Preliminary Sewer Report

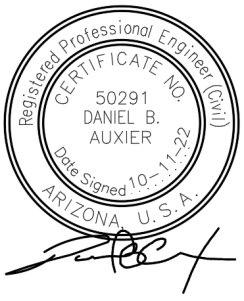
For

Arizona Farms

Pinal County, Arizona

Owner/Developer
El Dorado Arizona Farms, LLC, an
Arizona Limited Liability Company
8501 N. Scottsdale Road Suite 120
Tel: 602-955-2424
Contact: Brad Hinton

Civil Engineer
EPS Group Inc.
1130 N. Alma School Road, Ste. 120
Mesa, AZ 85201
Tel: 480-503-2250
Contact: Daniel Auxier



Project No. 21-0483

Date: October 2022

1130 N. Alma School Road, Suite 120
Mesa, AZ 85201
o: 480.503.2250
f: 480.503.2258

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1.0 Introduction

Arizona Farms, the Project, is a proposed residential development of 3,126 lots on approximately 760 acres. The site is bounded by E Arizona Farms Road to the north, N Felix Road to the East, E Heritage Road to the South, and the Copper Basin Railway to the West. By legal description, the property is located in a portion of land located in both Section 1, Township 4 South, Range 8 East, and Section 6, Township 4 South, Range 9 East of the Gila and Salt River Base Meridian, Pinal County, Arizona, Assessor Parcel Numbers (APN) 200-31-007B,D,E,F,G,K,L, 200-24-001R, and W.

This report will review the preliminary design of the Arizona Farms water system. The project will have three connection points. Two of the connection points are into the existing 12" waterline in E. Arizona Farms Road along the northern border of the site. The third connection point is to a proposed 12" waterline in E. Heritage Road along the southern border. A 12" waterline is being proposed within N. Felix Road, the projects eastern border, to have a looped system. The connections are shown in the Water exhibit in Appendix A.

In conversations with EPCOR, a Water Campus being fed by some existing and proposed wells, is being proposed onsite. This Water Campus will be designed to supply water not only to Arizona Farms but also adjacent residential developments in the area. Once information from EPCOR on the final design of the water campus is available and provided, the Final Water Report for Arizona Farms will be updated accordingly.

The calculations of water demand in this report were based on system design criteria in the EPCOR 2015 Developer & Engineering Guide.

2.0 Water Design

2.1 Design Criteria

The system shall be designed to maintain a pressure between 40 psi and 80 psi during normal operating conditions. The minimum allowable pressure under fire flow conditions is 20 psi. EPCOR allows a 1,000 gpm fire flow under Max day demand plus fire flow conditions. The site has an existing well which will be utilized. An additional well and a water campus will be required to serve the proposed development. See Appendix A for the locations of the existing well, the two proposed locations of the new well site, and the proposed water campus.

2.2 Flow Tests

The water system will be tested for pressure during final design. Once the hydrant flow test is performed, the average pressure will be used as the initial pressure at the connection point for the project.

2.3 Calculations

Water demand for the Project is based on the following criteria for Single Family, Multi Family and Commercial Land Use:

Single Family:

- Average Daily Demand – 360 gpd/unit x 2311 DU = 831,960 gpd = 577.75 gpm
- Max Day – 1.8 (Peaking Factor) x A.D.D. = 1,497,528 gpd = 1040.0 gpm
- Peak Hour Demand – 3.0 (Peaking Factor) x A.D.D. = 2,495,880 gpd = 1,733.19 gpm
- Fire Flow = 1000 gpm

Multi Family:

- Average Daily Demand – 240 gpd/unit x 815 DU = 195,600 gpd = 135.83 gpm
- Max Day – 1.8 (Peaking Factor) x A.D.D. = 352,080 gpd = 244.50 gpm
- Peak Hour Demand – 3.0 (Peaking Factor) x A.D.D. = 586,800 gpd = 407.50 gpm
- Fire Flow = 1000 gpm

Commercial:

- Average Daily Demand – 1,700 gpd/acre x 38.55 Acres = 65,535 gpd = 45.51 gpm
- Max Day – 1.8 (Peaking Factor) x A.D.D. = 117,963 gpd = 81.92 gpm
- Peak Hour Demand – 3.0 (Peaking Factor) x A.D.D. = 196,605 gpd = 136.53 gpm
- Fire Flow = 1000 gpm

Total Flows:

- Average Daily Demand = 831,960 gpd + 195,600 gpd + 65,535 gpd = 1,093,095 gdp = 759.09 gpm
- Max Day – 1.8 (Peaking Factor) x A.D.D. = 1,967,571 gpd = 1,366.37 gpm

- Peak Hour Demand – 3.0 (Peaking Factor) x A.D.D. = 3,279,285 gpd = 2,277.28 gpm
- Fire Flow = 1000 gpm

2.4 Pressure Analysis

Pressure Analysis for the water system will be completed at the tentative plat and/or final plat phase of the project. The water system will be modeled using Bentley WaterCAD V8i. The system will be evaluated for the average day demand, maximum day demand, maximum day plus fire flow, and the peak hour demand.

2.5 Conclusions

- EPCOR Water design standards will be met.
- All internal water lines will be 8" in diameter.
- The system will have three connection points. Two connection points are to an existing 12" waterline in E. Arizona Farms Road, the northern border and one connection point to a proposed 12" waterline in Heritage Road, the southern border.
- A 12" waterline is proposed in E. Heritage Road and N. Felix Road.
- System will serve 3,126 lots.
- Pressure is expected to be acceptable for fire flows per EPCOR standards.

Appendix A:

Water Exhibit

E. ARIZONA FARMS ROAD

EX 12" WATER

CONNECT TO EXISTING 12" WATERLINE

FUTURE WATER CAMPUS WITH TWO PROPOSED WELLS

MATCH SHEET 2

MATCH SHEET 4

scale: 1" = 100'

100 0 100 200 feet

EPS GROUP
1130 N. Alma School Rd
Suite 120 Mesa, AZ 85201
T:480.503.2250 | F:480.503.2258
www.epsgroupinc.com

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SHEET
1
OF 8

E. ARIZONA FARMS ROAD

EX 12" WATER

EX 12" WATER

CONNECT TO EXISTING 12" WATERLINE

100 0 100 200
scale: 1" = 100' feet

MATCH SHEET 1

MATCH SHEET 3

MATCH SHEET 5

MATCH SHEET 6

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E. ARIZONA FARMS ROAD

EX 12" WATER

EX 12" WATER

100 0 100 200
scale: 1" = 100' feet

MATCH SHEET 2

MATCH SHEET 6

PROPOSED 12" WATER

N. FELIX ROAD

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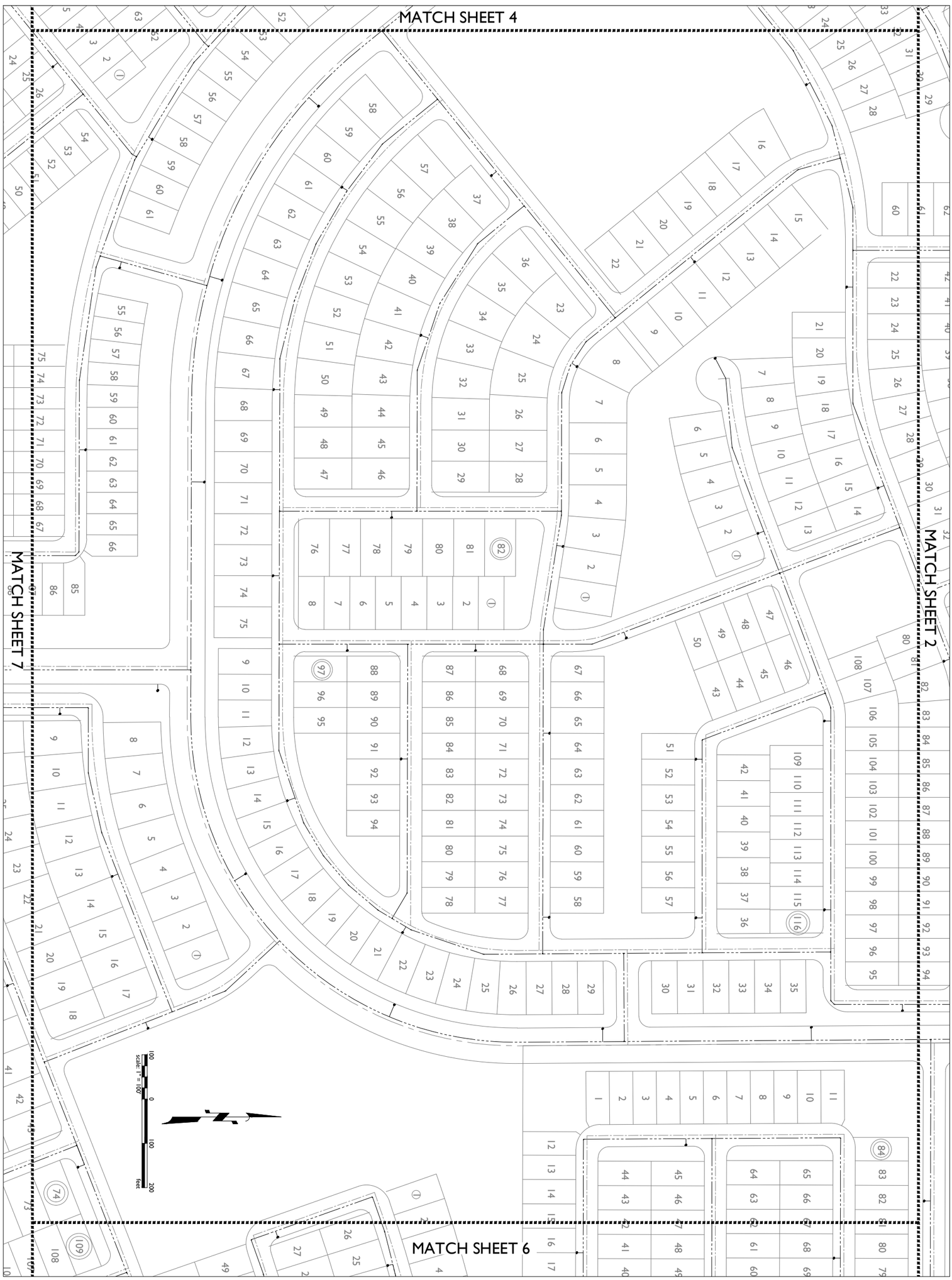

SHEET	JOB NO	21-0483 - Arizona Farms Pinal County, Arizona	EPS GROUP
5 OF 8	21-0483	Water Exhibit	1130 N. Alma School Rd Suite 120 Mesa, AZ 85201 T:480.503.2250 | F:480.503.2258 www.epsgroupinc.com

MATCH SHEET 2

MATCH SHEET 3

MATCH SHEET 5

MATCH SHEET 7

MATCH SHEET 8

N. FELIX ROAD

PROPOSED 12" WATER

scale: 1" = 100'

100 0 100 200 feet

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MATCH SHEET 4

MATCH SHEET 5

MATCH SHEET 6

MATCH SHEET 8

100 0 100 200
scale: 1" = 100' feet

EX 12" WATER

PROPOSED 12" WATER

CONNECT TO EXISTING 18" SEWER

CONNECT TO EXISTING 18" SEWER

E. HERITAGE ROAD

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SHEET
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MATCH SHEET 6

MATCH SHEET 7

N. FELIX ROAD

PROPOSED 12" WATER

PROPOSED 12" WATER

E. HERITAGE ROAD

100 0 100 200
scale: 1" = 100' feet

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