No city participation available