



Green Valley Special Utility District

Precision Strand and Rebar Water Service Feasibility Study

August 2023

Prepared by:
**Utility Engineering Group,
PLLC**
191 N. Union Avenue
New Braunfels, Texas 78130
Phone: (830) 214-0521 (Office)
TBPE Firm No. 18712
UEG Project No. 6096-217

Location Map:

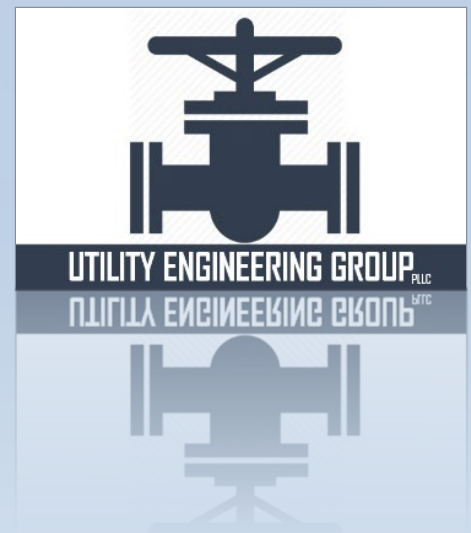
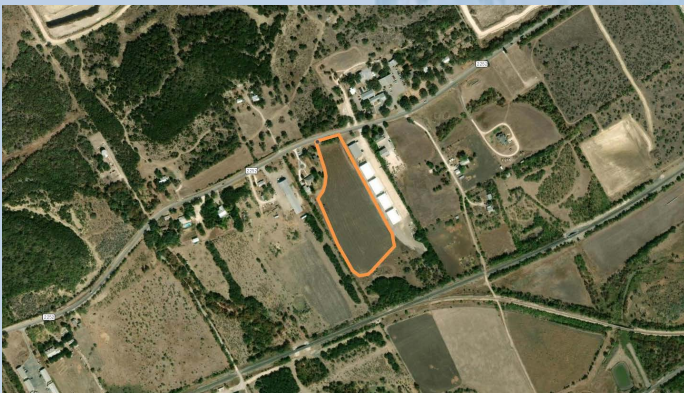


Table of Contents

1.	Introduction.....	3
2.	Land Use Projections	3
3.	Water Availability.....	3
4.	Existing GVSUD Infrastructure.....	4
4.1	Impact to Water Supply	4
4.2	Impact to the District's Distribution System	4
4.3	Calculated Pressure	5
4.4	Impact to Water Storage.....	5
5.	Fireflow Demand Request.....	5
6.	Estimated Costs	5
7.	Conclusions and Recommendations.....	6
	Attachment 1 – Easement Certification	8
	Attachment 2 – GIS Exhibit.....	10

1. Introduction

Green Valley Special Utility District (GVSUD) received the subject application for a commercial development from Precision Strand and Rebar on August 10, 2023. Utility Engineering Group, PLLC (UEG) was authorized to prepare a water feasibility study for the proposed development on August 10, 2023

This feasibility study reviews and analyzes the proposed development layout, required easements, and projected water demand. UEG has included water use projections based on the application for service and historical water use for the District.

Once this feasibility study has been reviewed by GVSUD staff and presented to the applicant for review, and if the terms are acceptable a water service contract will be established for the development.

2. Land Use Projections

The subject tract is located within the City of Schertz ETJ and Comal County. The property is located south of FM 2252; approximately 1.1 miles east of the intersection of FM 2252 and FM 3009. The applicant intends to develop this property with a commercial use. The applicant has requested a 5/8 x 3/4-inch meter for their proposed development. Based on the applicant's water usage projection and the size of the development, an estimated 1 EDU's will be served in this tract. The historic water demand for connections within the District has been 0.34 acre-feet per connection, however we typically project a demand of 0.4 acre-feet per connection as a conservative assumption. With the 0.4 acre-feet per connection demand, this request totals 0.4 acre-feet per year.

3. Water Availability

GVSUD currently has adequate water supply available to meet the application request through the Trinity Aquifer and Edward's Aquifer supplies owned by the District. To aid

in GVSUD's long-term planning efforts, we encourage developers to manage the water resources in the most efficient manner. This can be achieved by reducing irrigation demand, water conservation efforts and ensuring that waterline installation is completed correctly, and with adequate bedding materials. This reduces the number of leaks and associated water losses within the system over time.

Based on the number of services and amount of water requested in this application, UEG concludes that GVSUD has adequate water supply to meet the request for potable water for the proposed development.

4. Existing GVSUD Infrastructure

The following section quantifies the impact to existing GVSUD storage, pumping and distribution infrastructure. This analysis also investigates the impact of the request on the GVSUD water supplies.

4.1 Impact to Water Supply

GVSUD currently has adequate water supply for this development through the District's ground water supplies in the Trinity and Edwards Aquifers. Plant 7 & 8 will be the source of supply for this development. These facilities provide adequate pump, storage and production capacity to meet the long-term need of the applicant's property based on the application for service. No additional water rights or production capacity is required for the District to meet the request of this application.

4.2 Impact to the District's Distribution System

Currently, GVSUD has an existing 12-inch distribution waterline along FM 2252 and the frontage of the property. The applicant will be responsible for the cost of installing their internal waterlines as well as all other appurtenances including fire hydrants within the property which must be compliant with the fireflow criteria of the local jurisdiction and backflow prevention. The applicant will also be responsible for granting and/or acquiring

the required easements to maintain service to the 12-inch waterline in this area. No further system upgrades required. If platting is required and the right of way is expanded, additional easements and expenses may be assessed for the development.

4.3 Calculated Pressure

The proposed property will be served by the GVSUD Plant 7 & 8 sites. The pressure at this location will fluctuate between 65 to 78 psi dependent upon demand in the system and pump scenarios in the high service pumps.

4.4 Impact to Water Storage

GVSUD Plant 7 & 8 currently has 400,000 Gallons of Storage Capacity onsite for retail customers. GVSUD also has redundant storage within the distribution system to reliably serve the applicant's property. No additional storage is required to meet this request.

5. Fireflow Demand Request

The applicant is required to meet the fireflow requirements for the authority having jurisdiction over the property location. In this case the applicant's property falls within the City of Garden Ridge city limits. The City of Garden Ridge will require compliance with the International Fire Code and the applicant requests 1,500 gpm at 20 psi residual pressure. This is common for the proposed land use.

The District has adequate water supply, pumping capacity and distribution lines to meet the fireflow demand requested with the line extensions proposed in Section 4 of this report. The applicant will be responsible for ensuring that the internal water distribution system for the development is adequately sized to meet the required flows and spacing requirements of the applicable local codes.

6. Estimated Costs

The applicant has requested a single 5/8x3/4-inch meter for the development. The costs

associated with this connection include impact fees, water acquisition fees, meter costs, inspection and account deposit totaling \$6,465 at the current rates.

7. Conclusions and Recommendations

Green Valley Special Utility District's existing water system is capable of serving this proposed development with domestic water service. The conclusions and recommendations outlined in this report are met by the proposed development and approved by the GVSUD Board of Directors.

The following conditions are provided for GVSUD's consideration:

- A. The applicant complies with GVSUD's current policies and pays all applicable fees at the time of Development. Water acquisition fees will be due at the time of construction plan approval. The remaining fees will be due at the time of meter set.
- B. The required easement certification is provided on the recorded plat and any required easements are dedicated to the District. Attachment 1 contains the certification required by the District. If a right-of-way dedication is required by the City, additional easement and expenses may be assessed.
- C. GVSUD staff and consultants approve the location, size, material type and all appurtenances prior to construction and final acceptance of the project. GVSUD standard waterline specifications and details shall be followed and a GVSUD inspector shall be present during installation and testing of the infrastructure.
- D. Electric, telephone, and any other utilities shall remain outside of the GVSUD easement unless specifically agreed to in writing by GVSUD.
- E. Fire hydrants shall be spaced as required by the International Fire Code and City of Schertz. Fireflow shall be verified by the applicant to ensure compliance.
- F. After construction completion and GVSUD acceptance, all water distribution improvements shall be dedicated to and maintained by GVSUD. The contractor and/or developer shall warranty all construction and material for a period of one year. All system improvements that are not prepared by GVSUD must be

submitted to GVSUD for review and approval prior to construction. Any work completed without approved plans and inspection by GVSUD will be removed and/or replaced by the applicant at the sole expense of the applicant.

- G. Applicant to provide the required backflow prevention for this connection at their cost.

This water service feasibility study is subject to the approval and/or modification by the GVSUD Board of Directors after consideration of the information provided herein and the application of the policies of GVSUD. This study is based on the application for service submitted August 10, 2023, if changes or additions are made to the development this study should be revisited.

Attachment 1 – Easement Certification

GREEN VALLEY SPECIAL UTILITY DISTRICT CERTIFICATE

This land development plat has been submitted to and approved by Green Valley Special Utility District for Easements. Upon request of the Customer and payment of the required fees, the District will provide domestic water service to each lot in this Subdivision, by Agreement with the Developer.

Green Valley Special Utility District Agent

EASEMENT CERTIFICATE

The Owner of the land shown on this plat and whose name is subscribed hereto, in person or through a duly authorized agent, dedicates to the Green Valley Special Utility District of Marion, Texas, its successors and assigns, a perpetual Easement marked as “Waterline Easement” or “Utility Easement” with the right to erect, construct, install, and lay and thereafter access and use, operate, inspect, repair, maintain, replace, upgrade, parallel and remove water or waste-water transmission, collection and/or distribution lines and appurtenances and any other facilities necessary to serve Grantors’ property, as well as the Grantee’s current and future system-wide customers, together with the right of ingress and egress under, over and across Grantor’s adjacent lands and in all streets and byways for the purpose for which the above mentioned rights are granted, including the right to remove from said lands all trees, shrubs, grasses, pavements, fences, structures, improvements, or other obstructions which may interfere with the facility or the access thereto. It is agreed and understood that no building, concrete slab or walls will be placed within said Easement areas. No other utility lines may be located within 36” parallel to water lines.

Any monetary loss to Green Valley SUD resulting from modifications required of utility equipment located within said Easements due to grade change or ground elevation alterations shall be charged to the person or persons deemed responsible for said grade changes or ground elevation alterations. Upon entering in and upon said Easement, the District will endeavor to restore the land surface to a useable condition but is not obligated to restore it to a pre-existing condition.

The Easement conveyed herein was obtained or improved through Federal financial assistance. This Easement is subject to the provision of Title VI of the Civil Rights Act of 1964, and the regulations issued pursuant thereto for so long as the Easement continues to be used for the same or similar purpose for which financial assistance was extended or for so long as the Grantee owns it, whichever is longer.

Attachment 2 – GIS Exhibit

Date: Aug 22, 2023, 10:46:07 AM
THIS MAP WAS PRINTED USING THE GIS CLIENT SERVICE FROM KFW ENGINEERS & SURVEYING



LEGEND

Fire Hydrant

Water Valve

Water Meter

8" Water Lines

12" Water Lines

24" Water Lines

Sewer Manhole

Sewer Lines

Interval Contour

Index Contour



REVISIONS

Green Valley SUD Web Map

GVSUD

DATE: 08/22/23

DRAWN: KFWGIS

SHEET NUMBER:

1 OF 1

Esri, HERE, Garmin, (c) OpenStreetMap contributors, KFWGIS, Source: Esri, Maxar, Earthstar Geographics, and the GIS User Community, GED GIS, KFW GIS

THIS DOCUMENT HAS BEEN PRODUCED FROM MATERIAL THAT WAS STORED AND/OR TRANSMITTED ELECTRONICALLY AND MAY HAVE BEEN INADVERTENTLY ALTERED. RELY ONLY ON FINAL HARD COPY MATERIALS BEARING THE CONSULTANT'S ORIGINAL SIGNATURE AND SEAL.