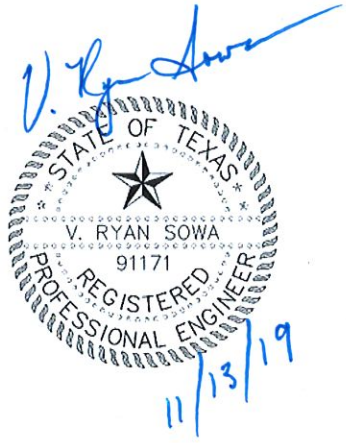
CITY OF FAIR OAKS RANCH

ELEVATED STORAGE TANK

30% Preliminary Design Technical Memorandum

Prepared for:

CITY OF FAIR OAKS RANCH



November 2019

Prepared by:

Kimley»Horn

Texas Board of Professional Engineers Firm Registration No. F-928

Kimley-Horn and Associates, Inc.
601 NW Loop 410
Suite 350
San Antonio, TX 78216
(210) 541-9166

Contents

Introduction 5

Project Background 5

Site Locations 6

Scope of Work 7

Technical Analyses 7

Site Analysis 7

Tank Style Analysis 15

Hydraulic Analysis 17

Community Input/Feedback 33

Community Workshop #1 34

Community Workshop #2 35

Home Owners Association (HOA) – Stone Creek Ranch Subdivision 36

Stakeholder Coordination 37

Kendall and Comal County 37

Private Developers 38

Camp Bullis 38

Camp Stanley 39

GBRA 40

FAA 40

MLZ Ranch Properties 40

Land Acquisition considerations 40

Opinion of Probable Construction Cost 42

Conclusion 42

Site Evaluation Summary 42

Hydraulic Summary 42

Appendix 44

Appendix A. Site Layouts 44

Appendix B. Opinion of Probable Construction Costs 50

Appendix C. Meeting Minutes……59
Appendix D. Existing Utility Information……115
Appendix E. Federal Aviation Administration Form 7460 Results……152
Appendix F. Hydraulic Modeling Data……165
Appendix G. Existing Developer Agreements……331

Tables

Table 1. Summary of Site Analysis. ……14
Table 2. Tank Initial Capital Cost. ……15
Table 3. Tank Life Cycle Cost. ……16
Table 4. Tank Total Cost of Ownership for 60-yr Life Cycle. ……16
Table 5. Projected Water Demands. ……18
Table 6. Zone A Junction Pressures at Bottom of Domestic Storage – 2023. ……19
Table 7. Zone A Junction Pressures at Bottom of Domestic Storage – 2040. ……22
Table 8. Zone A Junction Available Fire Flow. ……25
Table 9. Higher Tank Operating Range Junction Pressures at Bottom of Domestic Storage - Site B. ……28
Table 10. Higher Tank Operating Range Junction Pressures at Top of Domestic Storage - Site B. ……28
Table 11. Higher Tank Operating Range Junction Available Fire Flow – Site B. ……29
Table 12. Lower Tank Operating Range Junction Pressures at Bottom of Domestic Storage -Site B. ……31
Table 13. Lower Tank Operating Range Junction Pressures at Top of Domestic Storage - Site B. ……31
Table 14. Lower Tank Operating Range Available Fire Flow – Site B. ……32
Table 15. Summary Tank Operating Range Results. ……33
Table 16. Site Permits. ……37
Table 17. Land Acquisition Considerations. ……41
Table 18. Opinion of Probable Construction Cost. ……42

Figures

Figure 1. Project Location Map ……5

Figure 2. Potential Tank Locations. 6
Figure 3. Tank Site A. 9
Figure 4. Tank Site B. 10
Figure 5. Tank Site C. 11
Figure 6. Tank Site D. 12
Figure 7. Tank Site E. 13
Figure 8. Elevated Storage Tank Diagram. 18
Figure 9. Zone A 2023 Pipe Network Junction Pressures at Bottom of Domestic Storage – Site B. 20
Figure 10. Plant #3 Pump Curve with Modeled Elevated Storage Tank - Site B. 21
Figure 11. Zone A 2040 Pipe Network Junction Pressures at Bottom of Domestic Storage - Site B. 22
Figure 12. 2023 Site B Junction Pressures with Recommended Location of PRV. 23
Figure 13. 2040 Site B Junction Pressures with Recommended Location of PRV. 24
Figure 14. 2023 Fire Flow to Zone A and northeast region of Zone B, PRV closed. 26
Figure 15. 2023 Fire Flow to Zone A and northeast region of Zone B, utilizing a PRV. 26
Figure 16. Lower Operating Range Service Area Exhibit. 30
Figure 17. 30% Design Phase Flow Diagram. 34
Figure 18. Community Workshop #1 - Station 1 Results. 35
Figure 19. Community Workshop #1 - Station 2 Results. 35
Figure 20. Community Workshop #2 - Station 1 Results. 36
Figure 21. Community Workshop #2 - Station 2 Results. 36
Figure 22. Site Locations in Relation to CALS. 39
Figure 23. Project Location in Relation to Camp Stanley. 39

INTRODUCTION

Kimley-Horn and Associates, Inc. (Kimley-Horn) was contracted by the City of Fair Oaks Ranch (the City) for the design of a 0.5 million gallon (MG) water elevated storage tank. The proposed tank will serve the City's upper pressure plane (Zone A) and provide elevated water storage, additional fire flow, and relief to existing pumps. Potential tank sites being evaluated are located in the northeastern part of the City and extraterritorial jurisdiction (ETJ) along Ammann Road, shown in **Figure 1** below.

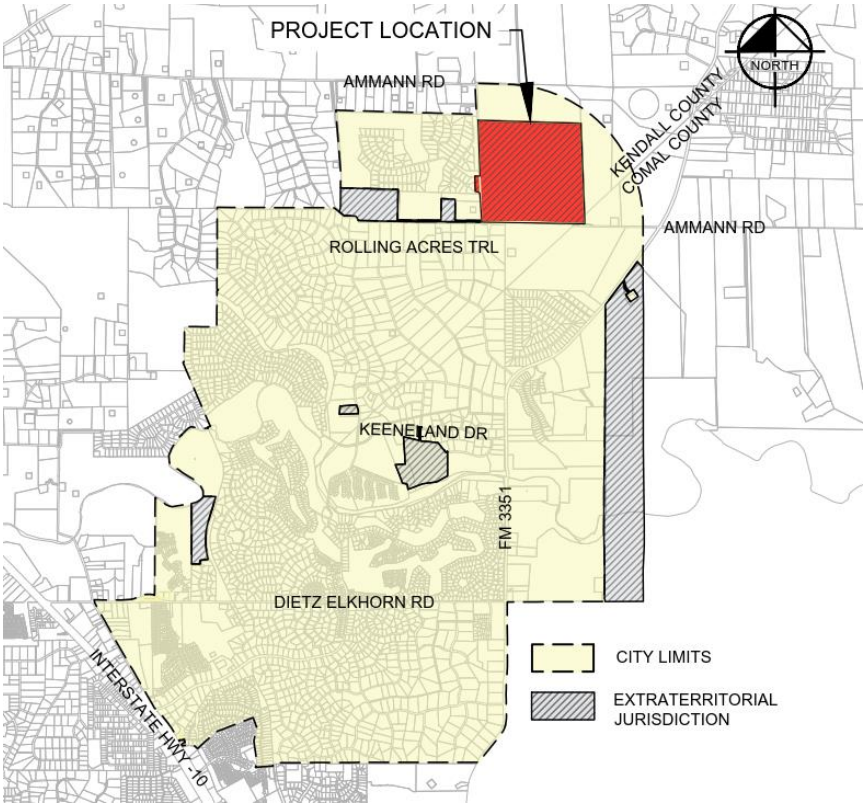


Figure 1. Project Location Map.

This Technical Memorandum represents a 30% design by Kimley-Horn. The information will be subject to change through the final design process.

PROJECT BACKGROUND

The City of Fair Oaks Ranch water distribution system consists of three independent pressure zones, with water supplied from the Trinity Aquifer and Guadalupe-Blanco River Authority (GBRA). As stated in the *City of Fair Oaks Ranch Water, Wastewater, and Reuse System Master Plan* (Water Master Plan) prepared by Freese and Nichols, Inc. on February 2019, the City was notified in 2017 by the Texas Commission on Environmental Quality (TCEQ) of reaching 91% of its hydropneumatic tank capacity in Zone A, confirming the need for additional storage as water demands increase due to development. In addition, the following benefits were identified for an elevated storage tank:

- Maintains a constant water supply and pressure for public demands for Zone A
- Improves fire flow for Zone A

- Reduction in firm pumping capacity and requirements to Zone A resulting in operational and long-term cost savings
- Operational flexibility during emergencies and provides additional water storage during peak water demands and droughts
- Improves fire flow to the northeast region of Zone B with installation of System PRV #2 at Meadow Creek Trail until Plant #6 Zone B Pump Station and additional waterlines are installed per Water Master Plan

For these reasons, an elevated storage tank in the northern region of the city was identified as a near-term (2023 planning period) capital improvement project and need for the City.

SITE LOCATIONS

Five (5) tank site locations were chosen to be evaluated, as seen in **Figure 2**. These potential tank sites were selected based on the following criteria.

- Availability of Land
- Developer Input
- Site Topography/Ground Elevation
- Proximity to Existing Utilities (Water and Electric) and Roads
- Conformance with the City's Water Master Plan

Additional information about each potential tank site can be found in the Technical Analysis section of this report.

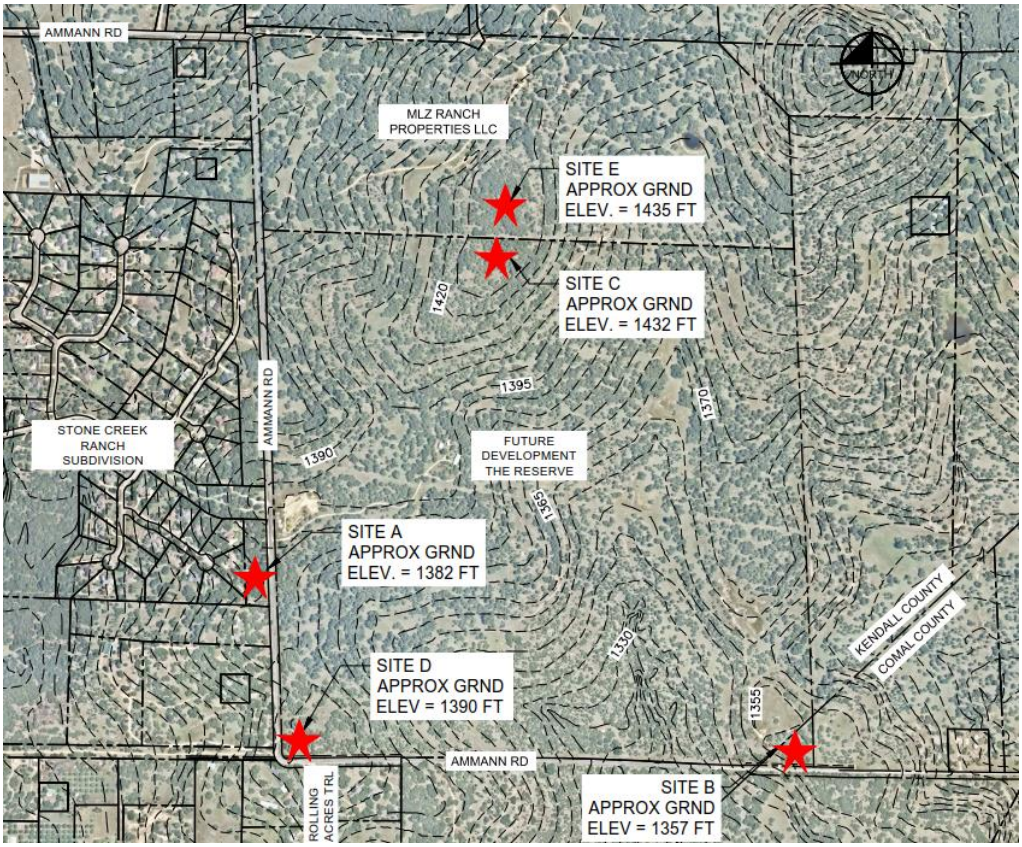


Figure 2. Potential Tank Locations.

SCOPE OF WORK

The following services were performed by Kimley-Horn during the 30% design phase of this project:

- Conducted an initial project kick-off meeting on May 1, 2019 with the City to discuss the project overview, stakeholder and utility coordination, project schedule, and other items relevant to the current project phase.
- Conducted meetings with Green Land Ventures, LTD and the owners of Boerne Ranch Estates, LLC (see Figure 2).
- Conducted Community Workshop #1 on June 18, 2019 with City staff for the residents of the City to receive feedback regarding the potential tank sites, tank aesthetics, and other design considerations.
- Conducted meetings with Camp Bullis and Camp Stanley to discuss potential concerns regarding the proposed tank sites on July 10, 2019 and July 11, 2019, respectively.
- Submitted Obstruction Evaluation/Airport Airspace Analysis form 7460 for four (4) tank sites A through D to the Federal Aviation Administration (FAA).
- Attended a City Council meeting on July 18, 2019 and presented community feedback received from Community Workshop #1.
- Performed tank analyses for five (5) tank sites and three (3) tank styles.
- Performed hydraulic analyses using the Innovyze Infowater hydraulic model provided by the City.
- Coordinated with Pedernales Electric to obtain existing utility information.
- Conducted a meeting with GBRA on August 13, 2019 with City staff to discuss the addition of a second delivery point.
- Coordinated with Kendall and Comal County to determine applicable permitting requirements.
- Developed an Opinion of Probable Construction Cost (OPCC) for five (5) tank sites and three (3) tank styles.
- Conducted 30% design workshop on August 30, 2019 with City staff to discuss the draft Technical Memorandum.
- Conducted a meeting with owners of MLZ Ranch Properties, LLC (see Figure 2).
- Conducted Community Workshop 30% on September 10, 2019 with City staff to update the residents on site analysis and receive feedback regarding the potential tank sites, tank aesthetics, and other design considerations.
- Obtained Bexar County Lidar 2010 contour data from Texas Natural Resources Information System.

TECHNICAL ANALYSES

SITE ANALYSIS

Each potential tank site was analyzed based on the following criteria:

- Proximity to Existing Utilities (Water and Electric) and Roads
- Site Civil Considerations (Terrain, Grading, Drainage, Topography/Ground Elevation)
- Site Access
- Existing Easements

Each tank site will have an area of approximately 0.5-acres. Detailed exhibits for each site can be found in **Appendix A**.

The expected impact of an elevated storage tank to residents within close proximity are the following:

- Light pollution – tank site lighting
- Weekly tank checks and/or maintenance
- Repainting and sandblasting every 15 years
- Alarm and other associated noise pollution in the event of a tank overflow and associated valves and piping

Chlorine boosting will be included regardless of the tank site and is reflected in the cost analysis.

The tank site will have the same electrical/SCADA system regardless of the location. Standard 240/120V single phase electric service will be used with distribution via a power panel. SCADA Panel with air-conditioned enclosure (if desired) will contain all control and communication equipment. The security system equipment will be connected to a dedicated panel. Layouts and equipment for the security system will need to be further developed with input from the City during design. Communications for both SCADA and Security data will be handled by a cellular based system that is compatible with the City's existing system. Instrumentation will include flow, pressure and level transmitters and chlorine analyzer. Controls for the motorized valves will be located in the SCADA Panel or dedicated panel. All site lighting will meet the requirements of the Camp Bullis and other applicable ordinances. Tank obstruction lighting will be installed per FAA guidelines. Interior lighting (for composite or spheroid options) will be provided at floor level and along the ladder and the roof access tube.

SITE A

Site A is located on a 2.17-acre tract owned by Green Land Ventures, LTD in Kendall County within Fair Oaks Ranch city limits, located directly off Ammann Road and adjacent to three residential properties of Stone Creek Ranch subdivision. The tank footprint is approximately 150 feet from the closest residential structure. Due to the close proximity to residences, containment has been included per TCEQ 111.137 containment requirements for blasting and coating operations and the additional cost associated with containment is reflected in the Opinion of Probable Construction Cost (refer to **Appendix B**). The site is directly accessible via Ammann Road, as shown in **Figure 3**. Site A currently has a berm that runs parallel to Ammann Road with an existing drainage easement located along the west property line. Site A, if chosen, may require significant grading due to the berm and a drainage analysis would need to be performed during final design to verify the extent of re-grading required. The terrain is largely forested and would require significant site clearing. The ground elevation of the site is approximately 1382 feet and the tank overflow elevation would be 148 feet above the ground.

A portion of this tract is currently reserved for the site of a future well. There is a 50-foot well access easement located at the southern border of the property, as well as an 18-foot drainage easement running longitudinally along the west side of the property.

There is an existing City 12-inch water line located south of the site along Ammann Road. The existing 12-inch water line would need to be extended approximately 225 feet to Site A. Electric service can be obtained from the three-phase overhead primary line running on the west side of Ammann Road. The recommended service type is 240/120V single phase delivered by a pole mounted transformer. Existing utility maps and record drawings can be found in **Appendix D**.

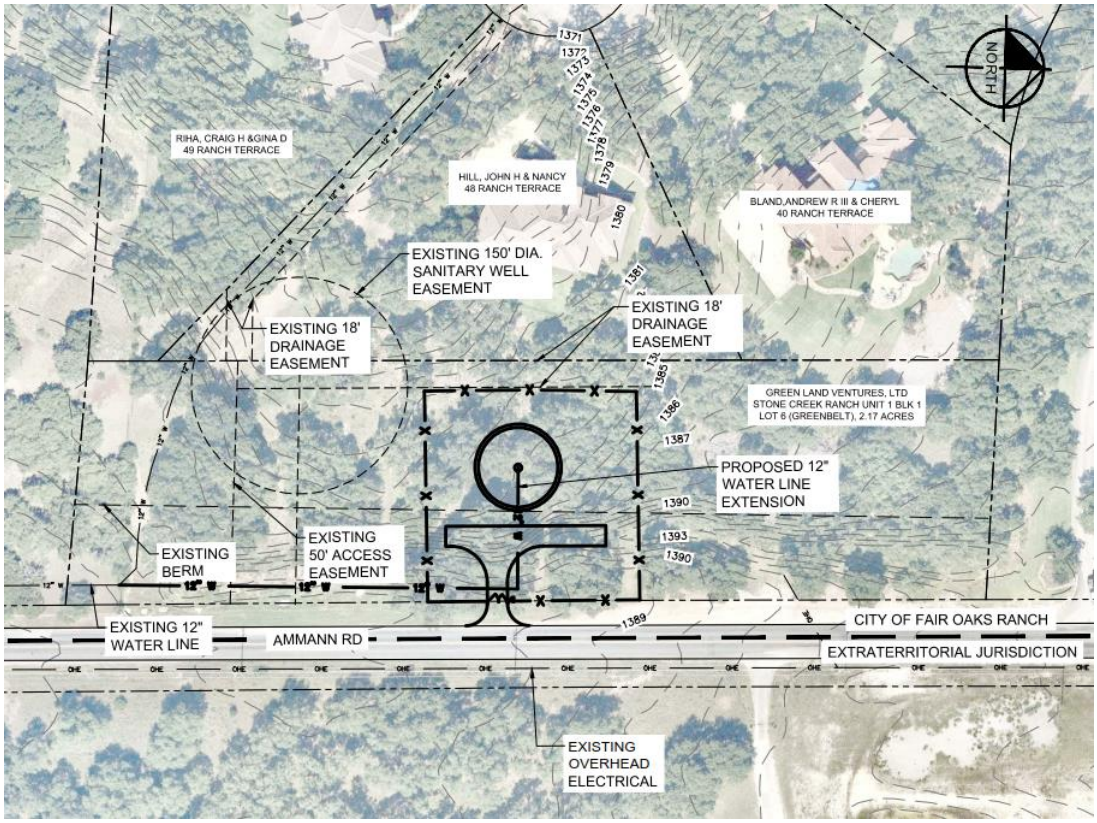


Figure 3.Tank Site A.

SITE B

Site B is in Comal County, on a 5.3-acre plot of land owned by Boerne Ranch Estates, LLC. The site is in the City's ETJ and is directly accessible via Ammann Road (see **Figure 4**). There are no existing residences adjacent to the site or across Ammann Road. The closest residential structure is approximately 2,600 feet from the site. Due to the location of this site within 500 feet of public right-of-way, containment has been included per TCEQ 111.137 containment requirements for blasting and coating operations. The additional cost associated with containment is reflected in the Opinion of Probable Construction Cost (refer to **Appendix B**). The site is located within the Edwards Aquifer Contributing Zone and would require an Exception Request Plan be submitted to the TCEQ for the access road/driveway. The site currently drains to the south, towards Ammann Road. The site would continue to drain towards Ammann Road and minimal site grading would be required. The terrain is forested, and moderate clearing would be required. The ground elevation of the site is 1357 feet and the tank height to overflow would be 173 feet. Due to having the lowest ground elevation, this site would require the tallest tank.

There is an existing 24-inch GBRA water line within a 15-foot water easement located along the southern border of the site, which would facilitate an additional GBRA delivery point to the site. Additional equipment would be required to fill the proposed elevated storage tank to the overflow elevation of 173 feet. More information about an additional delivery point can be found in the GBRA section of this Technical Memorandum. A portion of this tract is identified in the Water Master Plan as the future site of Plant #6 Pump Station. The elevated storage tank and pump station could be located within the same site, eliminating the need for the City to acquire and maintain an additional site for Plant #6. See

Appendix A for the site layout with Plant #6 accommodations. Inclusion of the pump station within the site layout would result in additional costs due to the increased site footprint and thus is not included in the Opinion of Probable Construction Cost for Site B. If Site B were selected, additional coordination will be required to implement an additional GBRA delivery point and include potential ground water storage at the site.

Three-phase electric power is available at the site. Electric service can be obtained from the three-phase overhead primary line running on the north side of Ammann Road. The recommended service type is 240/120V single phase delivered by a pole mounted transformer. The City's existing 12-inch water line along Ammann Road would need to be extended approximately 3,650 feet, along Ammann Road to Site B. This water line extension is included in the 5 Year Improvement section of the City's Water Master Plan (2023 planning period). Existing utility maps and record drawings can be found in **Appendix D.**

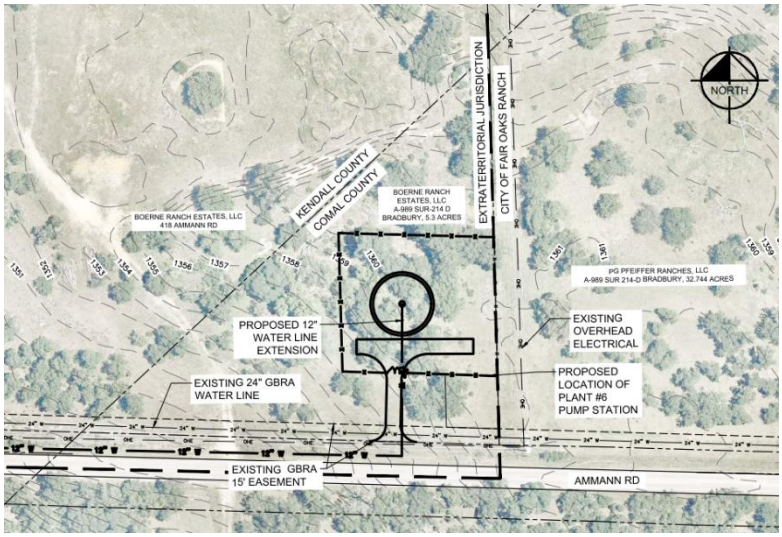


Figure 4. Tank Site B.

SITE C

Site C is in Kendall County, on the north central border of the 339.297-acre plot of land owned by Boerne Ranch Estates, LLC. The site is in the City's ETJ, approximately 1/3 of a mile east of Ammann Road (see **Figure 5**). There are currently no residences directly adjacent to the site. The closest residential structure is approximately 1,100 feet from the site. Currently, containment is not required for this site. As the City develops, containment may be required for tank maintenance. During design, a drainage swale would be added parallel to the access road, requiring moderate grading and draining west towards Ammann Road. The terrain is forested and would require significant land clearing. Presently, there is no direct vehicle access to the site and approximately 2,600 SY of flexible pavement would need to be provided to the site. Additional land clearing would be required to add vehicle access. The ground elevation of the site is 1432 feet and the tank height to overflow would be 98 feet.

There is no existing electric service at the site. Electric service might be obtained from the single-phase overhead line that is tapped off the three-phase line running along the east side of Ammann Road, approximately 350 feet of extension would be required. An easement might be required from the electric utility. In addition, the utility may need to obtain easements from other property owners in order to extend the line. The recommended service type is 240/120V single phase delivered by a pole mounted transformer. Three-phase service is an option if required for motorized valves or other site equipment

however this would require an upgrade of the single-phase line that extends approximately 1,700 feet from Ammann Road. Similar to overhead electric, no existing water infrastructure extends to Site C. Approximately 1,950 feet of 12-inch water line extension would be required to tie into the existing 8-inch water line on Woodland View. There is potential for the extended water line to conflict with the Boerne Ranch Estates' development layout, and further coordination would be required with the developer were this site selected. The extension of the 12-inch water line is included in the 5 Year Improvement section of the City's Water Master Plan (2023 planning period). Existing utility maps and record drawings can be found in **Appendix D.**

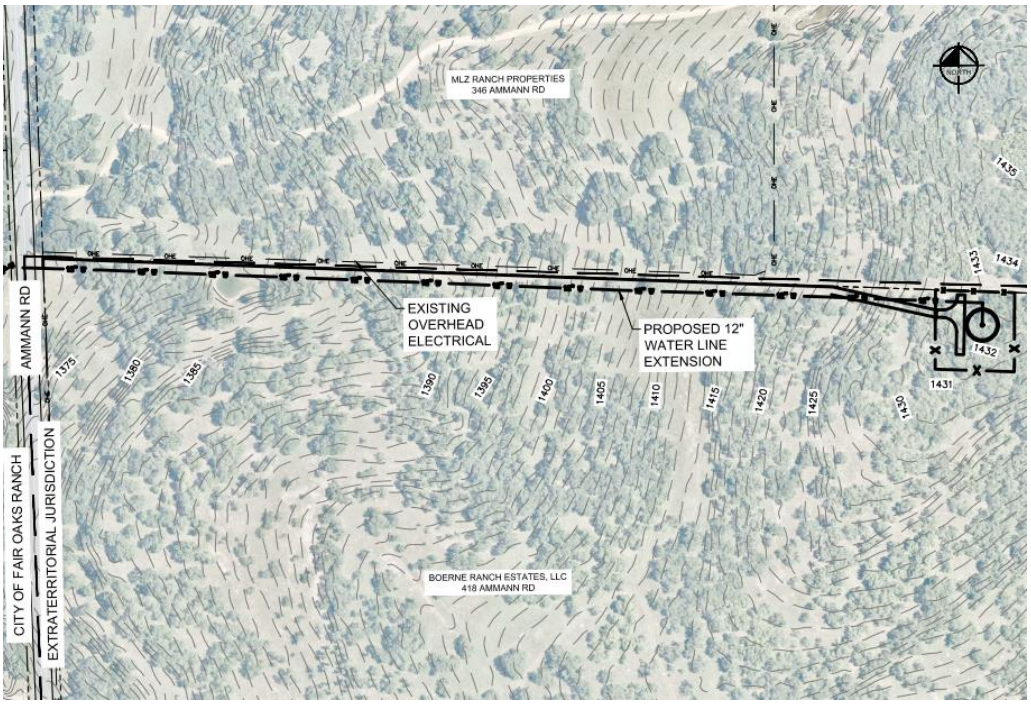


Figure 5. Tank Site C.

SITE D

Site D is in Kendall County, located in the southwest corner of the 339.297-acre plot of land owned by Boerne Ranch Estates, LLC. The site is in the City's ETJ and is directly accessible via Ammann Road, as shown in **Figure 6**. There are no existing residences directly adjacent to the site, but there are residences to the south and west that are within close proximity. The closest residential structure is approximately 380 feet from the site. Due to the close proximity to existing residences and public right-of-way, containment has been included as a construction cost, per TCEQ 111.137 containment requirements for blasting and coating operations. The additional cost associated with containment is reflected in the Opinion of Probable Construction Cost (refer to **Appendix B**). The site currently drains to the south, towards Ammann Road and would continue to drain towards the road during design, requiring minimal grading. The area is forested and would require moderate land clearing. The ground elevation of the site is 1390 feet and the tank height to overflow would be 140 feet.

Based on coordination with the developer of Boerne Ranch Estates property, Ammann Road may be re-aligned and widened at a future date as shown in **Figure 6**. Further coordination with the developer during the design phase would be required to determine the final location of an elevated storage tank at

Site D and ensure that there would be a safe site distance for the maintenance and construction crew to access the site.

An exercise was conducted to determine how far Site D could be moved to the east or west while remaining the most cost-effective site. For the purpose of this exercise, a cost of $2,500/foot was used for increasing or decreasing the height of the tank due to the change in ground elevation when moving the site east or west. The change in cost for this site due to the variation in off-site water line extension was also accounted for during this exercise. Site D could be moved 200 feet east before the cost of a spheroid or multi-column tank is equivalent to Site A. Site D could be moved 550 feet east before the cost of a composite tank would be greater than Site A. The site could be moved west to the existing right-of-way and remain the most cost-effective site.

There is three-phase electric power available at the site and an existing Fair Oaks Ranch 12-inch water line running along Ammann Road. The existing water line would need to be extended approximately 200 feet to the site. There is also an existing 24-inch water line supplied by GBRA running along Ammann Road. Electric service can be obtained from the three-phase overhead primary line running on the north side of Ammann Road. The recommended service type is 240/120V single phase delivered by a pole mounted transformer. Existing utility maps and record drawings can be found in **Appendix D.**

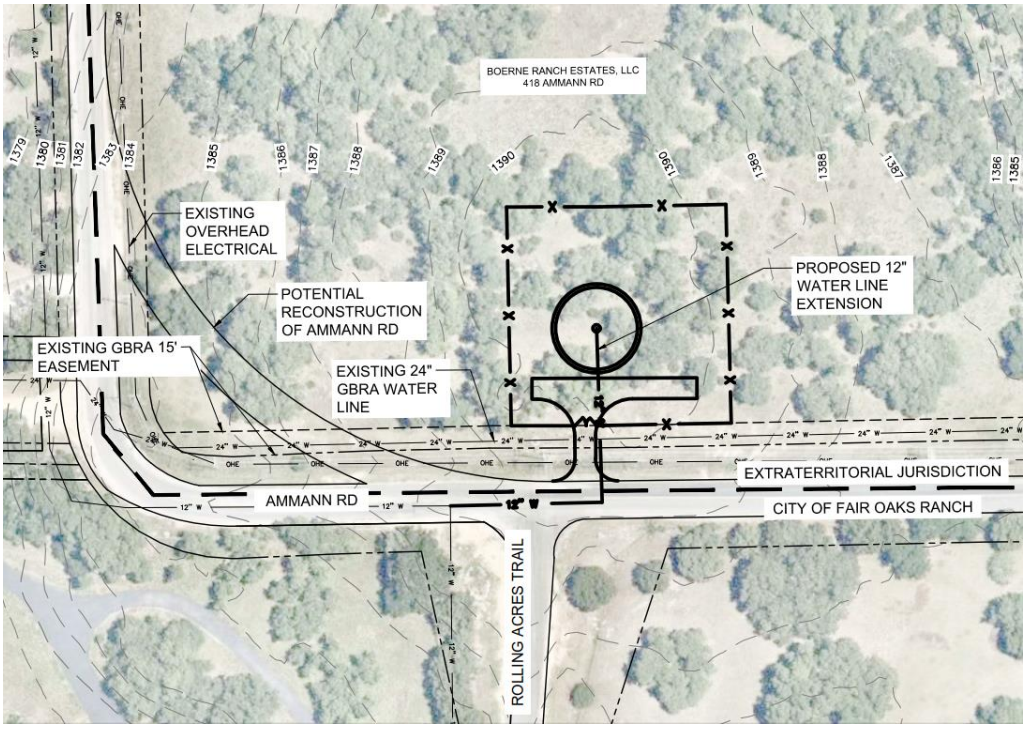


Figure 6. Tank Site D.

SITE E

Site E is in Kendall County on the southern border of the 115.01-acre plot of land owned by MLZ Ranch Properties, LLC. The site is within the Fair Oaks Ranch city limits, approximately 1/3 of a mile east of Ammann Road (see **Figure 7**). There are no existing residences directly adjacent to the site. The closest residential structure is approximately 750 feet from the site. Due to the close proximity of this site to the existing residential structure, containment has been included per TCEQ 111.137 containment

requirements for blasting and coating operations. The additional cost associated with containment is reflected in the Opinion of Probable Construction Cost (refer to **Appendix B**). During design, a drainage swale would be added parallel to the access road, requiring moderate grading and directing drainage west towards Ammann Road. The terrain is forested and would require significant land clearing. Currently there is no direct vehicle access to the site, so approximately 3,000 SY of flexible pavement would need to be provided to the site. Additional land clearing would be required to add vehicle access. The ground elevation of the site is 1435 feet and the tank height to overflow would be 95 feet. Site E would require the shortest tank due to having the highest ground elevation.

Electric service might be obtained from the single-phase overhead line that is tapped off the three-phase line running along the east side of Ammann Road, requiring approximately 550 feet of extension. An easement may be required from the electric utility. In addition, the utility may need to obtain an additional easement from the property owner to extend the line. The recommended service type is 240/120V single phase delivered by a pole mounted transformer. Three-phase service is an option if required for motorized valves or other site equipment however this would require an upgrade of the single-phase line that extends approximately 1,900 feet from Ammann Road. Similar to overhead electric, no existing water infrastructure extends to Site C. Approximately 2,250 feet of 12-inch water line extension would be required to tie into the existing 8-inch water line on Woodland View. The extension of the 12-inch water line is included in the 5 Year Improvement section of the City's Water Master Plan (2023 planning period). Existing utility maps and record drawings can be found in **Appendix D.**

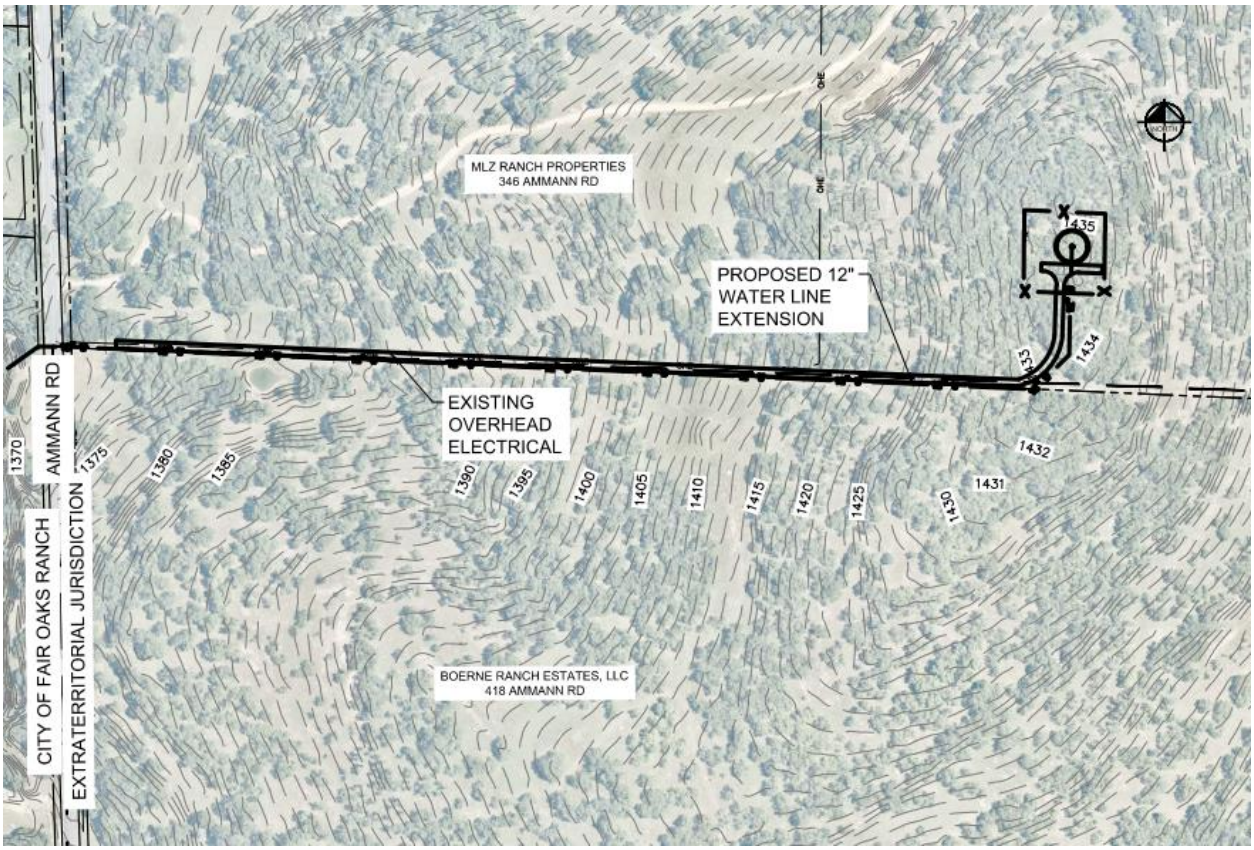


Figure 7. Tank Site E.

SITE ANALYSIS SUMMARY

Table 1 provides a summary of the Site Analysis according to the criteria used to evaluate each potential tank site location.

Table 1. Summary of Site Analysis.

Site	Ground Elevation (ft)	Tank Height to Overflow (ft)	Site Access	Electric Power	Existing Water Line	Site Civil Considerations
A	1382	148	Immediately adjacent to Ammann Rd.	Three-phase east side of Ammann Rd.	Approximately 225 feet of extension required.	• Significant grading due to berm running along the site • Drains to the west • Forested terrain, significant land clearing required
B	1357	173	Immediately adjacent to Ammann Rd.	Three-phase immediately adjacent to Ammann Rd.	Approximately 3,650 feet of extension required. Included in City's Water Master Plan.	• Proposed location of Plant #6 Pump Station per Water Master Plan • Minimal grading • Drains to the south, towards Ammann Road • Forested terrain, moderate land clearing required
C	1432	98	Approximately 2,600 SY of access road required.	Approximately 350 feet of single-phase electrical line extension required.	Approximately 1,950 feet of extension required. Included in City's Water Master Plan.	• Moderate grading • Runoff would be routed towards Ammann Road • Forested terrain, significant land clearing required
D	1390	140	Immediately adjacent to Ammann Rd.	Three-phase immediately adjacent to Ammann Rd.	Approximately 200 feet of extension required.	• Minimal grading • Drains to the south, towards Ammann Road • Forested terrain, land clearing required
E	1435	95	Approximately 3,000 SY of access road required.	Approximately 550 feet of single-phase electrical line extension required.	Approximately 2,250 feet of extension required. Included in City's Water Master Plan.	• Moderate grading • Runoff would be routed towards Ammann Road • Forested terrain, significant land clearing required

TANK STYLE ANALYSIS

Kimley-Horn analyzed three different tank styles (composite, spheroid, and multi-column) with regards to both capital and maintenance costs.

If a composite tank is used all mechanical and electrical equipment could be located inside the tank pedestal for both security and protection from inclement weather. A drain for the chlorine analyzer would be required and could be placed either inside the pedestal or installed outdoors.

The spheroid tank would allow for a majority of the mechanical and electrical equipment to be mounted in the base, but some equipment would need to be mounted outdoors. The equipment mounted outdoors would be located in a canopy or enclosure. The multi-column option would require that all electrical equipment would be mounted outdoors. In such a case, a canopy or enclosure could be installed over the equipment and control panels.

INITIAL CAPITAL AND MAINTENANCE COST

In coordination with multiple tank builders, initial capital costs and 60-year life cycle costs were developed (Refer to **Table 2** and **Table 3**). The costs presented in the tables are rounded averages of the cost estimates obtained from several tank builders. The initial capital cost includes tank fabrication, tank assembly and coatings, standard accessories, and foundation at reasonable depth. Site work is not included in these tables. The tank estimates given are based on the current market price of steel. The cost of steel fluctuates and could result in variations in the tank's actual capital cost. When evaluating raising or lowering the operating range of the tank, a cost of $2,500/foot was used, and the tank initial capital costs were rounded accordingly.

Table 2. Tank Initial Capital Cost.

Site Location	Tank Height to Overflow	Composite	Spheroid	Multi-Column
Site A	148	$1,575,000.00	$1,375,000.00	$1,050,000.00
Site B	173	$1,650,000.00	$1,450,000.00	$1,100,000.00
Site C	98	$1,450,000.00	$1,250,000.00	$975,000.00
Site D	140	$1,550,000.00	$1,350,000.00	$1,025,000.00
Site E	95	$1,450,000.00	$1,250,000.00	$975,000.00

Table 3 displays the 60-year life cycle costs for an assumption of 3 repaints (every 15 years) at a 3% inflation rate. Containment was included for life cycle costs at every site, due to the predicted development in the City. Due to having the lowest square footage of steel to be repainted, the composite tank has the lowest life cycle cost.

Table 3. Tank Life Cycle Cost.

Site Location	Tank Height to Overflow	Composite	Spheroid	Multi-Column
Site A	148	$650,000.00	$900,000.00	$1,000,000.00
Site B	173	$650,000.00	$950,000.00	$1,050,000.00
Site C	98	$650,000.00	$770,000.00	$850,000.00
Site D	140	$650,000.00	$850,000.00	$950,000.00
Site E	95	$650,000.00	$770,000.00	$850,000.00

The total cost of ownership (TCO) for each tank site and style is provided in **Table 4**. The TCO includes both the tank initial capital cost and life cycle cost. Multi-Column tanks have the lowest TCO for all site locations when evaluated for a 60-year life cycle. The TCO does not include any costs associated with the tank site.

Table 4. Tank Total Cost of Ownership for 60-yr Life Cycle.

Site Location	Tank Height to Overflow	Composite	Spheroid	Multi-Column
Site A	148	$2,225,000.00	$2,275,000.00	$2,050,000.00
Site B	173	$2,300,000.00	$2,400,000.00	$2,150,000.00
Site C	98	$2,100,000.00	$2,020,000.00	$1,825,000.00
Site D	140	$2,200,000.00	$2,200,000.00	$1,975,000.00
Site E	95	$2,100,000.00	$2,020,000.00	$1,825,000.00

COMPOSITE TANK STORAGE

An option when constructing a composite elevated storage tank is to utilize the pedestal for additional storage. When evaluating pricing for composite tank storage, the following scenarios were considered:

1. Provisions for storage: $10,000 per floor
    - Storage provisions would include additional rebar in the wall with beam sets.
2. Storage floor: $200,000 per floor
    - Storage floor would include a bare concrete second floor, stairs with railings, and a crane.
3. Full buildout office space: $300,000 per floor
    - Office space would have the standard number of windows for a 500,000-gallon tank, be in conformance with ADA requirements and include an elevator.

The estimates presented in this section for composite tank storage were not included in the Opinion for Probable Construction cost, initial capital cost, or tank life cycle costs.

HYDRAULIC ANALYSIS

This section of the Technical Memorandum evaluates the hydraulic impact of an elevated storage tank at each potential site on the City's existing water system.

The hydraulic scenarios that were performed and their objectives are the following:

1. Tank siting
    - Determine the connection to the existing pipe network.
    - Ability of a tank at each site to provide adequate pressures to different areas of Zone A.
    - Determine potential system upgrades.
    - Determine the effect on available fire flow to Zone A.
2. Raised tank operating range
    - Determine the optimal elevation for the tank and the area of Zone A that can be serviced at that elevation.
3. Lowered tank operating range
    - Determine the optimal elevation for the tank and the area of Zone A that can be serviced at that elevation.

At the onset of the 30% design phase, the City provided a hydraulic model of the water distribution system in Innovyze InfoWater software. Minor modifications to the existing model were made by Kimley-Horn to simulate the addition of an elevated storage tank to the system.

The existing model contained the following scenarios:

- 2017 Calibration
- 2018 Max Day, Peak Hour
- 2023 Max Day, Peak Hour
- 2028 Peak Hour
- 2040 Max Day, Peak Hour, Max Day Fire Flow

A Max Day scenario simulates the day in a one-year period in which the largest quantity of water is used. Peak hour simulates the hour within the Max Day scenario in which the largest quantity of water is used. A Fire Flow scenario simulates a pressure of 20 psi to all junctions within the system, then determines the amount of available water to a single junction. Throughout the Hydraulic Analysis section of this Technical Memorandum (TM), junctions are used to refer to points throughout the existing system where there is a connection to the water pipeline. Steady State and Diurnal patterns are also discussed throughout this section. A steady state pattern represents a constant demand over a 24-hour period. A diurnal pattern simulates the fluctuations in demand throughout a 24-hour period within the system.

The existing model is divided into three separate pressure zones. Since the elevated storage tank will provide elevated storage for Zone A, modeling efforts were focused on this pressure plane. For the purposes of this TM, the following scenarios were used for modeling at each potential tank site location:

- 2023 Max Day, Peak Hour, Fire Flow
- 2040 Max Day, Peak Hour, Fire Flow

The 2023 scenario was selected for modeling as it represents the closest scenario to existing conditions when the tank will be put into operation. The 2040 scenario was used as it represents buildout conditions in the model provided by the City.

WATER DEMAND – ZONE A

The Water Master Plan includes projected water demands for the continued development of the City's Zone A through full buildout conditions. **Table 5** identifies the projected demands in Zone A for 2023 and buildout conditions.

Table 5. Projected Water Demands.

Year	Number of Water Connections	Average Day Demand (MGD)	Maximum Day Demand (MGD)	Peak Hour Demand (MGD)
2023	781	0.39	0.98	1.95
2040 Buildout	1,376	0.69	1.72	3.44

ELEVATED STORAGE – ZONE A

The diagram in **Figure 8** displays the breakdown of storage in the modeled elevated storage tank.

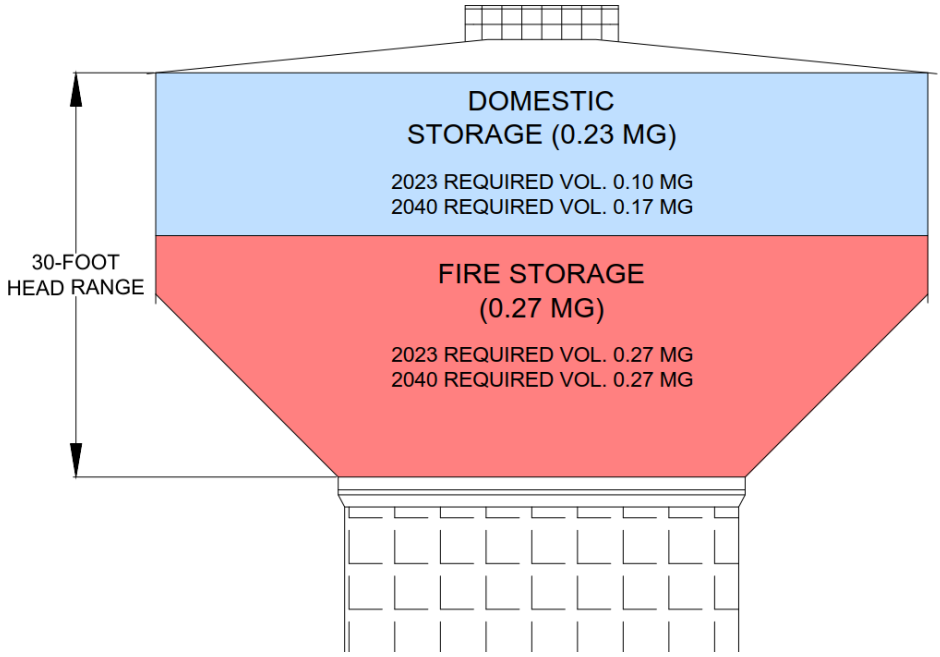


Figure 8. Elevated Storage Tank Diagram.

According to the Water Master Plan, the requirement for domestic storage is equivalent to the volume required to supply peak demand for 3 hours. The fire flow volume requirement, also from the Water Master Plan, is based on an assumption of 1,500 gpm for a 3-hour duration.

MODEL RESULTS – TANK SITES

Hydraulic analysis objectives for each tank site are the following:

- Evaluate the connection of the tank to the City's existing water system
- Evaluate pipe diameters for the tank's connection to the system
- Determine effects on the system operation
- Determine effects on system's available fire flow

Each potential tank site was hydraulically modeled at an elevation of 1500 feet, with a water level between 1500-1530 feet, by creating modifications to the existing model provided by the City. Tank water levels were created in accordance with the requirements for domestic and fire flow storage displayed in **Figure 8**. A water level of 30 feet was used to simulate the top of domestic storage and a water level of 18 feet was used as the bottom of domestic storage. The remainder of the water in the tank below the domestic storage level was modeled as fire flow storage. Due to the similarity in location and elevation, Site E was considered to have hydraulic modeling results similar to that of Site C.

2023 SCENARIO

Modeling of the Peak Hour, Steady State scenario revealed minor variations in junction pressures within Zone A for the four modeled tank sites when the tank level was set to the bottom of domestic storage.

The number of junctions below the TCEQ requirement of 35 psi did not vary from the original model for the different site locations. The junctions that were below the TCEQ requirement of 35 psi were located on the suction side of the pumps, and so are not in violation of TCEQ standards. For the purpose of this Technical Memorandum, the junctions located on the suction side of the pumps are not included in the junction pressure tables within this hydraulic analysis section. **Table 6** provides a summary of the data obtained and displays the number of junctions by pressure category for each tank site. **Figure 9** provides a graphic representation of the junction pressures for Zone A when modeling Site B. Additional junction pressure exhibits can be found in **Appendix F**.

When the water level in the tank was below the domestic storage range, the pressures fell below the minimum desired level of 35 psi. However, this should not be an issue during a fire flow event since the minimum pressure requirement for fire flow conditions is 20 psi, which was met in the model.

Table 6. Zone A Junction Pressures at Bottom of Domestic Storage – 2023.

Tank Site	Total Number of Junctions	<35 psi	35-50 psi	50-80 psi	80-100 psi	>100 psi
Site A	154	0	2	81	56	11
Site B*	153	0	2	80	56	11
Site C/E**	154	0	2	81	56	11
Site D	153	0	2	80	56	11

***** Site B was included in the model provided by the City as the original elevated storage tank site in the Water Master Plan.

** Due to the similarity in location and elevation, Site E was considered to have hydraulic modeling results similar to that of Site C.

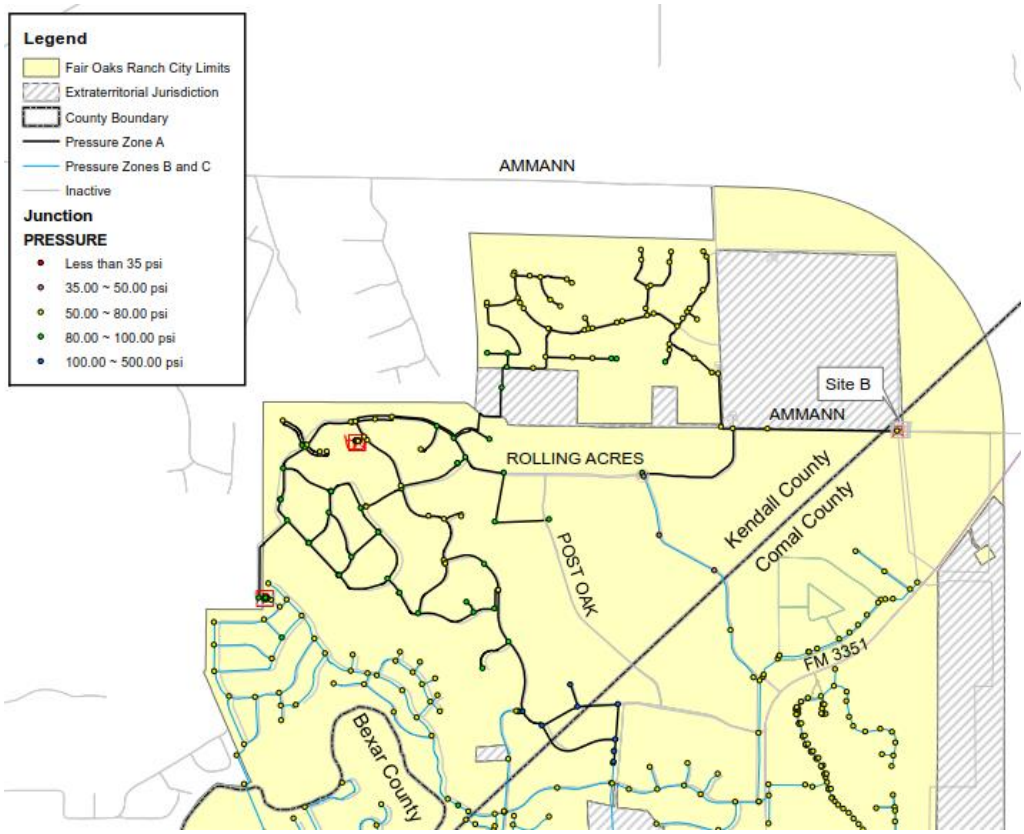
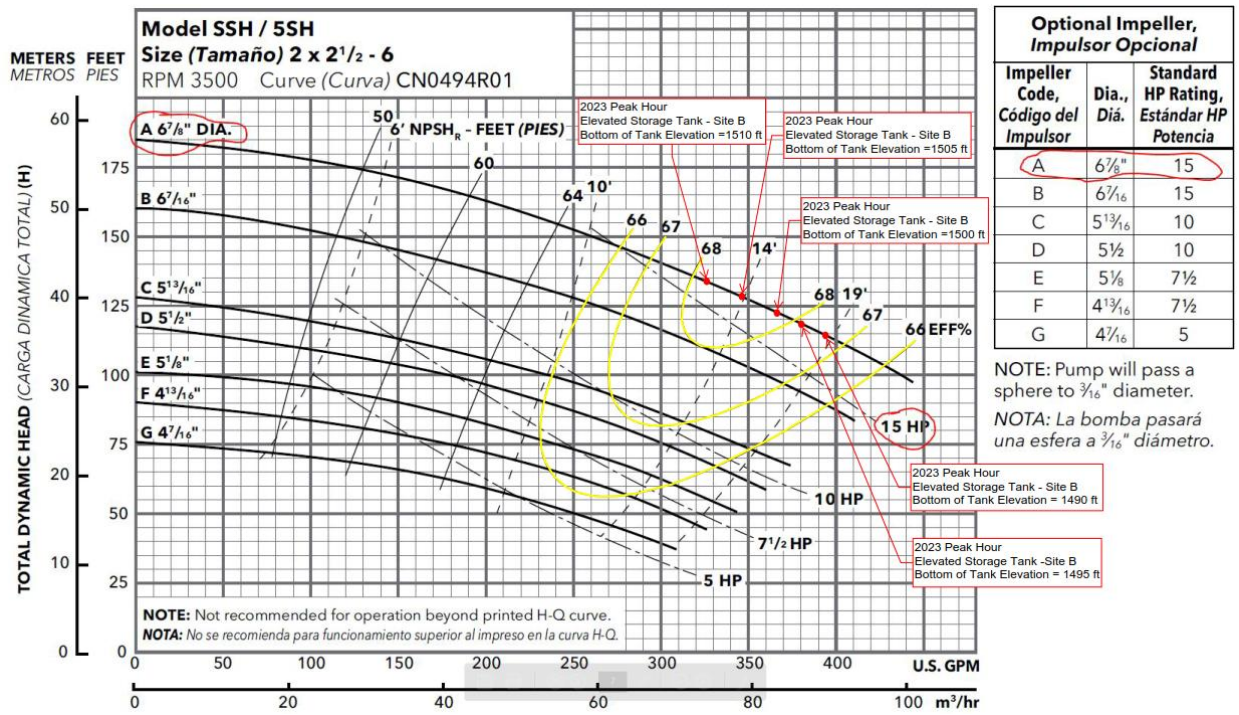


Figure 9. Zone A 2023 Pipe Network Junction Pressures at Bottom of Domestic Storage – Site B.

The pumps in the model were evaluated using the pump curves from the existing Plant #3 Pumps provided by the City. **Figure 10** contains the pump curve for the Plant #3 Pump station with annotations displaying the pump efficiencies for different hydraulic scenarios. The pump's optimal operating range is 66% efficiency or higher, as outlined in yellow on the pump curve.



Optional Impeller, *Impulsor Opcional*

Impeller Code, *Código del Impulsor*	Dia., *Diá.*	Standard HP Rating, *Estándar HP Potencia*
A	6⅞"	15
B	6⅞16	15
C	5¹³⁄₁₆	10
D	5½	10
E	5⅛	7½
F	4¹³⁄₁₆	7½
G	4⅞16	5

NOTE: Pump will pass a sphere to ³⁄₁₆" diameter.

NOTA: La bomba pasará una esfera a ³⁄₁₆" diámetro.

Figure 10. Plant #3 Pump Curve with Modeled Elevated Storage Tank - Site B.

It was determined that the City's existing pump stations alone could not support 2023 peak hour demands identified in the Water Master Plan due to system pressure within Zone A falling below the 35 psi minimum pressure requirement of TCEQ. An elevated storage tank or additional pump station would be required to maintain pressures above 35 psi throughout Zone A during 2023 peak hour demands. The elevated storage tank and Plant #3 pumps (without Plant #5) were able to meet peak hour demands and deliver sufficient pressure to the highest junctions within the City. The pumps were able to fill the modeled elevated storage tank.

Refer to the Higher Tank Operating Range and Lower Tank Operating Range sections for additional information regarding the pump analysis. Pump curves for the existing City system can be found in **Appendix D**. Refer to **Appendix F** for information about the pumps in the hydraulic model.

2040 BUILDOUT SCENARIO

Modeling of the Peak Hour, Steady State scenario revealed minimal variations in junction pressures between the tank sites for buildout conditions. The junctions that were unable to meet the TCEQ requirement of 35 psi were located on the highest terrain in the City and are just below the requirement at approximately 34 psi. The additional junction below 35 psi for Site B was located near the highest terrain in the City. Due to the increase of demands for buildout conditions, there was a decrease in the number of junctions with pressures greater than 80 psi in the 2040 scenario for all tank sites. When compared to the existing model, Sites A and D resulted in a greater number of junctions with pressures exceeding 80 psi. Junctions with a pressure greater than 80 psi may require pressure reducing valves on services to protect plumbing. **Table 7** provides a summary of the data obtained and displays the number of junctions by pressure category for each site. **Figure 11** provides a graphic representation of the junction pressures for Zone A when modeling Site B.

Table 7. Zone A Junction Pressures at Bottom of Domestic Storage – 2040.

Tank Site	Total Number of Junctions	<35 psi	35-50 psi	50-80 psi	80-100 psi	>100 psi
Site A	162	1	3	99	54	1
Site B*	162	2	4	106	46	1
Site C/E**	162	1	6	109	42	0
Site D	162	1	2	96	56	3

***** Site B was included in the model provided by the City as the original elevated storage tank site in the Water Master Plan.

** Due to the similarity in location and elevation, Site E was considered to have hydraulic modeling results similar to that of Site C.

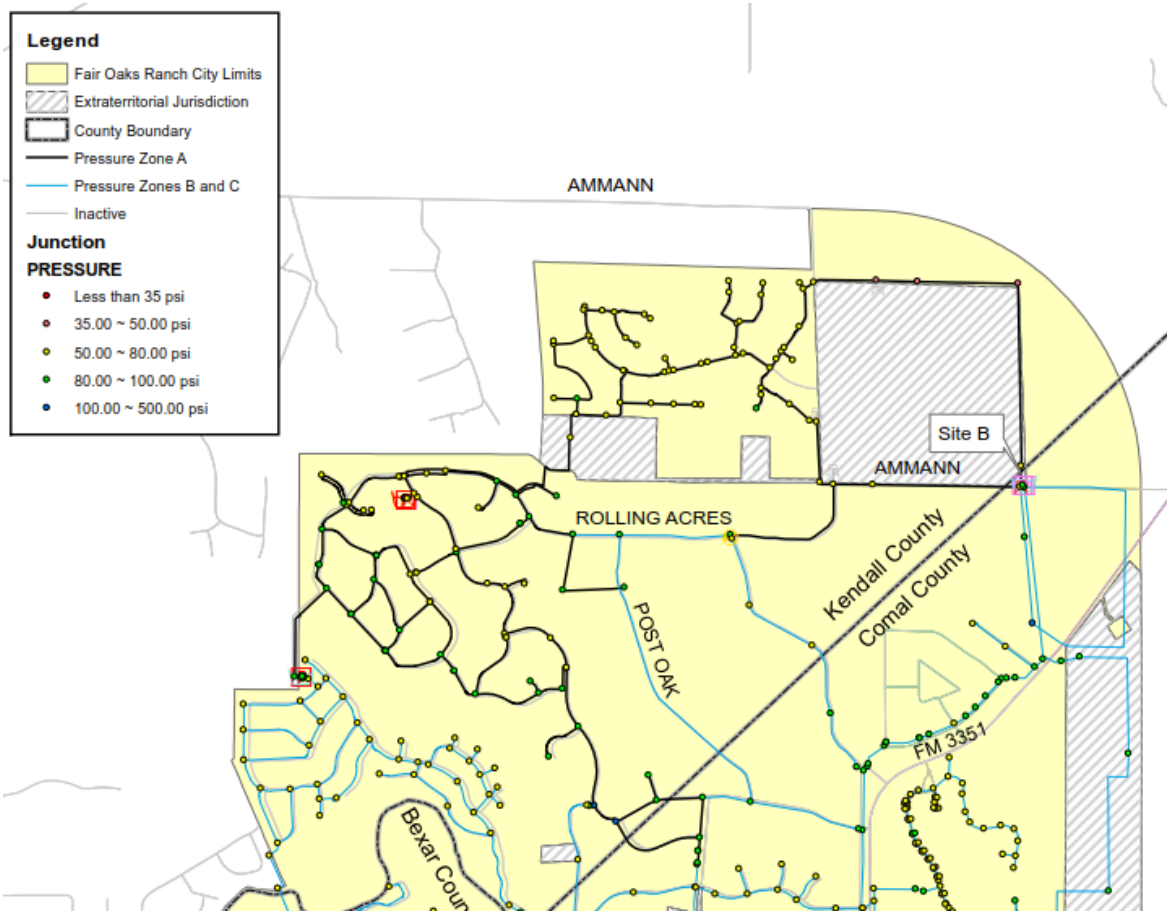


Figure 11. Zone A 2040 Pipe Network Junction Pressures at Bottom of Domestic Storage - Site B.

Additional modeling of the Max Day scenario was conducted by applying the diurnal pattern provided in the Water Master Plan for a period of 48 hours. Max Day simulations did not identify any concerns for tank site locations. Tank water level and pump operation graphs for Max Day simulations can be found in **Appendix F**.

PRESSURE REDUCING VALVE

The addition of a system pressure reducing valve (PRV) was evaluated for both 2023 and 2040 scenarios. An in-line PRV at the location displayed in **Figure 12** would be able to provide pressures within the desired range for approximately 48 parcels in Zone A. Additional junctions with pressures greater than 80 psi may require individual PRVs to protect plumbing.

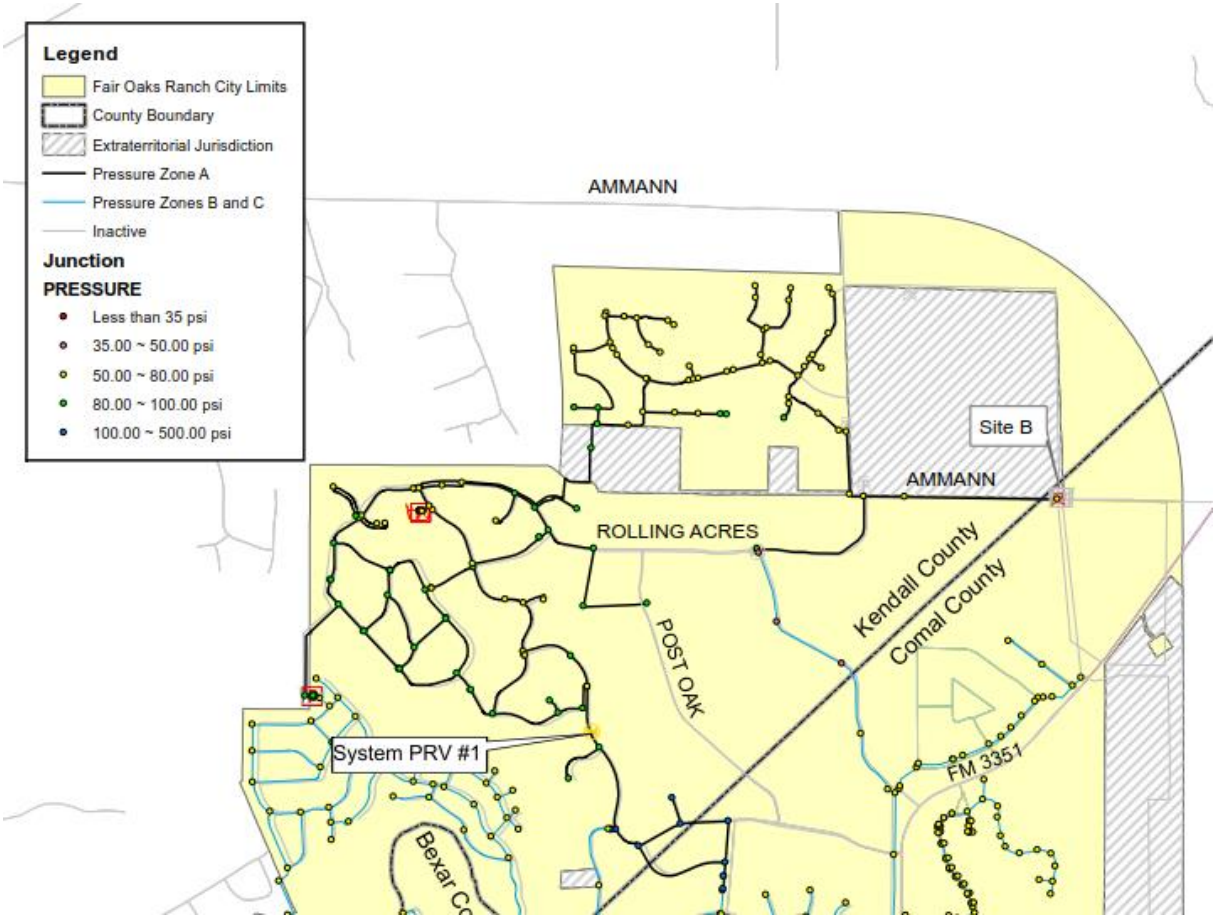


Figure 12. 2023 Site B Junction Pressures with Recommended Location of PRV.

The pressures throughout Zone A in the 2040 scenario are reduced, but a system PRV is still recommended in the same location as the 2023 scenario since the pressures in that area are greater than 80 psi. Refer to **Figure 13** to view the 2040 scenario with the recommended PRV location.

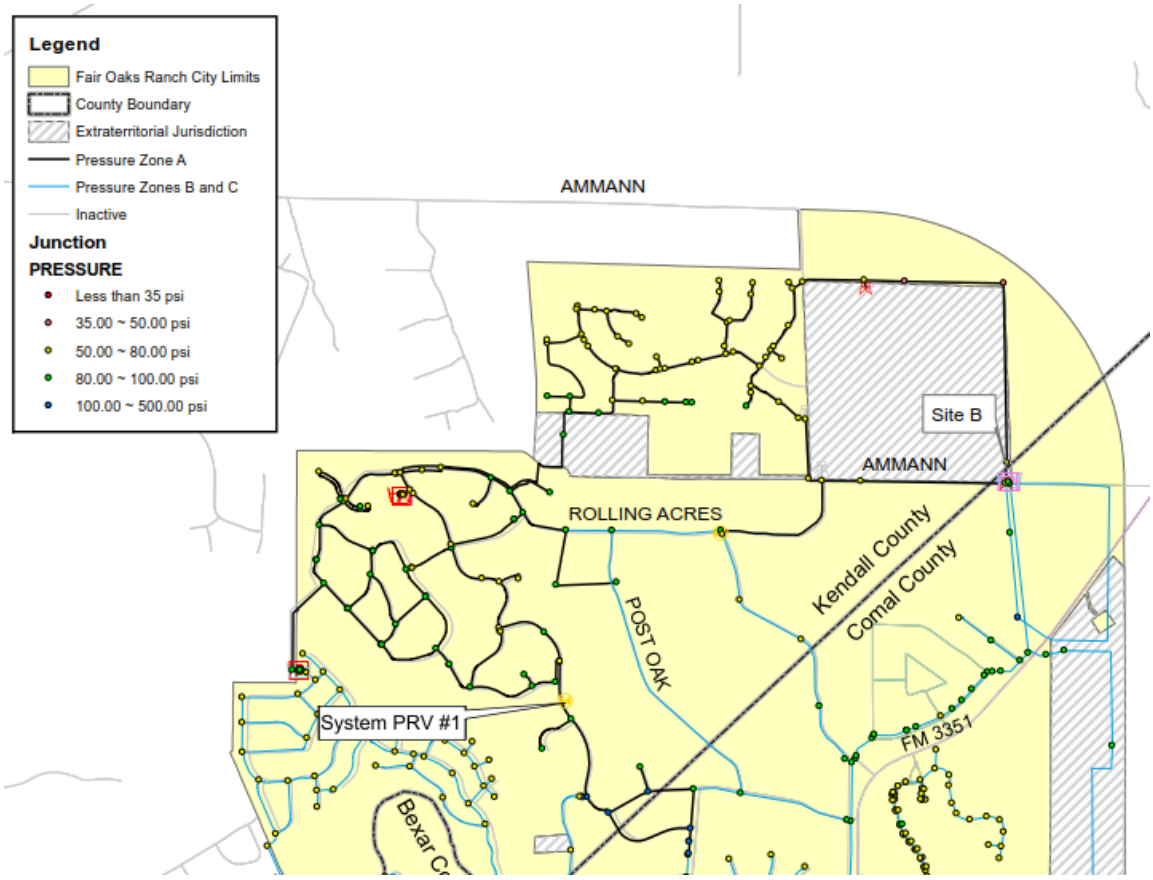


Figure 13. 2040 Site B Junction Pressures with Recommended Location of PRV.

An in-line PRV was also used to evaluate the effects on available fire flow in the northeast region of Pressure Zone B. Refer to the Fire Flow Scenario section for more information.

FIRE FLOW SCENARIO

The effects on available fire flow elevated storage tank site were evaluated in comparison to the model from the Water Master Plan. The Water Master Plan shows that the entirety of the existing system (2018 model) in Zone A has an available fire flow below 1,500 gpm. Modeling of the fire flow scenario in 2018 conditions for each potential tank site confirmed that none of the nodes in Zone A were able to provide a sufficient fire flow of 1,500 gpm. Refer to **Appendix D** for an exhibit of the existing system's available fire flow. The existing model did not contain a 2023 fire flow scenario, so Kimley-Horn added fire flow demands to the Max Day scenario for this analysis in accordance with the 2040 fire flow scenario provided in the existing model.

For both 2023 and buildout conditions, Sites A and D resulted in the greatest improvement in available fire flow. Sites C and E showed similar results to the originally modeled site, Site B. Lower available fire flow for Sites C and E was identified as a concern in the 2023 scenario due to the proposed 12-inch water line from the tank tying into the existing 8-inch water line along Woodland View. The effects of the constriction of fire flow are short term and are resolved in 2040 due to improvements in the system. Modeling of buildout conditions resulted in a notable increase in available fire flow versus the 2023 model, due to the addition of an elevated storage tank in conjunction with other improvements to the system.

Table 8 summarizes the modeling data and displays the number of junctions by pressure category for each potential tank site location for 2023 and 2040.

Table 8. Zone A Junction Available Fire Flow.

Year	Site Location	< 1,500 gpm	1,500-3,000 gpm	>3,000 gpm
2023	Site A	24	100	28
	Site B*	25	105	23
	Site C/E**	29	119	5
	Site D	24	101	26
2040	Site A	21	78	63
	Site B*	21	76	66
	Site C/E**	24	103	36
	Site D	24	64	79

***** Site B w as included in the model provided by the City as the original Water Master Plan elevated storage tank site.

** Due to the similarity in location and elevation, Site E w as considered to have hydraulic modeling results similar to that of Site C.

All the potential tank site locations create significant improvements in available fire flow. However, not all of Zone A has an available fire flow of 1,500 gpm or greater once the elevated storage tank is in operation. The Water Master Plan includes a new pump station (Plant 6) as an Intermediate Project (2023 planning period) in their Capital Improvement Plan to provide additional fire flow to Zone A.

The effects of the addition of an elevated storage tank on available fire flow for the northeast region of Zone B were also evaluated. A PRV in the model provided by the City was utilized to add the northeast region of Zone B to Zone A for the fire flow simulation. The PRV was modeled at a setting of 62 psi, which was the original setting in the model provided by the City. **Figure 14** displays the fire flow to the region of Zone B with the PRV closed and **Figure 15** displays the improvement in fire flow to the region of Zone B with the utilization of System PRV #2.

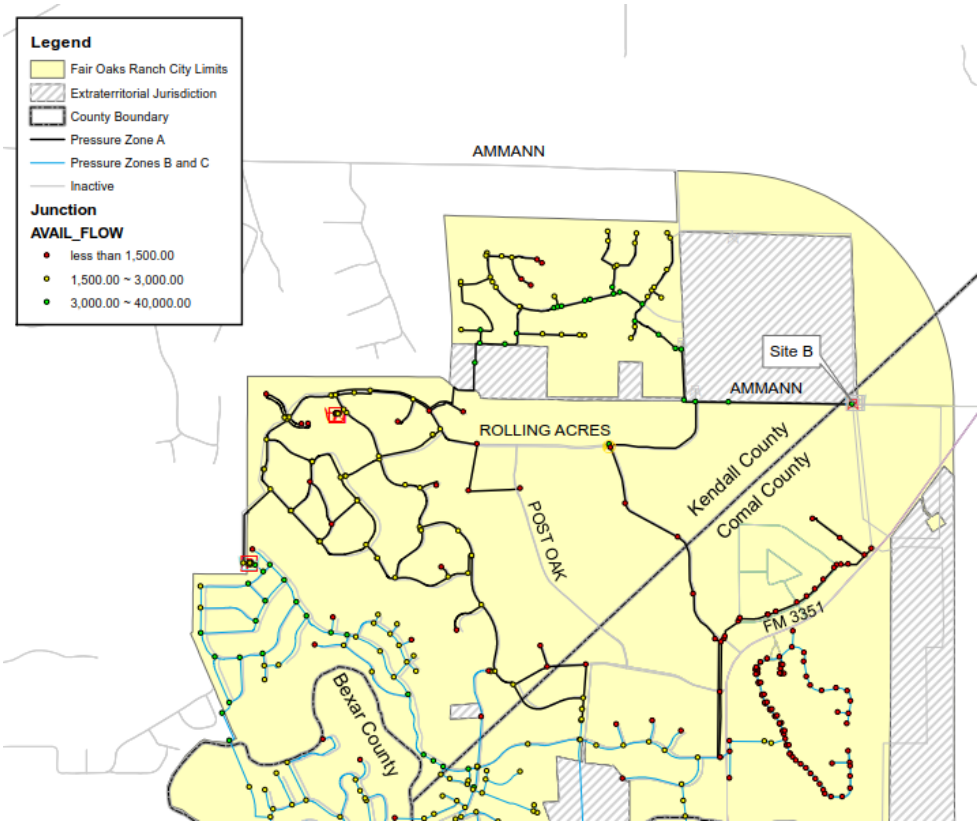


Figure 14. 2023 Fire Flow to Zone A and northeast region of Zone B, PRV closed.

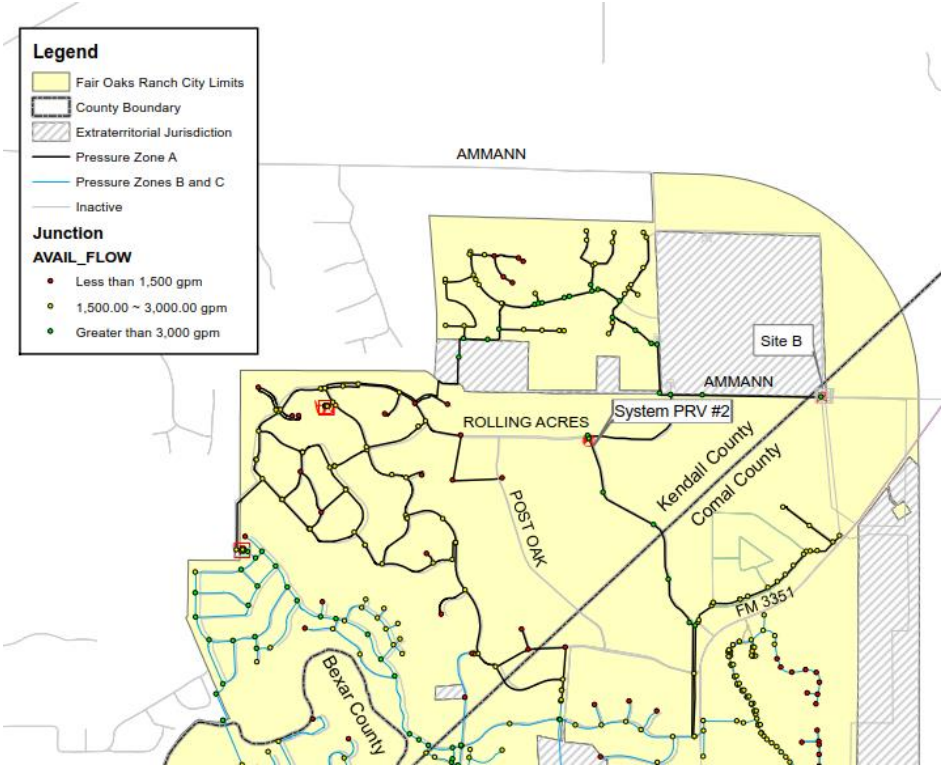


Figure 15. 2023 Fire Flow to Zone A and northeast region of Zone B, utilizing a PRV.

When the northeast region of Zone B was added to Zone A for the fire flow scenario, all 29 junctions from Zone B were able to provide an available fire flow greater than 1,500 gpm. If the northeast region of Zone B were to be added to Zone A, a PRV would be required in the location shown in **Figure 15** for System PRV #2.

MODEL RESULTS – HIGHER TANK OPERATING RANGE

Hydraulic analysis included evaluating the effects on Zone A of raising the elevated storage tank's operating range based on the following:

- Junction pressures at the top of domestic storage to determine impacts to junctions with pressures above 80 psi within Zone A.
- Junction pressures at the bottom of domestic storage to determine junctions with less than minimum TCEQ pressure requirements within Zone A and impacts to service area.
- Increase in available fire flow.

The model from the Water Master Plan included an elevated storage tank at Site B with a bottom of tank elevation of 1500 feet. Kimley-Horn modified the existing model and increased tank elevations by increments of 5 feet. As discussed previously, there were no significant changes in results between tank sites, so this model simulation was only evaluated at Site B, the originally modeled site. Modeling was conducted using the 2023 and 2040 Steady State, Peak Hour scenarios.

As shown in the **Table 9** and **Table 10**, increasing the tank elevation results in a greater number of junctions with pressures above 80 psi. Junctions with pressures above 80 psi may require pressure reducing valves on services to protect plumbing. There is a decrease in the number of junctions with pressures greater than 80 psi in the 2040 scenario for all tank elevations due to the increase in demand throughout Zone A.

The originally modeled site (Site B) in the Water Master Plan is at a bottom of tank elevation of 1500 feet, with a water level of 18 feet to the bottom of domestic storage. For this analysis, the operating range was raised and the resulting effects to the service area are the following:

Bottom of Tank Elevation = 1500 feet

- Elevated storage tank could provide service to all areas within Zone A at an elevation of 1438 feet or lower.
- Able to provide services to the entire City and ETJ.
- Highest ground elevation within City jurisdiction is 1435 feet.

Bottom of Tank Elevation = 1505 feet

- Elevated storage tank could provide service to all areas within Zone A at an elevation of 1443 feet or lower.
- Able to provide services to the entire City and ETJ.

Bottom of Tank Elevation = 1510 feet

- Elevated storage tank could provide service to all areas within Zone A at an elevation of 1448 feet or lower.
- Able to provide services to the entire City and ETJ.

Table 9 displays a summary of the junction pressures obtained when the water level was at the bottom of domestic storage for Site B for the different elevations.

Table 9. Higher Tank Operating Range Junction Pressures at Bottom of Domestic Storage - Site B.

Year	Bottom of Tank Elevation (ft)	Water Level in Tank	<35 psi	35-50 psi	50-80 psi	80-100 psi	>100 psi
2023	1500*	18	0	0	82	56	11
	1505	18	0	0	76	61	12
	1510	18	0	0	72	65	12
2040	1500*	18	0	5	106	46	0
	1505	18	0	2	105	49	1
	1510	18	0	2	91	61	3

* 1500 feet was included in the model provided by the City as the original Water Master Plan bottom of tank elevation.

Raising the operating range of the elevated storage tank does not result in significant improvements for low pressure junctions within Zone A when the water level in the tank is at the bottom of domestic storage. The junctions in the second lowest pressure category are located on the highest terrain in Zone A.

Table 10 displays a summary of the junction pressures obtained when the water level was at the top of domestic storage for Site B for the different elevations.

Table 10. Higher Tank Operating Range Junction Pressures at Top of Domestic Storage - Site B.

Year	Bottom of Tank Elevation (ft)	Water Level in Tank	<35 psi	35-50 psi	50-80 psi	80-100 psi	>100 psi
2023	1500*	30	0	0	69	67	13
	1505	30	0	0	60	73	16
	1510	30	0	0	54	77	18
2040	1500*	30	0	2	89	60	6
	1505	30	0	2	81	65	9
	1510	30	0	2	78	67	10

* 1500 feet was included in the model provided by the City as the original Water Master Plan bottom of tank elevation.

Raising the operating range of the elevated storage tank does not result in significant improvements for low pressure junctions within Zone A when the water level in the tank is at the top of domestic storage. The junctions in the second lowest pressure category are located on the highest terrain in Zone A.

The efficiency and flow of the existing pumps in the system were also evaluated when raising the operating range. Refer to **Figure 10** to view the pump curve for the Plant #3 Pumps with annotations displaying the pump efficiencies for the different hydraulic scenarios. When raising the operating range of the tank, the pumps efficiencies were within the optimal operating range. Peak hour demands were met, and sufficient pressure was delivered to the highest junctions within the City.

FIRE FLOW SCENARIO

The effects of raising the elevated storage tank's operating range on available fire flow were also evaluated at Site B. The existing model did not contain a 2023 fire flow scenario, so Kimley-Horn added fire flow demands to the Max Day scenario for this analysis in accordance with the 2040 fire flow scenario provided in the existing model.

Raising the operating range of the tank did not result in significant improvements in available fire flow to the junctions unable to provide sufficient fire flow at the originally modeled bottom of water elevation. The junctions within the lowest category of available fire flow received constricted fire flow due to the smaller pipes (2-inch to 6-inch lines) connecting them to the network. **Table 11** displays the number of junctions by range of available fire flow for the different elevations and 2023 and 2040 demands.

Table 11. Higher Tank Operating Range Junction Available Fire Flow – Site B.

Year	Bottom of Tank Elevation (ft)	<1,500 gpm	1,500-3,000 gpm	>3,000 gpm
2023	1500*	25	105	23
	1505	24	105	24
	1510	24	103	26
2040	1500*	21	74	66
	1505	20	72	69
	1510	20	70	71

* 1500 feet was included in the model provided by the City as the original Water Master Plan bottom of tank elevation.

Increasing the tank's operating range is advantageous when modeling fire flow scenarios. However, not all the junctions in Zone A were able to provide a fire flow of 1,500 gpm when the tank elevation was raised 10 feet. The resulting increase in junction pressure throughout Zone A may cause junctions with a pressure greater than 80 psi to require meter pressure reducing valves. Raising the operating range results in variations in pump efficiency, but the pumps are still within the optimal operating range. Increasing the tank operating range would increase the tank initial cost by approximately $2,500/foot.

MODEL RESULTS – LOWER TANK OPERATING RANGE

Hydraulic analysis included evaluating the effects of lowering the elevated storage tank's operating range based on the following:

- Junction pressures at the top of domestic storage to determine impacts to junctions with pressures above 80 psi within Zone A.
- Junction pressures at the bottom of domestic storage to determine junctions with less than minimum TCEQ pressure requirements within Zone A and impacts to service area.
- Available fire flow.

The original model from the Water Master Plan contained an elevated storage tank at Site B with a bottom of tank elevation of 1500 feet. The existing model was modified by Kimley-Horn, lowering tank elevations by increments of 5 feet. As discussed in the Model Results – Tank Sites section of this TM, there were no significant differences between each of the tank sites, so this simulation was evaluated using Site B. Modeling was conducted using 2023 and 2040 Steady State, Peak Hour scenarios.

As shown in **Table 12** and **Table 13**, decreasing the tank elevation results in fewer junctions with pressures above 80 psi. There is a decrease in the number of junctions with pressures greater than 80 psi in the 2040 scenario for all tank elevations.

The originally modeled site (Site B) in the Water Master Plan is at a bottom of tank elevation of 1500 feet, with a water level of 18 feet to the bottom of domestic storage. For this analysis, the operating range was lowered and the resulting effects to the service area are the following:

Bottom of Tank Elevation = 1500 feet

- Elevated storage tank could provide service to all areas within Zone A at an elevation of 1438 feet or lower.
- Able to provide services to the entire City and ETJ.

Bottom of Tank Elevation = 1495 feet

- Elevated storage tank could provide service to all areas within Zone A at an elevation of 1433 feet or lower.
- Inability to provide services to an area of approximately 2 acres.

Bottom of Tank Elevation = 1490 feet

- Elevated storage tank could provide service to all areas within Zone A at an elevation of 1428 feet or lower.
- Inability to provide services to an area of approximately 8 acres.

Figure 16 displays the area within Pressure Zone A that cannot be served when the operating range of the tank is lowered. The area that could not be served would become an additional pressure plane within the City's system and would need to be served by a separate booster pump station to meet TCEQ pressure requirements.

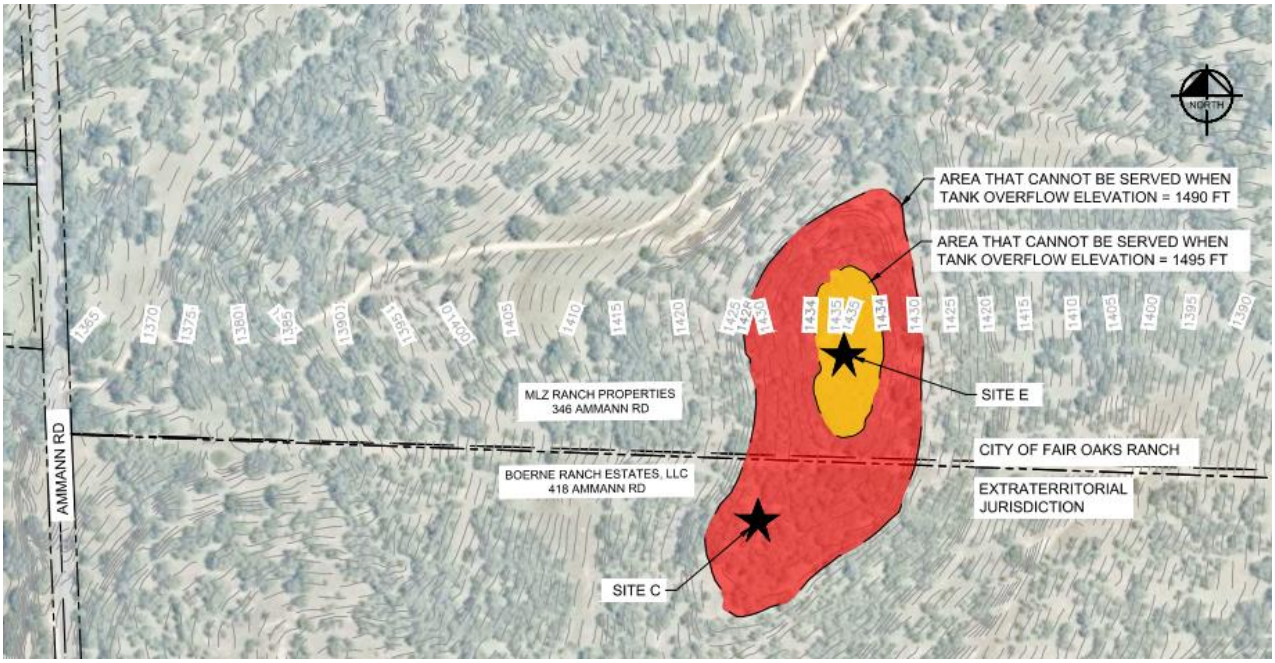


Figure 16. Lower Operating Range Service Area Exhibit.

Table 12 displays a summary of the junction pressures obtained when the water level was at the top of domestic storage for Site B for the different elevations.

Table 12. Lower Tank Operating Range Junction Pressures at Bottom of Domestic Storage -Site B.

Year	Bottom of Tank Elevation (ft)	Water Level in Tank	<35 psi	35-50 psi	50-80 psi	80-100 psi	>100 psi
2023	1490	18	0	2	102	41	4
	1495	18	0	0	91	51	7
	1500*	18	0	0	82	56	11
2040	1490	18	0	7	109	41	0
	1495	18	0	7	106	44	0
	1500*	18	0	5	106	46	0

* 1500 feet was included in the model provided by the City as the original Water Master Plan bottom of tank elevation.

Lowering the operating range of the elevated storage tank does not result in a significant difference in the number of junctions within the second lowest pressure category when the water level in the tank is at the bottom of domestic storage. The junctions in the second lowest pressure category are located on the highest terrain in Zone A.

Table 13 displays a summary of the junction pressures obtained when the water level was at the top of domestic storage for Site B for the different elevations.

Table 13. Lower Tank Operating Range Junction Pressures at Top of Domestic Storage - Site B.

Year	Bottom of Tank Elevation (ft)	Water Level in Tank	<35 psi	35-50 psi	50-80 psi	80-100 psi	>100 psi
2023	1490	30	0	0	80	58	11
	1495	30	0	0	72	65	12
	1500*	30	0	0	69	67	13
2040	1490	30	0	4	106	47	0
	1495	30	0	2	98	55	2
	1500*	30	0	2	89	60	6

* 1500 feet was included in the model provided by the City as the original Water Master Plan bottom of tank elevation.

Lowering the operating range of the elevated storage tank does not result in a difference in the number of junctions within the lowest pressure category when the water level in the tank is at the top of domestic storage. The junctions in the second lowest pressure category are located on the highest terrain in Zone A.

The efficiency and flow of the existing pumps in the system were also evaluated when raising the operating range. Refer to **Figure 10** to view the pump curve for the Plant #3 Pumps with annotations displaying the pump efficiencies for the different hydraulic scenarios. When lowering the operating range

of the tank, the pumps efficiencies were within the optimal operating range. Refer to **Figure 16** to view the areas within the City that would not be serviced if the operating range was lowered.

FIRE FLOW SCENARIO

The effects of lowering the elevated storage tank's operating range on available fire flow were also evaluated at Site B. The existing model did not contain a 2023 fire flow scenario, so Kimley-Horn added fire flow demands to the Max Day scenario for this analysis in accordance with the 2040 fire flow scenario provided in the existing model.

Lowering the operating range of the resulted in a greater number of junctions unable to provide sufficient fire flow. The junctions within the lowest category of available fire flow received constricted fire flow due to the smaller pipes (2-inch to 6-inch lines) connecting them to the network. **Table 14** displays the number of junctions by range of available fire flow for the different elevations and 2023 and 2040 demands.

Table 14. Lower Tank Operating Range Available Fire Flow – Site B.

Year	Bottom of Tank Elevation (ft)	<1,500 gpm	1,500-3,000 gpm	>3,000 gpm
2023	1490	26	106	21
	1495	26	105	22
	1500*	25	105	23
2040	1490	22	77	62
	1495	21	77	63
	1500*	21	74	66

* 1500 feet was included in the model provided by the City as the original Water Master Plan bottom of tank elevation.

Lowering the tank's operating range results in fewer junctions with pressures greater than 100 psi and an additional junction unable to provide sufficient fire flow. The pumps within the system saw minor variations in efficiency with a lower operating range but were still within the optimal operating range. Lowering the operating range would also reduce the tank initial cost by approximately $2,500/foot.

SUMMARY HYDRAULIC ANALYSIS AND SYSTEM IMPROVEMENTS

Hydraulic modeling of the potential site locations included evaluation of tank levels, junction pressures, and pump controls. When evaluated in comparison to the tank site established in the Water Master Plan, there was little variation in system performance between tank sites. **Table 15** contains a summary of the tank operating range hydraulic analysis.

Table 15. Summary Tank Operating Range Results.

Bottom of Tank Elevation (ft)	Benefits	Concerns	Infrastructure Required
1490	• Reduced number of junctions with pressures greater than 100 psi. • Initial tank cost approximately $25,000 less. • Minor increase in pump efficiency.	• An additional junction is unable to provide sufficient fire flow. • Minor reduction in pump efficiency during 2023 peak hour.	• Booster pump station or individual in line booster to service areas at an elevation of 1428 feet or higher. • System pressure reducing valve.
1495	• Reduced number of junctions with pressures greater than 100 psi. • Initial tank cost approximately $12,500 less. • Minor increase in pump efficiency.	• An additional junction is unable to provide sufficient fire flow in the 2023 scenario. • Minor reduction in pump efficiency during 2023 peak hour.	• Booster pump station or individual in line booster to service areas at an elevation of 1433 feet or higher. • System pressure reducing valve.
1500	• Originally modeled bottom of tank elevation in Water Master Plan.		• System pressure reducing valve.
1505	• An additional junction is able to provide sufficient fire flow.	• Initial tank cost approximately $12,500 more.	• System pressure reducing valve.
1510	• An additional junction is able to provide sufficient fire flow.	• Initial tank cost approximately $25,000 more.	• System pressure reducing valve.

COMMUNITY INPUT/FEEDBACK

City staff identified that community input was desired throughout the design of the elevated storage tank, with emphasis on input during the 30% design phase. This section documents the process as well as feedback received. **Figure 17** illustrates the approach to community engagement that is being taken during the 30% design phase.

Figure 17. 30% Design Phase Flow Diagram.

Public outreach provided during the 30% design phase included sharing information about the project to community members through community workshops while also creating the opportunity for residents to provide their feedback or voice a concern. Community members were informed about potential tank site locations, tank styles to be evaluated, and the project's evaluation criteria.

COMMUNITY WORKSHOP #1

Community Workshop #1 was hosted by the City and Kimley-Horn at the Spring Creek United Methodist Church on June 18, 2019. The objective of the first workshop was to obtain public input and inform the public of the following:

- Function and benefits of elevated storage tanks
- City's history of elevated storage tank project
- Project's schedule overview
- Potential tank site locations and tank styles to be evaluated
- Project's evaluation criteria

Thirty-one (31) out of the thirty-four (34) attendees were residents of Fair Oaks Ranch. Of those, nine (9) residents were identified as living within 1-mile radius of any four potential tank sites shown in **Figure 2**. The workshop consisted of a 15-minute presentation followed by an open-forum where two exhibit stations were set up for residents. Additional information about Community Workshop #1 can be found in **Appendix C.**

STATION 1

Station 1 consisted of an exhibit that identified the four potential tank sites. At this station the community expressed a strong preference for avoiding tank sites immediately adjacent to existing residences, and as such Sites B and C were favored (refer to **Figure 18**). Although Site B and C received all the votes from residents, Site C was favored due to the higher ground elevation that would reduce the overall height of the tank and possibly result in a lower potential construction cost.

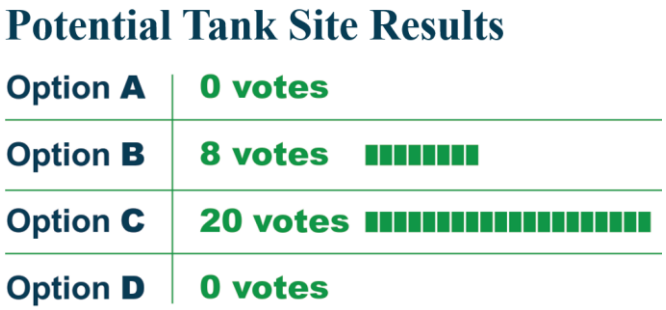


Figure 18.Community Workshop #1 - Station 1 Results.

STATION 2

Station 2 consisted of an exhibit showing three tank styles (Composite, Spheroid, Multi-Column) and a list of evaluation criteria. Feedback received at this station included strong concerns expressed with tank costs (initial capital cost and maintenance costs). An additional concern was the aethetics of the tank. The composite and spheriod tank were favored over the multi-column tank. Refer to **Figure 19** to view a summary of feedback received at Station 2.

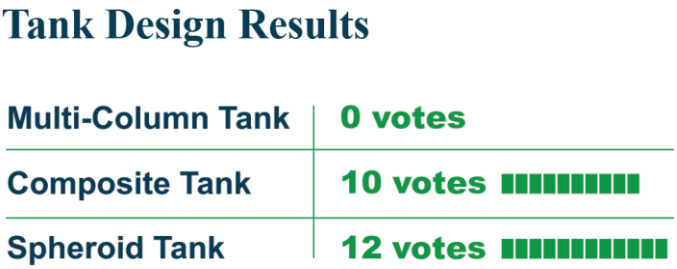


Figure 19.Community Workshop #1 - Station 2 Results.

COMMUNITY WORKSHOP #2

Community Workshop #2 was hosted by the City and Kimley-Horn at Cibolo Creek Community Church on September 10, 2019. The objective of the second workshop was to update the public on the project progress, obtain public input, and inform the public of the following:

- Function and benefits of elevated storage tanks
- City's history of elevated storage tank project
- Community Workshop #1
- Project's schedule overview
- Potential tank site locations and tank styles evaluated
- Site and tank style cost analysis
- Stakeholder update
- Project's evaluation criteria

Forty-three (43) residents of Fair Oaks Ranch attended the workshop. Of those residents, thirty-two (32) were identified as living within a 1-mile radius of any of the five potential tank sites shown in **Figure 2.** The workshop consisted of a 30-minute presentation followed by an open-forum where two exhibit stations were set up for residents. Additional information about Community Workshop #2 can be found in **Appendix C.**

STATION 1

Station 1 consisted of an exhibit that identified the five potential tank sites and an exhibit displaying construction estimates for each site and tank style. At this station, residents expressed a strong interest in tank sites located away from existing residences. As seen in **Figure 20**, Tank Site B received the majority of the votes.

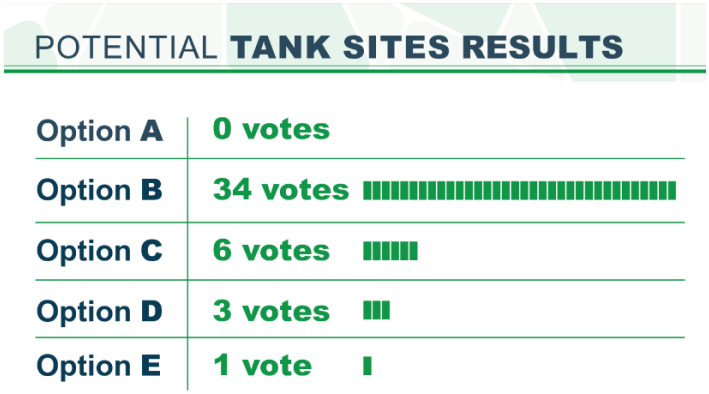


Figure 20. Community Workshop #2 - Station 1 Results.

STATION 2

Station 2 consisted of an exhibit showing three tank styles (Composite, Spheroid, Multi-Column) and an exhibit displaying life cycle costs by tank style. As shown in **Figure 21**, residents largely favored the composite tank style.

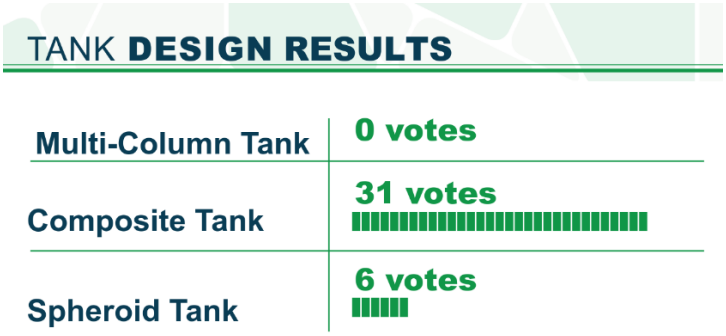


Figure 21. Community Workshop #2 - Station 2 Results.

HOME OWNERS ASSOCIATION (HOA) – STONE CREEK RANCH SUBDIVISION

Meeting with Stone Creek Ranch Subdivision home owner's association was hosted at the subdivision's clubhouse located at 205 Ranch Pass on August 12, 2019. Similar to workshop #1, the objective was to obtain public input; specifically, from Stone Creek Ranch subdivision residents due to the proximity of the potential tank sites being evaluated to the subdivision and inform the residents of the following:

- Function and benefits of elevated storage tanks

- City's history of elevated storage tank project
- Potential tank site locations and tank styles to be evaluated
- Project's evaluation criteria

Twenty-four (24) residents attended the meeting. The meeting consisted of a brief 10-minute presentation followed by questions from residents. One of the major concerns received during the meeting was the potential impact of resident's property value depreciating due to the elevated storage tank being built in close proximity to the subdivision. Additional feedback/concerns received during the meeting can be found in **Appendix C.**

STAKEHOLDER COORDINATION

Coordination with project stakeholders consisted of face-to-face meetings and/or conference calls. Below is a list of stakeholders that were coordinated with during 30% design phase:

- Federal Aviation Administration (FAA)
- Pedernales Electric Cooperative, Inc
- Kendall and Comal County
- Guadalupe-Blanco River Authority (GBRA)
- Camp Bullis and Camp Stanley Military Installations
- Private Developers (Green Land Ventures, LTD and Boerne Ranch Estates, LLC)
- Property Owner – MLZ Ranch Estates, LLC

Table 16 includes a list of the anticipated permits for each site location.

Table 16. Site Permits.

Permitting Entity	Sites				
	A	**B**	**C**	**D**	**E**
Federal Aviation Administration 7460	X	X	X	X	X
TCEQ – Plan Review	X	X	X	X	X
TCEQ – Edwards Aquifer Exception Request		X			

KENDALL AND COMAL COUNTY

Kimley-Horn researched the required driveway and right-of-way permits for the potential tank sites. It was determined that no permits for driveway or right-of-way would need to be obtained from Kendall or Comal County.

If voluntary lighting was selected for the tank, a Camp Bullis Dark Skies Zone Outdoor Lighting Permit would be required by Kendall (Sites A, C, D, and E) and Comal County (Site B).

PRIVATE DEVELOPERS

Kimley-Horn met with the private developers for both the Stone Creek Ranch Subdivision (Green Land Ventures, LTD) and Boerne Ranch Estates property. Both currently have development agreements in place with the City. For additional information regarding the development agreements, refer to the Developer Agreements section of this Technical Memorandum.

Green Land Ventures, LTD developer has an agreement with the City to provide a 0.5-acre tract to the City for the construction of an elevated storage tank within a half-mile from the subdivision property. In discussion with the developer, the preference was to select a site away from the subdivision given the current development within Stone Creek Ranch and feedback received from residents.

Boerne Ranch Estates, LLC developer also has an agreement in place with the City to provide a contribution in financial aid for the construction of the elevated storage tank. Although the developer would prefer for the elevated storage tank to be located outside the property, developer mentioned that the current subdivision layout was accounting for an elevated storage tank at Site C based on prior conversations with the City. No specific concerns were expressed with potential site location of Site B and Site D as well.

CAMP BULLIS

Kimley-Horn met with officials from Joint Base San Antonio (JBSA) to discuss potential concerns for the installation of an elevated storage tank within the Camp Bullis buffer zone (refer to **Figure 22**). No specific concerns regarding light or noise influences were identified at the meeting, apart from ensuring that the applicable light ordinances are followed. The primary concern for JBSA was the proximity of Site B to the Combat Assault Landing Strip (CALS), with the approximate tank height of 1545 feet. Sites A and C were preferred by JBSA, but an official study conducted by the FAA would be required to determine how these potential tank sites could impact the use of the CALS. Kimley-Horn submitted a permit application to the FAA to determine if any of the potential tank sites pose an air space hazard.

After submitting a formal request to the FAA for evaluation of Sites A, B, C, and D, it was determined that the sites were not a hazard to air navigation. Due to similarity in location and elevation to Site C, Site E was not submitted. Regardless of site selection, the final tank location will be updated during the design phase in form 7460 OE/AAA, as required. Similarly, if Site E were selected the OE/AAA form 7460 would be updated for Site C, due to the close proximity to Site E, indicating final tank location."

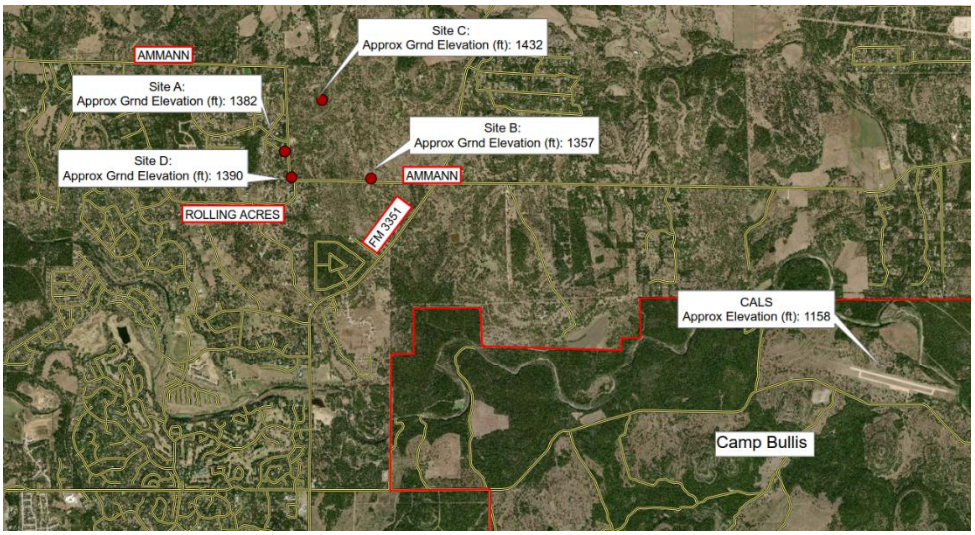


Figure 22. Site Locations in Relation to CALS.

CAMP STANLEY

Kimley-Horn and City staff met with representatives from Camp Stanley to discuss potential concerns for the development of an elevated storage tank. Camp Stanley is used primarily for ammunition storage and testing. Representatives of Camp Stanley indicated that all the potential tank site locations are outside the range of testing that Camp Stanly performs. Therefore, none of the potential tank site locations are of concern to Camp Stanley.

Figure 23. Project Location in Relation to Camp Stanley.

GBRA

Kimley-Horn and City staff met with GBRA staff on August 13, 2019 to discuss the addition of a second GBRA delivery point from the existing 24-inch GBRA transmission line to City of Fair Oaks Ranch water distribution system. GBRA indicated that requirements for an additional delivery point would be identical to the existing Plant #5 delivery point. The standard installation would include a fiberglass encased meter and valve. GBRA water will be provided to customer's water tank with an air gap. GBRA mentioned that the 24-inch transmission line along Ammann Road has a pressure of 80 to 90 psi. GBRA system pressure would not be able to supply water to an overflow elevation of 1530 feet. A booster pump would be required for the water to be pumped into the tank. The City noted that a ground storage tank would likely be added at the site of the second delivery point for GBRA water in addition to a booster pump. GBRA indicated that the customer would be responsible for the extension of the transmission line from the delivery point to the elevated storage tank. The extension of the transmission line would result in additional costs for Sites A, C, and E.

FAA

Obstruction Evaluation/Airport Airspace Analysis (OE/AAA) form 7460 was submitted to the FAA for four potential tank sites, Sites A, B, C, and D. Due to similarity in location and elevation to Site C, Site E was not submitted. Regardless of site selection, the final tank location will be updated during the design phase in form 7460 OE/AAA, as required. Similarly, if Site E were selected the OE/AAA form 7460 would be updated for Site C due to the close proximity to Site E indicating final tank location. FAA aeronautical study revealed that the structure does not exceed obstruction standards and would not be a hazard to air navigation for the four tank sites that were submitted. Additionally, marking and lighting of the water elevated storage tank for aviation safety is not required by the FAA. Voluntary installation of lighting would be in accordance with FAA Advisory Circular 70/7460-1L Change 2, as stated in the OE/AAA. The recommended voluntary nighttime lighting is flashing red lights, referred to as Aviation Red Obstruction Lights in the FAA Advisory Circular. The number of lights would be determined once a tank style is selected. No marking or lighting is recommended for the daytime. OE/AAA form 7460 results can be found in **Appendix E**.

MLZ RANCH PROPERTIES

Kimley-Horn and City staff met with the owner of MLZ Ranch Properties to discuss the potential tank location, Site E, on the southern border of their property. The owner indicated a strong preference for the tank site to be located away from their property. No concerns were expressed with the potential tank site location for Sites A, B, or D.

LAND ACQUISITION CONSIDERATIONS

Table 17 provides a summary of the existing agreements between the City and developers where each of the potential tank sites is located. Existing developer agreements can be found in **Appendix G**.

Table 17. Land Acquisition Considerations.

Entity	Potential Tank Site Location	Developer Agreement	Requirements	Land Acquisition Impact
Green Land Ventures, LTD	A	Yes	Water Supply Agreement Section III. L. "The Owner shall, at the Owner's sole cost and expense, secure a suitable one-half acre tract of land within one-half mile of the Property for the future location and construction of an elevated water storage tank. Owner agrees to donate this elevated storage tank site and surrounding sanitary easement to the City at no cost."	Purchase of up to one-half acre of land to be funded by Green Land Ventures, LTD.
Boerne Ranch Estates, LLC	B, C, D	Yes	Development Agreement. "Provide for infrastructure for the Land including: (i) streets and roads, (ii) street and road drainage, (iii) land drainage, (iv) internal water storage and distribution, wastewater collection, treatment and disposal and other utility systems."	Developer agreement does not specifically define whether the land would be donated by developer. Further coordination with developer will be required. The cost up to one-half acre would be the responsibility of Green Land Ventures, LTD.
MLZ Ranch Properties, LLC	E	None	Requirements for the site are to be determined if Site E were selected.	Site E is located within one-half mile of Green Land Ventures, LTD property. The cost of up to one-half acre of land acquisition would be the responsibility of Green Land Ventures, LTD.

OPINION OF PROBABLE CONSTRUCTION COST

Table 18 provides a summary of the Opinion of Probable Construction Cost (OPCC) for each tank site and style. The OPCC contains projected costs for a water elevated storage tank, site work, electrical and controls, mobilization, and off-site work including access roads, extension of existing utilities, and drainage. Cost of land acquisition is not included. Detailed breakdowns of cost projections can be found in **Appendix B**. In addition, opinion of probable construction costs were developed for system pressure reducing valves discussed in this TM. OPCC can be found in **Appendix B**.

Table 18. Opinion of Probable Construction Cost.

Site Locations	Composite	Spheroid	Multi-Column
Site A	$2,700,000	$2,600,000	$2,200,000
Site B	$3,500,000	$3,300,000	$2,900,000
Site C	$3,000,000	$2,700,000	$2,400,000
Site D	$2,700,000	$2,400,000	$2,100,000
Site E	$3,100,000	$3,000,000	$2,700,000

CONCLUSION

After evaluation of each tank site location and hydraulic analyses, Kimley-Horn developed preliminary conclusions according to the criteria outlined in the following summary sections.

SITE EVALUATION SUMMARY

Each tank site was evaluated based on the following criteria: tank height, site access, proximity to existing utilities, community input, and tank maintenance. After analyzing each potential tank site for the aforementioned criteria, Kimley-Horn developed the following conclusions:

- Sites C and E, Multi-Column tank has the lowest initial capital cost (refer to **Table 2**). Initial capital cost includes tank fabrication, tank assembly and coatings, standard accessories, and foundation at a reasonable depth. Site work is not included.
- Sites C and E, Multi-Column tank has the lowest TCO (refer to **Table 4**). TCO includes both the tank initial capital cost and the 60-year life cycle cost of the tank. Site work is not included.
- Site D, Multi-Column tank has the lowest overall construction cost (refer to **Table 16**). The OPCC includes site work, controls and electrical components, access road, utility extensions, and tank initial capital cost. Land acquisition costs are not included.
- The most recent community input received at Community Workshop #2 indicated strongest preferences for Site B and a composite style tank.

HYDRAULIC SUMMARY

Hydraulic analysis included evaluation of the following in Zone A: junction pressures, available fire flow, higher tank operating ranges, and lower tank operating ranges. After analyzing each potential tank site for the previously listed criteria, Kimley-Horn developed the following conclusions:

- None of the potential tank sites displayed a significant change in system performance when compared to the originally modeled site (Site B).
- Sites A and D provided an available fire flow similar to Site B. Sites C and E had a lower available fire flow due to proposed 12-inch water line connecting to existing system at the existing 8-inch water line off Woodland View.
- The pumps located in the existing system were not able to meet 2023 peak hour demands given in the Water Master Plan.
- The City's existing pumps were able to meet 2023 peak hour demands when an elevated storage tank was modeled. The pump efficiencies were within the optimal operating range. Refer to **Figure 10** to view the pump curve. An additional pump station would be required for buildout conditions.
- A system PRV at the location shown in **Figure 12** and **Figure 13** would result in pressures within an acceptable range for approximately 48 parcels within Zone A. Additional junctions with pressures greater than 80 psi may require individual PRVs.
- When the northeast region of Zone B was added to Zone A for the fire flow scenario, 29 junctions within Zone B were able to provide an available fire flow greater than 1,500 gpm. A pressure reducing valve would be required for this scenario, in the location shown in **Figure 14**.
- Raising the tank's operating range did not result in significant improvements for low pressure junctions (<50 psi) or junctions unable to provide fire flow greater than 1,500 gpm within Zone A.
- Lowering the tank's operating range did not result in a significant difference in the number of junctions within the lowest pressure category. There was a minor increase in the number of junctions unable to provide fire flow greater than 1,500 gpm.

APPENDIX

Appendix A. Site Layouts.

Appendix B. Opinion of Probable Construction Costs.

Appendix C. Meeting Minutes.

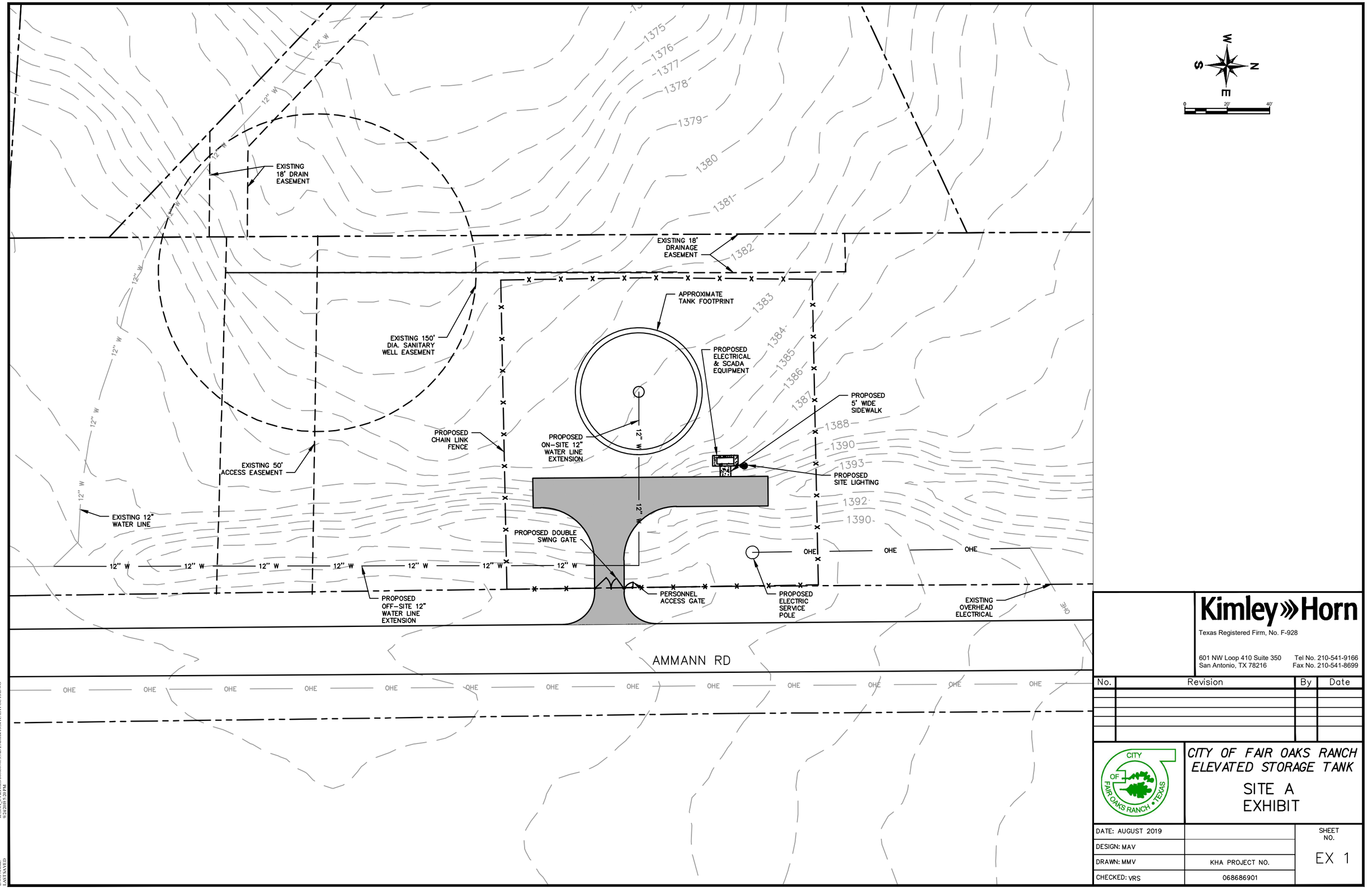
Appendix D. Existing Utility Information.

Appendix E. Federal Aviation Administration Form 7460 Results.

Appendix F. Hydraulic Modeling Data.

Appendix G. Existing Developer Agreements.

APPENDIX A: SITE LAYOUTS



Kimley»Horn

Texas Registered Firm, No. F-928

601 NW Loop 410 Suite 350 San Antonio, TX 78216

Tel No. 210-541-9166 Fax No. 210-541-8699

No.	Revision	By	Date

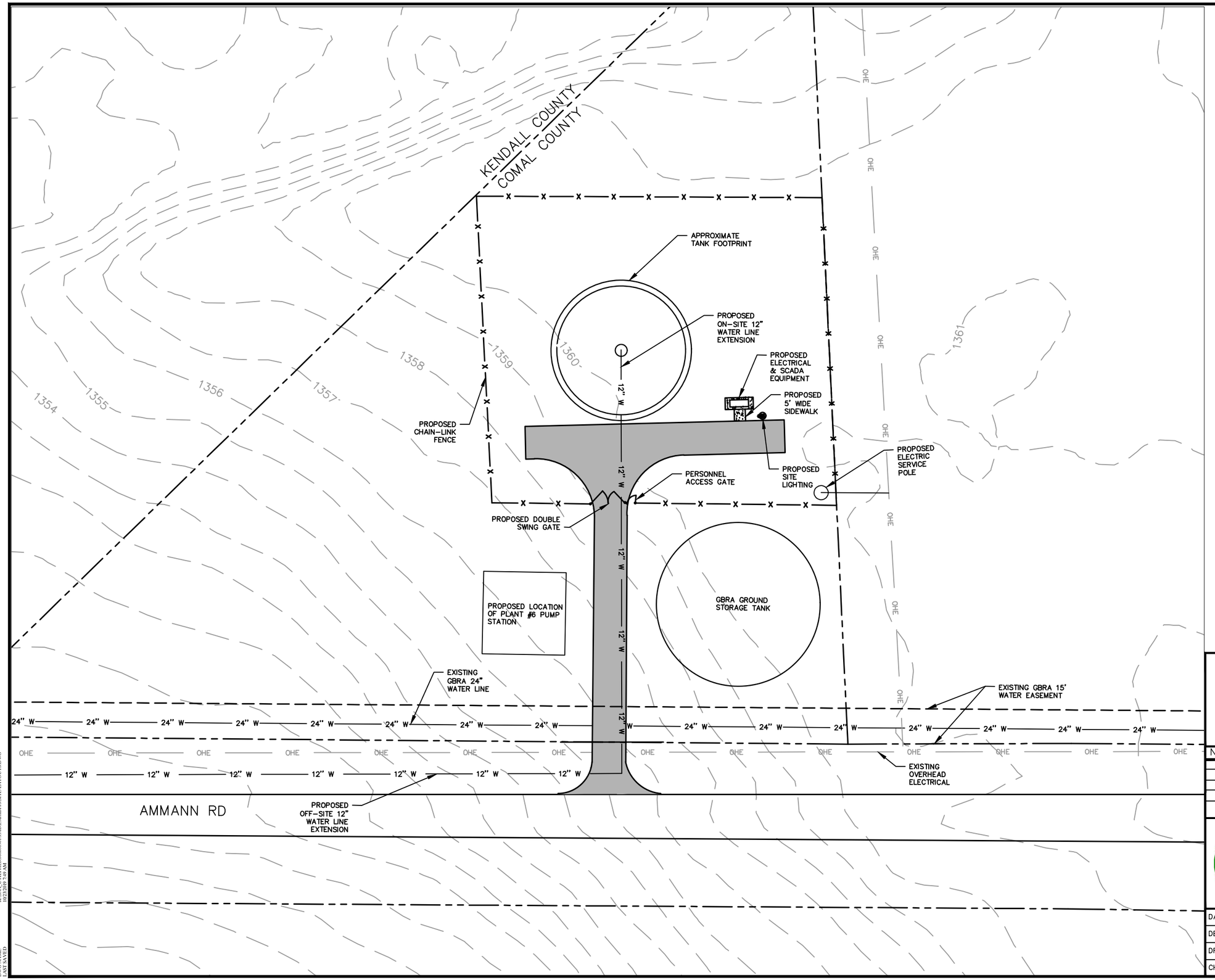
CITY OF FAIR OAKS RANCH ELEVATED STORAGE TANK

SITE A EXHIBIT

DATE: AUGUST 2019		SHEET NO.
DESIGN: MAV		
DRAWN: MMV	KHA PROJECT NO.	EX 1
CHECKED: VRS	068686901	

VASKA, MIKAELA 9/24/2019 5:23 PM
L:\USA_TEXAS\068686901\CAD\EXHIBITS\SITE-LAYOUTS.DWG
9/24/2019 5:20 PM

PLOTTED BY
DWG NAME
LAST SAVED



No.	Revision	By	Date

Kimley»Horn

Texas Registered Firm, No. F-928

601 NW Loop 410 Suite 350 San Antonio, TX 78216

Tel No. 210-541-9166 Fax No. 210-541-8699

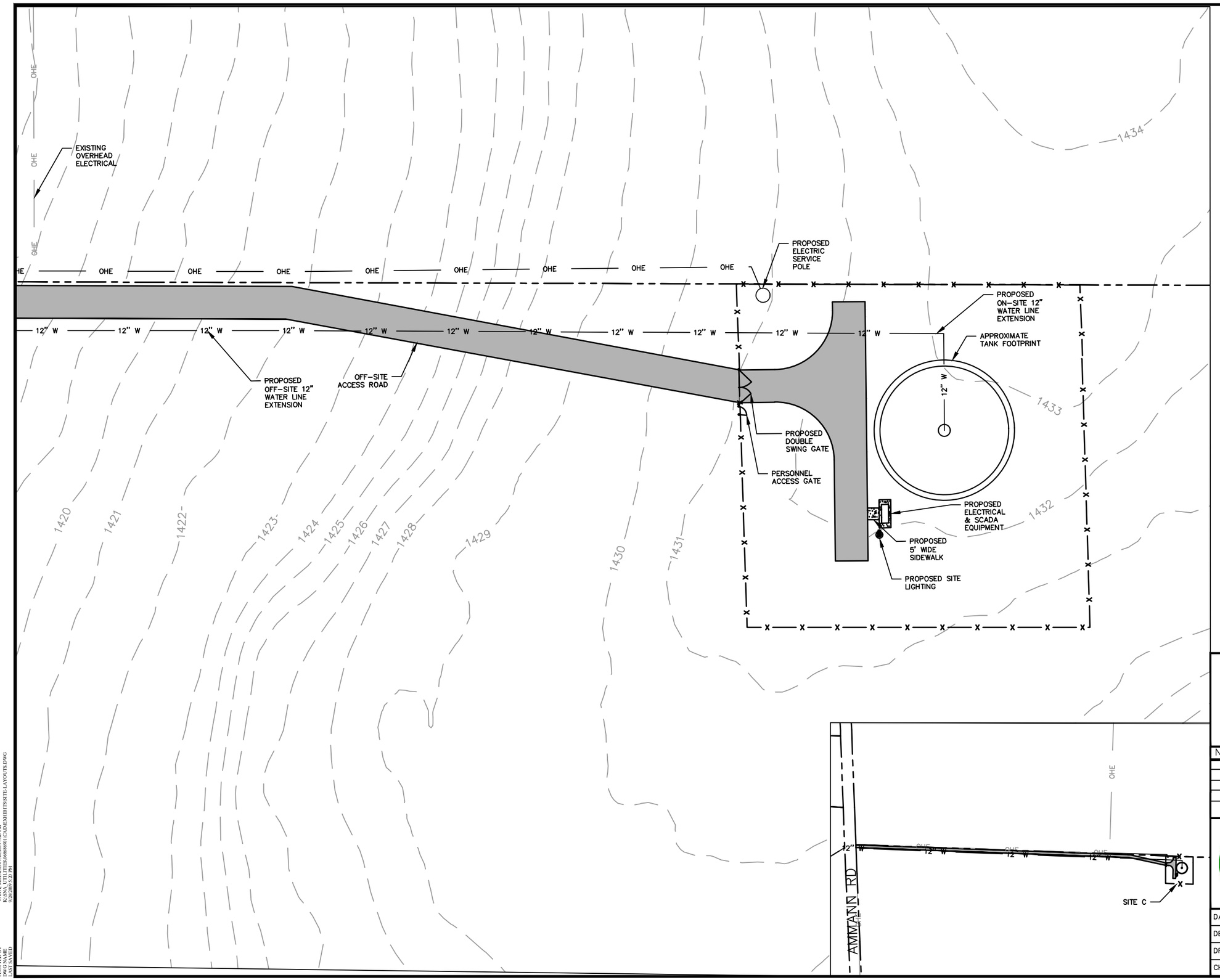
CITY OF FAIR OAKS RANCH • TEXAS

CITY OF FAIR OAKS RANCH ELEVATED STORAGE TANK

SITE B EXHIBIT

DATE: AUGUST 2019		SHEET NO.
DESIGN: MAV		EX 2
DRAWN: MMV	KHA PROJECT NO.	
CHECKED: VRS	068686901	

PLOTTED BY: VARA, MIKAELA 10/30/2019 10:16 AM
DWG NAME: K:\SNA_UTILITIES\068686901\CAD\EXHIBITS\SITE-LAYOUTS.DWG
LAST SAVED: 10/29/2019 3:59 PM



Kimley»Horn
Texas Registered Firm, No. F-928
601 NW Loop 410 Suite 350
San Antonio, TX 78216
Tel No. 210-541-9166
Fax No. 210-541-8699

No.	Revision	By	Date

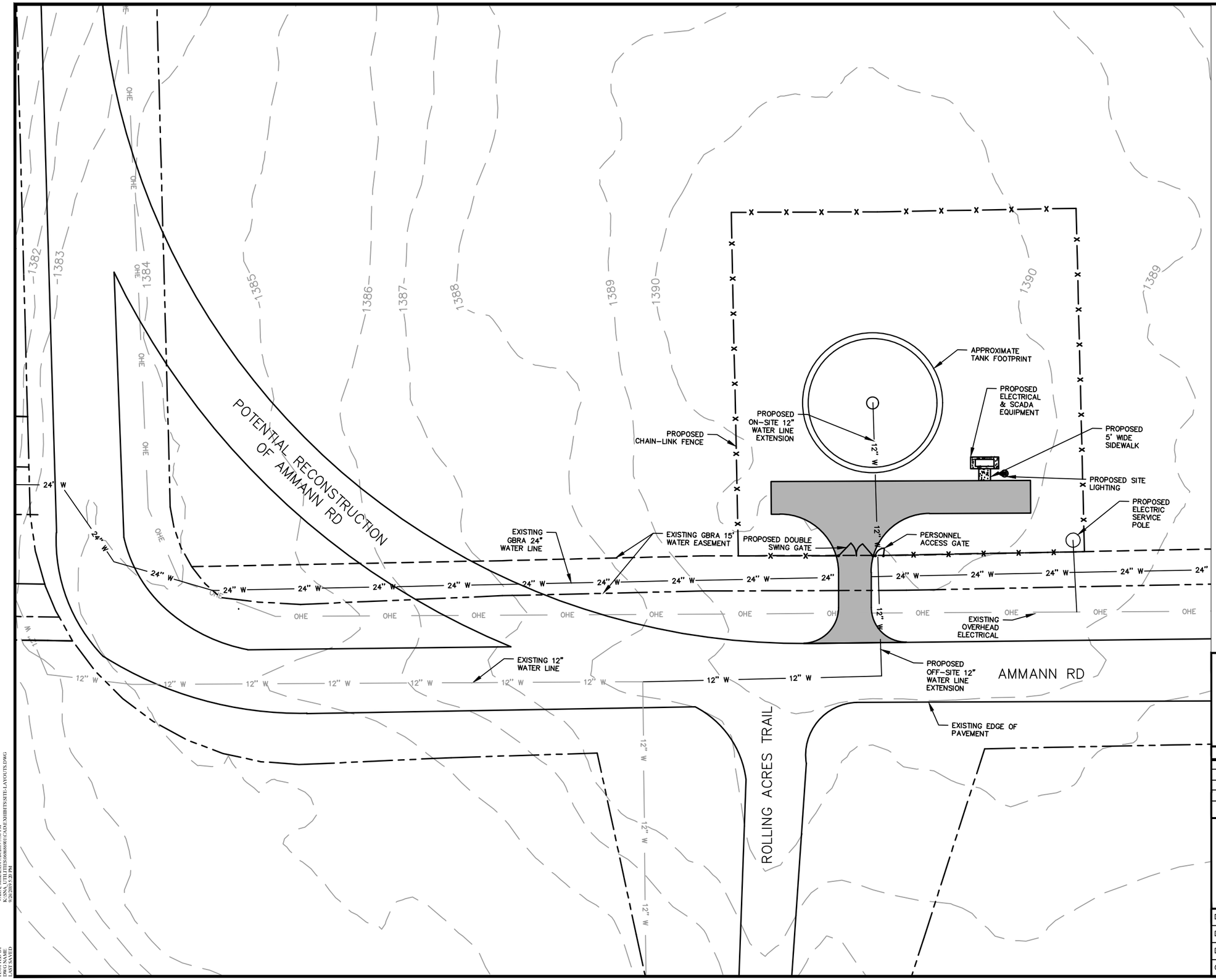
CITY OF FAIR OAKS RANCH • TEXAS

CITY OF FAIR OAKS RANCH ELEVATED STORAGE TANK

SITE C EXHIBIT

DATE: AUGUST 2019		SHEET NO.
DESIGN: MAV		EX 3
DRAWN: MMV	KHA PROJECT NO.	
CHECKED: VRS	068686901	

PLOTTED BY: VARA, MIKAELA 9/24/2019 5:28 PM
DWG NAME: K:\SNA_UTILITIES\068686901\CAD\EXHIBITS\SITE-LAYOUTS.DWG
LAST SAVED: 9/23/2019 5:20 PM



Kimley»Horn
Texas Registered Firm, No. F-928
601 NW Loop 410 Suite 350 San Antonio, TX 78216
Tel No. 210-541-9166 Fax No. 210-541-8699

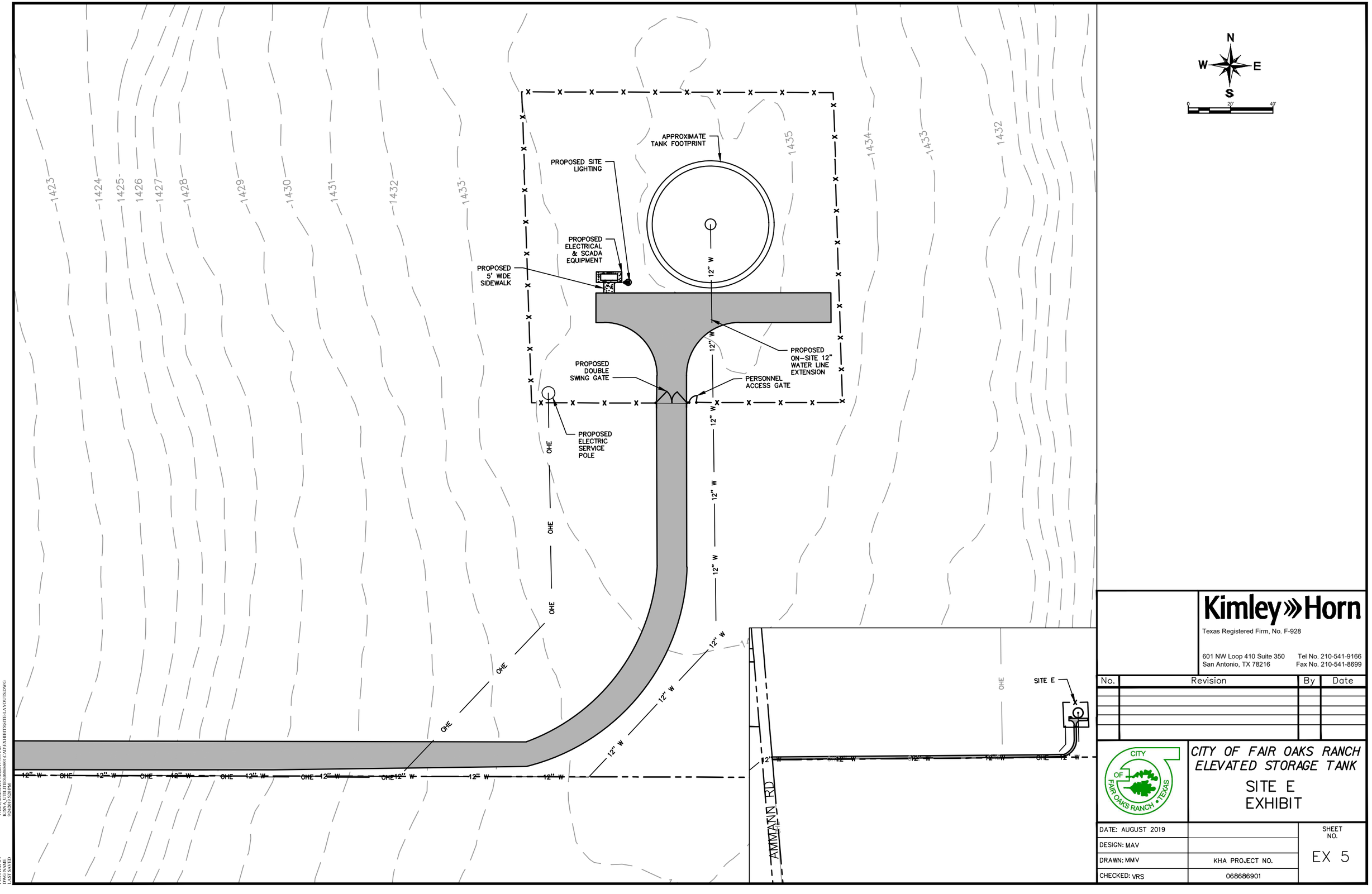
No.	Revision	By	Date

CITY OF FAIR OAKS RANCH • TEXAS

CITY OF FAIR OAKS RANCH ELEVATED STORAGE TANK
SITE D EXHIBIT

DATE: AUGUST 2019		SHEET NO.
DESIGN: MAV		
DRAWN: MMV	KHA PROJECT NO.	EX 4
CHECKED: VRS	068686901	

PLOTTED BY: VARA, MIRAELA
DWG NAME: K:\SNA_UTILITIES\068686901\CAD\EXHIBITS\SITE-LAYOUTS.DWG
LAST SAVED: 8/26/2019 5:30 PM



Kimley»Horn
Texas Registered Firm, No. F-928
601 NW Loop 410 Suite 350 San Antonio, TX 78216
Tel No. 210-541-9166 Fax No. 210-541-8699

No.	Revision	By	Date

CITY OF FAIR OAKS RANCH • TEXAS

CITY OF FAIR OAKS RANCH ELEVATED STORAGE TANK

SITE E EXHIBIT

DATE: AUGUST 2019		SHEET NO.
DESIGN: MAV		
DRAWN: MMV	KHA PROJECT NO.	EX 5
CHECKED: VRS	068686901	

PLOTTED BY: VARA, MIKAELA
DRAWING NAME: K:\SNA_LIT\068686901\CAD\EXHIBIT\SITE-LAYOUT.DWG
LAST SAVED: 9/24/2019 5:29 PM

APPENDIX B: OPINION OF PROBABLE CONSTRUCTION COSTS

Client:	**City of Fair Oaks Ranch**	**Date:**	**10/30/2019**
Project:	**0.5 MG Elevated Storage Tank**	**Prepared By:**	**MMV/MAV**
KHA No.:	**68686901**	**Checked By:**	**VRS**

Title:	**Water Elevated Storage Tank - Summary**	**Sheet:**	**1 of 6**

Item No.	Description		Projected Costs
1	**Site A**		
	Composite	$	2,700,000
	Spheroid	$	2,600,000
	Multi-Column	$	2,200,000
2	**Site B**		
	Composite	$	3,500,000
	Spheroid	$	3,300,000
	Multi-Column	$	2,900,000
3	**Site C**		
	Composite	$	3,000,000
	Spheroid	$	2,700,000
	Multi-Column	$	2,400,000
4	**Site D**		
	Composite	$	2,700,000
	Spheroid	$	2,400,000
	Multi-Column	$	2,100,000
5	**Site E**		
	Composite	$	3,100,000
	Spheroid	$	3,000,000
	Multi-Column	$	2,700,000

This total does not reflect engineering or technical services.

The Engineer has no control over the cost of labor, materials, equipment, or over the Contractor's methods of determining prices or over competitive bidding or market conditions. Opinions of probable costs provided herein are based on the information known to Engineer at this time and represent only the Engineer's judgment as a design professional familiar with the construction industry. The Engineer cannot and does not guarantee that proposals, bids, or actual construction costs will not vary from its opinions of probable costs.

Client:	**City of Fair Oaks Ranch**	**Date:**	**10/30/2019**
Project:	**0.5 MG Elevated Storage Tank**	**Prepared By:**	**MMV/MAV**
KHA No.:	**68686901**	**Checked By:**	**VRS**

Title:	**Water Elevated Storage Tank - SITE A**	**Sheet:**	**2 of 6**

Item No.	Description	Quantity	Unit	Unit Cost	Item Cost
1	**WATER ELEVATED STORAGE TANK (Approx. Tank Height to Overflow 148-feet)**				
	Composite Elevated Storage Tank	1	EA	$ 1,575,000.00	$ 1,575,000.00
	Spheroid Elevated Stroage Tank	1	EA	$ 1,375,000.00	$ 1,375,000.00
	Multi-Column Elevated Storage Tank	1	EA	$ 1,050,000.00	$ 1,050,000.00
1a	**Site Work**				
	8-inch Flex Base Paving (TXDOT ITEM 247, Type A, Grade 2)	250	SY	$ 30.00	$ 7,500.00
	Chain-link fence (#9 gauge, 3 strand barbed wire)	600	LF	$ 50.00	$ 30,000.00
	Onsite 12-inch Water Main and Fittings	150	LF	$ 200.00	$ 30,000.00
	Erosion Control/SWPPP/Site Restoration	1	LS	$ 25,000.00	$ 25,000.00
	Site Clearing and Grubbing	1	LS	$ 15,000.00	$ 15,000.00
	Site Grading (Including Berm)	1	LS	$ 25,000.00	$ 25,000.00
	Containment for Sandblasting/Coating (Spheroid and Multi-Column)	1	LS	$ 100,000.00	$ 100,000.00
	Containment for Sandblasting/Coating (Composite)	1	LS	$ 50,000.00	$ 50,000.00
	Chlorine Boosting	1	EA	$ 10,000.00	$ 10,000.00
1b	**Elevated Storage Tank**				
	Tank Control Valve Assembly	1	LS	$ 80,000.00	$ 80,000.00
	Tank Valves and Piping	1	LS	$ 40,000.00	$ 40,000.00
	Slab/Valve Vault (Multi-Column EST Only)	1	LS	$ 20,000.00	$ 20,000.00
1c	**Electrical and Controls**				
	Electrical Service and Distribution	1	LS	$ 35,000.00	$ 35,000.00
	SCADA System	1	LS	$ 25,000.00	$ 25,000.00
	Security System	1	LS	$ 25,000.00	$ 25,000.00
	Instrumentation	1	LS	$ 22,000.00	$ 22,000.00
	Lighting	1	LS	$ 17,000.00	$ 17,000.00
	Grounding	1	LS	$ 6,000.00	$ 6,000.00
2	**Off-site Access Road and Grading**	40	SY	$ 30.00	$ 1,200.00
3	**Off-site Water Main**				
	12-inch Water Main and Fittings	225	LF	$ 150.00	$ 33,750.00
4	**Mobilization (10% of items 1, 2, 3 - rounded)**	1	LS	$ 200,000.00	$ 200,000.00

Contingency	20%
Composite (Rounded)	**$ 2,700,000.00**
Spheroid (Rounded)	**$ 2,600,000.00**
Multi-Column (Rounded)	**$ 2,200,000.00**

- [x] No Design Completed
- [ ] Preliminary Design
- [ ] Final Design

Client:	**City of Fair Oaks Ranch**	**Date:**	**10/30/2019**
Project:	**0.5 MG Elevated Storage Tank**	**Prepared By:**	**MMV/MAV**
KHA No.:	**68686901**	**Checked By:**	**VRS**

Title:	**Water Elevated Storage Tank - SITE B**	**Sheet:**	**3 of 6**

Item No.	Description	Quantity	Unit	Unit Cost	Item Cost
1	**WATER ELEVATED STORAGE TANK (Approx. Tank Height to Overflow 173-feet)**				
	Composite Elevated Storage Tank	1	EA	$ 1,650,000.00	$ 1,650,000.00
	Spheroid Elevated Stroage Tank	1	EA	$ 1,450,000.00	$ 1,450,000.00
	Multi-Column Elevated Storage Tank	1	EA	$ 1,100,000.00	$ 1,100,000.00
1a	**Site Work**				
	8-inch Flex Base Paving (TXDOT ITEM 247, Type A, Grade 2)	250	SY	$ 30.00	$ 7,500.00
	Chain-link fence (#9 gauge, 3 strand barbed wire)	600	LF	$ 50.00	$ 30,000.00
	Onsite 12-inch Water Main and Fittings	100	LF	$ 200.00	$ 20,000.00
	Erosion Control/SWPPP/Site Restoration	1	LS	$ 25,000.00	$ 25,000.00
	Site Clearing and Grubbing	1	LS	$ 15,000.00	$ 15,000.00
	Site Grading	1	LS	$ 5,000.00	$ 5,000.00
	Containment for Sandblasting/Coating (Spheroid and Multi-Column)	1	LS	$ 100,000.00	$ 100,000.00
	Containment for Sandblasting/Coating (Composite)	1	LS	$ 50,000.00	$ 50,000.00
	Chlorine Boosting	1	EA	$ 10,000.00	$ 10,000.00
1b	**Elevated Storage Tank**				
	Tank Control Valve Assembly	1	LS	$ 80,000.00	$ 80,000.00
	Tank Valves and Piping	1	LS	$ 40,000.00	$ 40,000.00
	Slab/Valve Vault (Multi-Column EST Only)	1	LS	$ 20,000.00	$ 20,000.00
1c	**Electrical and Controls**				
	Electrical Service and Distribution	1	LS	$ 35,000.00	$ 35,000.00
	SCADA System	1	LS	$ 25,000.00	$ 25,000.00
	Security System	1	LS	$ 25,000.00	$ 25,000.00
	Instrumentation	1	LS	$ 22,000.00	$ 22,000.00
	Lighting	1	LS	$ 17,000.00	$ 17,000.00
	Grounding	1	LS	$ 6,000.00	$ 6,000.00
2	**Off-site Access Road and Grading**	350	SY	$ 30.00	$ 10,500.00
3	**Off-site Water Main**				
	12-inch Water Main and Fittings	3,650	LF	$ 150.00	$ 547,500.00
4	**Mobilization (10% of items 1, 2, 3 - rounded)**	1	LS	$ 260,000.00	$ 260,000.00

Contingency	20%
Composite (Rounded)	**$ 3,500,000.00**
Spheroid (Rounded)	**$ 3,300,000.00**
Multi-Column (Rounded)	**$ 2,900,000.00**

- [x] No Design Completed
- [ ] Preliminary Design
- [ ] Final Design

Client:	**City of Fair Oaks Ranch**	**Date:**	**10/30/2019**
Project:	**0.5 MG Elevated Storage Tank**	**Prepared By:**	**MMV/MAV**
KHA No.:	**68686901**	**Checked By:**	**VRS**

Title: **Water Elevated Storage Tank - SITE C** **Sheet:** **4 of 6**

Item No.	Description	Quantity	Unit	Unit Cost	Item Cost
1	**WATER ELEVATED STORAGE TANK (Approx. Tank Height to Overflow 98-feet)**				
	Composite Elevated Storage Tank	1	EA	$ 1,450,000.00	$ 1,450,000.00
	Spheroid Elevated Stroage Tank	1	EA	$ 1,250,000.00	$ 1,250,000.00
	Multi-Column Elevated Storage Tank	1	EA	$ 975,000.00	$ 975,000.00
1a	**Site Work**				
	8-inch Flex Base Paving (TXDOT ITEM 247, Type A, Grade 2)	250	SY	$ 30.00	$ 7,500.00
	Chain-link fence (#9 gauge, 3 strand barbed wire)	600	LF	$ 50.00	$ 30,000.00
	Onsite 12-inch Water Main and Fittings	130	LF	$ 200.00	$ 26,000.00
	Erosion Control/SWPPP/Site Restoration	1	LS	$ 25,000.00	$ 25,000.00
	Site Clearing and Grubbing	1	LS	$ 15,000.00	$ 15,000.00
	Site Grading	1	LS	$ 5,000.00	$ 5,000.00
	Chlorine Boosting	1	EA	$ 10,000.00	$ 10,000.00
1b	**Elevated Storage Tank**				
	Tank Control Valve Assembly	1	LS	$ 80,000.00	$ 80,000.00
	Tank Valves and Piping	1	LS	$ 40,000.00	$ 40,000.00
	Slab/Valve Vault (Multi-Column EST Only)	1	LS	$ 20,000.00	$ 20,000.00
1c	**Electrical and Controls**				
	Electrical Service and Distribution	1	LS	$ 35,000.00	$ 35,000.00
	SCADA System	1	LS	$ 25,000.00	$ 25,000.00
	Security System	1	LS	$ 25,000.00	$ 25,000.00
	Instrumentation	1	LS	$ 22,000.00	$ 22,000.00
	Lighting	1	LS	$ 17,000.00	$ 17,000.00
	Grounding	1	LS	$ 6,000.00	$ 6,000.00
2	**Off-site Overhead Electric Extension (single-phase)**	350	LF	$ 100.00	$ 35,000.00
3	**Off-site Access Road and Grading**	2,600	SY	$ 30.00	$ 78,000.00
4	**Off-site Water Main**				
	12-inch Water Main and Fittings	1,950	LF	$ 150.00	$ 292,500.00
5	**Mobilization (10% of items 1, 2, 3, 4 - rounded)**	1	LS	$ 230,000.00	$ 230,000.00

Contingency	20%
Composite (Rounded)	**$ 3,000,000.00**
Spheroid (Rounded)	**$ 2,700,000.00**
Multi-Column (Rounded)	**$ 2,400,000.00**

- ☑ No Design Completed
- ☐ Preliminary Design
- ☐ Final Design

Client:	**City of Fair Oaks Ranch**	**Date:**	**10/30/2019**
Project:	**0.5 MG Elevated Storage Tank**	**Prepared By:**	**MMV/MAV**
KHA No.:	**68686901**	**Checked By:**	**VRS**

Title:	**Water Elevated Storage Tank - SITE D**	**Sheet:**	**5 of 6**

Item No.	Description	Quantity	Unit	Unit Cost	Item Cost
1	**WATER ELEVATED STORAGE TANK (Approx. Tank Height to Overflow 140-feet)**				
	Composite Elevated Storage Tank	1	EA	$ 1,550,000.00	$ 1,550,000.00
	Spheroid Elevated Stroage Tank	1	EA	$ 1,350,000.00	$ 1,350,000.00
	Multi-Column Elevated Storage Tank	1	EA	$ 1,025,000.00	$ 1,025,000.00
1a	**Site Work**				
	8-inch Flex Base Paving (TXDOT ITEM 247, Type A, Grade 2)	250	SY	$ 30.00	$ 7,500.00
	Chain-link fence (#9 gauge, 3 strand barbed wire)	600	LF	$ 50.00	$ 30,000.00
	Onsite 12-inch Water Main and Fittings	75	LF	$ 200.00	$ 15,000.00
	Erosion Control/SWPPP/Site Restoration	1	LS	$ 25,000.00	$ 25,000.00
	Site Clearing and Grubbing	1	LS	$ 15,000.00	$ 15,000.00
	Site Grading	1	LS	$ 5,000.00	$ 5,000.00
	Containment for Sandblasting/Coating (Spheroid and Multi-Column)	1	LS	$ 100,000.00	$ 100,000.00
	Containment for Sandblasting/Coating (Composite)	1	LS	$ 50,000.00	$ 50,000.00
	Chlorine Boosting	1	EA	$ 10,000.00	$ 10,000.00
1b	**Elevated Storage Tank**				
	Tank Control Valve Assembly	1	LS	$ 80,000.00	$ 80,000.00
	Tank Valves and Piping	1	LS	$ 40,000.00	$ 40,000.00
	Slab/Valve Vault (Multi-Column EST Only)	1	LS	$ 20,000.00	$ 20,000.00
1c	**Electrical and Controls**				
	Electrical Service and Distribution	1	LS	$ 35,000.00	$ 35,000.00
	SCADA System	1	LS	$ 25,000.00	$ 25,000.00
	Security System	1	LS	$ 25,000.00	$ 25,000.00
	Instrumentation	1	LS	$ 22,000.00	$ 22,000.00
	Lighting	1	LS	$ 17,000.00	$ 17,000.00
	Grounding	1	LS	$ 6,000.00	$ 6,000.00
2	**Off-site Access Road and Grading**	150	SY	$ 30.00	$ 4,500.00
3	**Off-site Water Main**				
	12-inch Water Main and Fittings	200	LF	$ 150.00	$ 30,000.00
4	**Mobilization (10% of items 1, 2, 3 - rounded)**	1	LS	$ 200,000.00	$ 200,000.00

Contingency		20%
Composite (Rounded)	**$**	**2,700,000.00**
Spheroid (Rounded)	**$**	**2,400,000.00**
Multi-Column (Rounded)	**$**	**2,100,000.00**

- [x] No Design Completed
- [ ] Preliminary Design
- [ ] Final Design

Client:	**City of Fair Oaks Ranch**	**Date:**	**10/30/2019**
Project:	**0.5 MG Elevated Storage Tank**	**Prepared By:**	**MMV/MAV**
KHA No.:	**68686901**	**Checked By:**	**VRS**

Title: **Water Elevated Storage Tank - SITE E** **Sheet:** **6 of 6**

Item No.	Description	Quantity	Unit	Unit Cost	Item Cost
1	**WATER ELEVATED STORAGE TANK (Approx. Tank Height to Overflow 95-feet)**				
	Composite Elevated Storage Tank	1	EA	$ 1,450,000.00	$ 1,450,000.00
	Spheroid Elevated Stroage Tank	1	EA	$ 1,250,000.00	$ 1,250,000.00
	Multi-Column Elevated Storage Tank	1	EA	$ 975,000.00	$ 975,000.00
1a	**Site Work**				
	8-inch Flex Base Paving (TXDOT ITEM 247, Type A, Grade 2)	250	SY	$ 30.00	$ 7,500.00
	Chain-link fence (#9 gauge, 3 strand barbed wire)	600	LF	$ 50.00	$ 30,000.00
	Onsite 12-inch Water Main and Fittings	90	LF	$ 200.00	$ 18,000.00
	Erosion Control/SWPPP/Site Restoration	1	LS	$ 25,000.00	$ 25,000.00
	Site Clearing and Grubbing	1	LS	$ 15,000.00	$ 15,000.00
	Site Grading	1	LS	$ 5,000.00	$ 5,000.00
	Containment for Sandblasting/Coating (Spheroid and Multi-Column)	1	LS	$ 100,000.00	$ 100,000.00
	Containment for Sandblasting/Coating (Composite)	1	LS	$ 50,000.00	$ 50,000.00
	Chlorine Boosting	1	EA	$ 10,000.00	$ 10,000.00
1b	**Elevated Storage Tank**				
	Tank Control Valve Assembly	1	LS	$ 80,000.00	$ 80,000.00
	Tank Valves and Piping	1	LS	$ 40,000.00	$ 40,000.00
	Slab/Valve Vault (Multi-Column EST Only)	1	LS	$ 20,000.00	$ 20,000.00
1c	**Electrical and Controls**				
	Electrical Service and Distribution	1	LS	$ 35,000.00	$ 35,000.00
	SCADA System	1	LS	$ 25,000.00	$ 25,000.00
	Security System	1	LS	$ 25,000.00	$ 25,000.00
	Instrumentation	1	LS	$ 22,000.00	$ 22,000.00
	Lighting	1	LS	$ 17,000.00	$ 17,000.00
	Grounding	1	LS	$ 6,000.00	$ 6,000.00
2	**Off-site Overhead Electric Extension (single-phase)**	550	LF	$ 100.00	$ 55,000.00
3	**Off-site Access Road and Grading**	3,000	SY	$ 30.00	$ 90,000.00
4	**Off-site Water Main**				
	12-inch Water Main and Fittings	2,250	LF	$ 150.00	$ 337,500.00
5	**Mobilization (10% of items 1, 2, 3, 4 - rounded)**	1	LS	$ 240,000.00	$ 240,000.00

Contingency	20%
Composite (Rounded)	**$ 3,100,000.00**
Spheroid (Rounded)	**$ 3,000,000.00**
Multi-Column (Rounded)	**$ 2,700,000.00**

- ☑ No Design Completed
- ☐ Preliminary Design
- ☐ Final Design

Client:	**City of Fair Oaks Ranch**	**Date:**	**10/30/2019**
Project:	**0.5 MG Elevated Storage Tank**	**Prepared By:**	**MMV/MAV**
KHA No.:	**68686901**	**Checked By:**	**VRS**

Title: **Water Elevated Storage Tank - System Pressure Reducing Valve 1 at Silver Spur Trail** **Sheet:** **1 of 2**

Item No.	Description	Quantity	Unit	Unit Cost	Item Cost
1	**System PRV 1**				
	8-inch Pressure Reducing Valve and Pipe Assembly	1	EA	$ 40,000.00	$ 40,000.00
	4-inch Pressure Reducing Valve and Pipe Assembly	1	EA	$ 10,000.00	$ 10,000.00
1a	**Site Work**				
	PRV Concrete Vault	1	EA	$ 30,000.00	$ 30,000.00
	Site Work / Restoration	1	EA	$ 10,000.00	$ 10,000.00
1b	**Electrical and Controls**				
	Electrical Service and Distribution	1	EA	$ 10,000.00	$ 10,000.00
	Instrumentation and SCADA Panels	1	EA	$ 80,000.00	$ 80,000.00
	Radio Equipment and Antenna	1	EA	$ 30,000.00	$ 30,000.00
2	**Mobilization (10% of items above rounded)**	1	LS	$ 10,000.00	$ 10,000.00
				Contingency	20%
				System PRV 1 (Rounded)	**$ 270,000.00**

- [x] No Design Completed
- [ ] Preliminary Design
- [ ] Final Design

Client:	**City of Fair Oaks Ranch**	**Date:**	**10/30/2019**
Project:	**0.5 MG Elevated Storage Tank**	**Prepared By:**	**MMV/MAV**
KHA No.:	**68686901**	**Checked By:**	**VRS**

Title:	**Water Elevated Storage Tank - System Pressure Reducing Valve 2 at Meadow Creek Trail**	**Sheet:**	**2 of 2**

Item No.	Description	Quantity	Unit	Unit Cost	Item Cost
1	**System PRV 2**				
	8-inch Pressure Reducing Valve and Pipe Assembly	1	EA	$ 40,000.00	$ 40,000.00
	4-inch Pressure Reducing Valve and Pipe Assembly	1	EA	$ 10,000.00	$ 10,000.00
1a	**Site Work**				
	PRV Concrete Vault	1	EA	$ 30,000.00	$ 30,000.00
	Site Work / Restoration	1	EA	$ 10,000.00	$ 10,000.00
1b	**Electrical and Controls**				
	Electrical Service and Distribution	1	EA	$ 10,000.00	$ 10,000.00
	Instrumentation and SCADA Panels	1	EA	$ 80,000.00	$ 80,000.00
	Radio Equipment and Antenna	1	EA	$ 30,000.00	$ 30,000.00
2	**Mobilization (10% of items above rounded)**	1	LS	$ 10,000.00	$ 10,000.00
				Contingency	20%
				System PRV 1 (Rounded)	**$ 270,000.00**

- [x] No Design Completed
- [ ] Preliminary Design
- [ ] Final Design

APPENDIX C: MEETING MINUTES

CITY OF FAIR OAKS RANCH – ELEVATED STORAGE TANK MEETING WITH GREENLAND VENTURES			
Project:	City of Fair Oaks Ranch – Elevated Storage Tank	Meeting Date:	Thursday May 30, 2019 (10:00 A.M.)
	Kimley-Horn and Associates, Inc.	Place/Room:	7286 Dietz Elkhorn Rd, Fair Oaks Ranch, TX 78015
Attendees:	Reference Sign-in Sheet		

MEETING MINUTES

Introduction

Kimley-Horn (KH) was selected to design the City of Fair Oaks Ranch Elevated Storage Tank project. City has identified the need for an elevated tank to accommodate future growth on the northern part of the City limits and ETJ. Tank will provide adequate pressure and fire flow as City continues to grow.

Project Overview

1. Project Overview
    a. Schedule
        i. Milestones
            - Community Workshop #1 – (Tuesday June 18th)
                a. Kimley-Horn mentioned the first workshop is intended to be an informative session for the public and stakeholders to understand the purpose of the project and provide initial feedback before KH analyzes all potential tank sites.

            - Community Workshop #2 – (Tentative: Tuesday September 10th)
                a. Second workshop will be a follow up from Workshop 1 and provide additional information after KH performs due diligence for all potential sites. Public/Stakeholders will be able to provide final input before City Council selects and approves final tank site.

            - 30% Design – Final TM (October 4, 2019)
            - Final Tank Site Council Approval – (October 18, 2019)
            - 60% Design Workshop – (March 2, 2020)
            - 90% Design Workshop – (May 6, 2020)
            - Bid Documents – (August 18, 2020)

2. Site Analysis
    a. Community Workshops
    b. Preliminary Criteria for Site Analysis
        i. Kimley-Horn mentioned that hydraulics, cost, proximity to infrastructure, public/stakeholder input, along with City's long-term masterplan would be analyzed to make a final site recommendation to the City. Multiple tanks styles would also be evaluated.
    c. Site locations

i. Dana Green (Developer) mentioned that she would prefer to purchase a tank site outside Stone Creek Ranch subdivision.
ii. City of Fair Oaks Ranch (COFR) mentioned that Site C has the highest elevation and would be the cheapest to construct the tank but would require infrastructure to be extended (access road and waterline).

Water Supply Agreement City of Fair Oaks Ranch / Green Land Ventures

1. Aid contribution
    a. Review contract and timeline
2. Elevated Storage Tanks Site
    a. How do we define suitable site?
    b. Discuss land acquisition process from GLV to FOR
        i. Developer mentioned that they were okay with COFR taking the lead on the land acquisition process and would be willing to be flexible and provide help when needed. COFR mentioned that the legal verbiage in the agreement would need to identify that COFR will have rights to the property.
    c. If one half acre does not suffice coordinate payment / reimbursement amount for additional land.
        i. COFR mentioned that if a tank site larger than half-acre is required developer would solely pay for half-acre and COFR would pay the difference.
    d. Area beyond half mile of the site.
        i. Developer mentioned that they are okay if tank site is located more than half mile away from Stone Creek Ranch subdivision and would still be willing to purchase property per agreement with COFR, contingent upon the sale price of the selected site generally being comparable to the value of land within a half mile of the subdivision

Other Notes

- COFR mentioned that they would like to define the well easement on Site A even if tank is constructed elsewhere.
- COFR, Developer, and Kimley-Horn discussed other potential tank site location (reference attached exhibit).

This document (drawing) and all associated attachments is the property of Kimley-Horn and Associates, Inc. and is not to be used for any other project without the written authorization of Kimley-Horn and Associates, Inc. Unauthorized reuse of this document by any party for any other project shall be at such party's sole risk and without liability to Kimley-Horn and Associates, Inc.

AMMANN RD

AMMANN RD

AMMANN RD

RANCH PASS

ROLLING ACRES TRAIL

ROLLING ACRES TRAIL

AMMANN RD

AMMANN RD

FARM TO MARKET 3351 N

Potential tank site location. COFR mentioned that this area will be closer to GBRA transmission line but lower ground elevation will require a taller tank.

Potential tank site location. Developer mentioned that this property may currently be for sale.

Potential tank site location. Kimley-Horn to look at existing ground elevation in this area.

A

B

C

D

© 2019 Microsoft Corporation © 2019 DigitalGlobe ©CNES (2019) Distribut

Kimley»Horn
©2019 KIMLEY-HORN AND ASSOCIATES, INC.
601 NW LOOP 410, SUITE 350, SAN ANTONIO, TX 78216
PHONE: 210-541-9166 FAX: 210-541-8699
WWW.KIMLEY-HORN.COM TBPE FIRM NO. 928

CITY OF FAIR OAKS RANCH ELEVATED STORAGE TANK PROJECT

STORAGE TANK POTENTIAL SITES

SHEET NUMBER

EX1

Plotted By: Brown, Taylor Sheet Set: Kha Layout: Layout1 May 29, 2019 04:49:18pm K:\SNA_Utilities\068686901\CAD\REFERENCES\20190529_meeting_exhibit.dwg

Kimley»Horn

601 NW Loop 410
Suite 350
San Antonio, TX 78216

TEL 210.541.9166
FAX 210.541.8699

Meeting Sign-In Sheet

Project: City of Fair Oaks Ranch - EST

Date: May 30, 2019

Time: 10:00 A.M.

Location: City of Fair Oaks Ranch – Municipal Office

Name (Please Print Clearly)	Organization	Title	Phone Number	E-Mail Address
Ron Emmons	City of Fair Oaks Ranch	Director of Public Works	210-698-0900	remmons@fairoaksranchtx.org
Adrian Garcia	City of Fair Oaks Ranch	Manager of Engineering Services	210-698-0900 ex 215	agarcia@fairoaksranchtx.org
Sandra Gorski	City of Fair Oaks Ranch			sgorski@fairoaksranchtx.org
Ryan Sowa	Kimley-Horn	Project Manager	210-321-3414	ryan.sowa@kimley-horn.com
Mario Valdez	Kimley-Horn	Project Engineer	210-321-3407	mario.valdez@kimley-horn.com
Dana Green	Greenland Ventures		210-601-5360	dana@glvdevelopment.com
Jeff Hutzler	Greenland Ventures	P2J3 MGR.	210-287-1568	jeffehutzler@aol.com

CITY OF FAIR OAKS RANCH – ELEVATED STORAGE TANK MEETING WITH THE RESERVE			
Project:	City of Fair Oaks Ranch – Elevated Storage Tank	Meeting Date:	Wednesday June 5, 2019 (3:30 P.M.)
	Kimley-Horn and Associates, Inc.	Place/Room:	7286 Dietz Elkhorn Rd, Fair Oaks Ranch, TX 78015
Attendees:	Adrian Garcia, Ron Emmons, Sandra Gorski (City of Fair Oaks Ranch); Mario Valdez, Ryan Sowa (Kimley-Horn); Craig Glendenning (Developer); Ken Kolacny (Matkin Hoover)		

Introduction

Kimley-Horn (KH) was selected to design the City of Fair Oaks Ranch Elevated Storage Tank project. City has identified the need for an elevated tank in their 2014 Impact Fee Study and recent Water Master Plan to accommodate future growth on the northeastern part of the City limits and ETJ. Tank will provide elevated storage, pressure maintenance, and fire flow capacity as City continues to grow.

Project Overview

1. Project Overview
    - Craig Glendenning (Developer) mentioned he was 1 of 2 partners that own "The Reserve Subdivision" property.
        a. Schedule
            i. Milestones
                - Community Workshop #1 – (Tuesday June 18th)
                    a. Kimley-Horn mentioned the first workshop is intended to be an informative session for the public and stakeholders to understand the purpose of the project and provide initial feedback before KH analyzes all potential tank sites.
                    b. Developer mentioned that he was interested in attending. City has reserved the venue (Spring Creek United Methodist Church) and workshop will be from 6:30 PM to 8:30 PM.
                - Community Workshop #2 – (Tentative: Tuesday September 10th)
                    a. Second workshop will be after Kimley-Horn's site assessment. Workshop will be to provide an update on Kimley-Horn's site assessment and for Public/Stakeholders to provide final input before Kimley-Horn recommends a final tank site to City Council for approval in October 2019.
                - 30% Design – Final TM (October 4, 2019)
                - Final Tank Site Council Approval – (October 18, 2019)
                - 60% Design Workshop – (March 2, 2020)
                - 90% Design Workshop – (May 6, 2020)
                - Bid Documents – (August 18, 2020)

2. Site Analysis

a. Community/Stakeholder Input
b. Preliminary Criteria for Site Analysis
    i. Kimley-Horn mentioned that hydraulics, cost, proximity to existing water infrastructure, public/stakeholder input. Multiple tanks styles would also be evaluated.
    ii. Kimley-Horn asked Developer if there were any other factors/criteria that were important to him other than tank location. Developer mentioned that there wasn't anything else he could think of other than location.

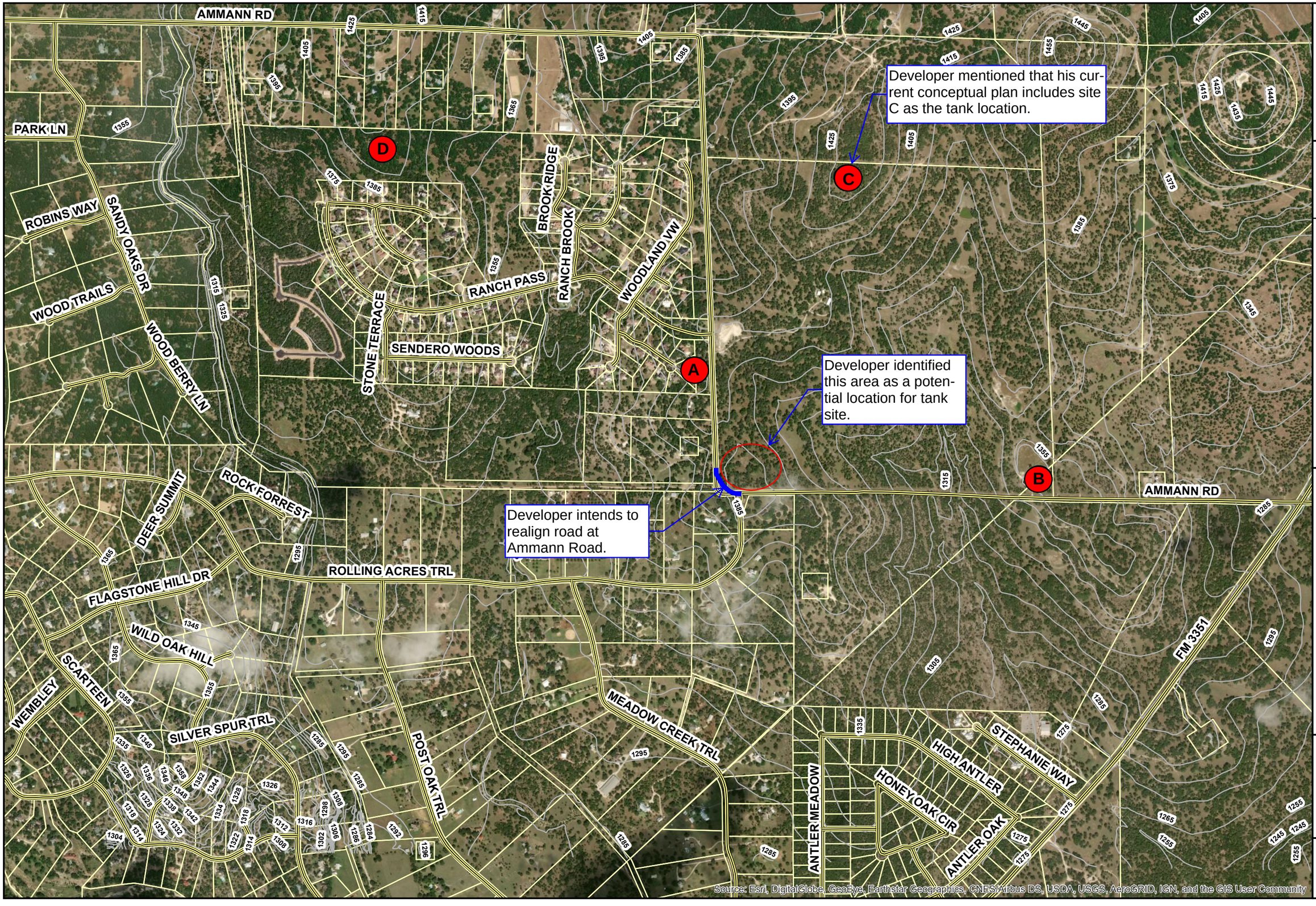
c. Size – Tank Site
    i. Contractor asked how big the lot needed to be for the tank site? Kimley-Horn mentioned that it will be part of the site assessment to determine the size of the site but one (1) acre is a good conservative size to use for planning purposes.
d. Site locations
    i. Developer mentioned that their current plat/subdivision layout takes into account Site C as the tank site. Developer mentioned that the southern corners of his lot are also good locations for the tank on his property (see attached exhibit).
    ii. Developer prefers that the tank be located outside his property but that he is willing to work with the City and finding a tank site on his property and is already planning for Site C.
    iii. Developer mentioned that next week he will meet with his engineer (Matkin Hoover) to discuss conceptual layout of the subdivision. Developer mentioned that he would be willing to share the conceptual layout with the City and Kimley-Horn. Developer plans to build out the same amount of lots as previously discussed with the City but lot sizes would be smaller than previously proposed. Developer plans to have further discussions with the City regarding the number of lots.

<u>City of Fair Oaks Ranch / The Reserve</u>

1. Aid contribution
    a. Developer asked when the aid contribution is needed for the project. City mentioned that the first payment would be during the plat approval process and second/final payment would be prior to construction which is anticipated to be around November 2020. Developer mentioned that was fine but needs a month notice before payment is due.

2. Elevated Storage Tanks Site
    a. Discuss land acquisition process

<u>Action Items</u>



Kimley»Horn

No.	Revision	By	Date

1 in = 1,000 ft

CITY OF FAIR OAKS RANCH, TX
ELEVATED STORAGE TANK

POTENTIAL TANK SITE
EXHIBIT

DATE:	5/1/2019			
DESIGN:	VRS			
DRAWN:	MCH			
CHECKED:	VRS			
KHA NO.:	068686901			

SHEET
EX-1

Document Path: K:\SNA_Utilities\068686901\GRAPHICS\GIS\Exhibits\20190430_FairOaksRanch_Aerial.mxd

Workshop #1 - Notes

Comments made by residents after presentation:

- Residents noted that they didn't want the tank to be flashy or painted in bright colors.
- Residents noted that they did not see the elevated storage tank as a City landmark and would prefer the tank site to be at the highest elevation, so the tank would be shorter.
- Multiple residents expressed concerns about Sites A and D, due to the proximity to existing residences.
- Residents inquired about the variation in initial capital cost and long-term cost when comparing tank styles.
- Residents inquired about the need for an elevated storage tank. A resident stated multiple pressure tanks and a diesel generator could be used in lie of an elevated storage tank.

Additional notes from Residents noted on Flip Charts:

- Station 1
    - Our home/lot is backed directly up to it (Tank site). I am concerned about loss of property value. The base of the tower will be approx. 200 feet from the back porch of my home.

- Station 2
    - Don't like any! (Tank styles). Look on the internet to find the correct style for our unique community!

Workshop Sign-In Sheet

Project: City of Fair Oaks Ranch Elevated Storage Tank Date: June 18, 2019 Time: 6:30pm

Name (Please Print Clearly)	Address	Phone Number	E-Mail Address
1 Wayne McEwen	7621 Dietz Elkhorn	830-388-8893	wamc0706@yahoo.com
2 David Horwath	7921 Turf Paradise Ln	210-698-5280	dshorwath@yahoo.com
3 Craig Riha	49 Ranch Terrace	512-740-3683	criha@gvtc.com
4 Nancy Hill	48 Ranch Terrace	901-233-5244	nvzhill@gmail.com
5 Doug G. Kusel	30154 Setterfield Circle	817-253-3113	kuseld@sbcglobal.net
6 Paul A. Schroeder	6906 Country Rose	210-561-0735	pschroeder@vickreyinc.com
7 Glen McKinney	76 Sendero Woods	972-839-0032	
8 Carolyn Knope	58 Sendero Point	210-618-9797	ericcsonblake@gmail.com
9			
10			
11			
12			
13			
14			
15			
16			
17			
18			
19			
20			
21			
22			
23			
24			
25			

Workshop Sign-In Sheet

Project: City of Fair Oaks Ranch Elevated Storage Tank Date: June 18, 2019 Time: 6:30pm

Name (Please Print Clearly)	Address	Phone Number	E-Mail Address
26 John Hill	48 Ranch Terrace	901-361-2027	John.hill@valero.com
27 Wes and Geri Pieper	9264 Dietz Elkhorn	830-255-5368	peiperw@zaho.com
28 Frank Trapasso	31820 Rolling Acres Trail	830-456-7036	FTrapasso@gvtc.com
29			
30			
31			
32			
33			
34			
35			
36			
37			
38			
39			
40			
41			
42			
43			
44			
45			
46			
47			
48			
49			
50			

Workshop Sign-In Sheet

Project: City of Fair Oaks Ranch Elevated Storage Tank Date: June 18, 2019 Time: 6:30pm

Name (Please Print Clearly)	Address	Phone Number	E-Mail Address
51 Rachel Brown	29702 No Le Hace	830-388-0019	izzabelle2002@yahoo.com
52 Collette Orquiz		210-563-9735	corquiz@localcommunitynews.com
53 Donna Gonzalez	30920 Honeycomb Rock	830-755-8624	txntnt41@yahoo.com
54 Michael Ray	31610 Wild Oak Hill	210-643-3284	mrey76@gmail.com
55 Steve Hartpence	Meadow Creek Trail		
56 Corliss Hartpence	Meadow Creek Trail		
57Jody Ruhl	29458 Summit Ridge Drive	210-748-7248	jofrancesruhl@yahoo.com
58 Doug Leonard	8515 Fairway Spring	830-446-2415	dwleonard1@gmail.com
59 Robert Lee	8902 Enchanted Elm	210-887-9651	rclee777@aol.com
60 John Merritt	30820 Venture	210-364-7601	
61 Craig Glendenning	601 N St Marys	210-287-4868	cglendenning61@yahoo.com
62 Officer M. Portillo	7286 Dietz Elkhorn	210-698-0990	
63			
64			
65			
66			
67			
68			
69			
70			
71			
72			
73			
74			
75			

Workshop Sign-In Sheet

Project: City of Fair Oaks Ranch Elevated Storage Tank Date: June 18, 2019 Time: 6:30pm

Name (Please Print Clearly)	Address	Phone Number	E-Mail Address
76 David Otstott	29312 Duberry Ridge	210-560-8972	
77 Paul Mebane	3006 Mellow Ct	830-755-8050	
78 Dee Manitzas	30850 Man O War	830-981-4250	
79 David Gibson	7415 Mellow Ridge	206-255-7931	
80 Joel Burleson	8622 Rolling Acres	210-827-8232	
81 William Sheley	7715 Fair Oaks Parkway	830-755-4252	
82 Dan Riley	Fair Oaks	808-755-5531	
83 Laura Koerner	8507 Fairway Spring	830-431-1430	
84 Linda Otstott	29312 Duberry Ridge	830-981-8312	
85 Ron Ball	8534 Fairway Trail Drive	830-755-8893	
86 Marcus Garcia	9023 Graford Ridge	210-885-8072	
87			
88			
89			
90			
91			
92			
93			
94			
95			
96			
97			
98			
99			
100			

CITY OF **FAIR OAKS RANCH**

- CITY LIMITS
- EXTRA TERRITORIAL JURISDICTION *(ETJ)*
- COMBINED ONE-MILE RADIUS OF EACH SITE

A

B

C

D

AMMANN RD.

ROLLING ACRES TR.

FIRST BAPTIST CHURCH OF FAIR OAKS RANCH

3351

FAIR OAKS RANCH GOLF & COUNTRY CLUB

DIETZ ELKHORN RD.

YOU ARE HERE
SPRING CREEK UNITED METHODIST CHURCH

FAIR OAKS PKWY.

35

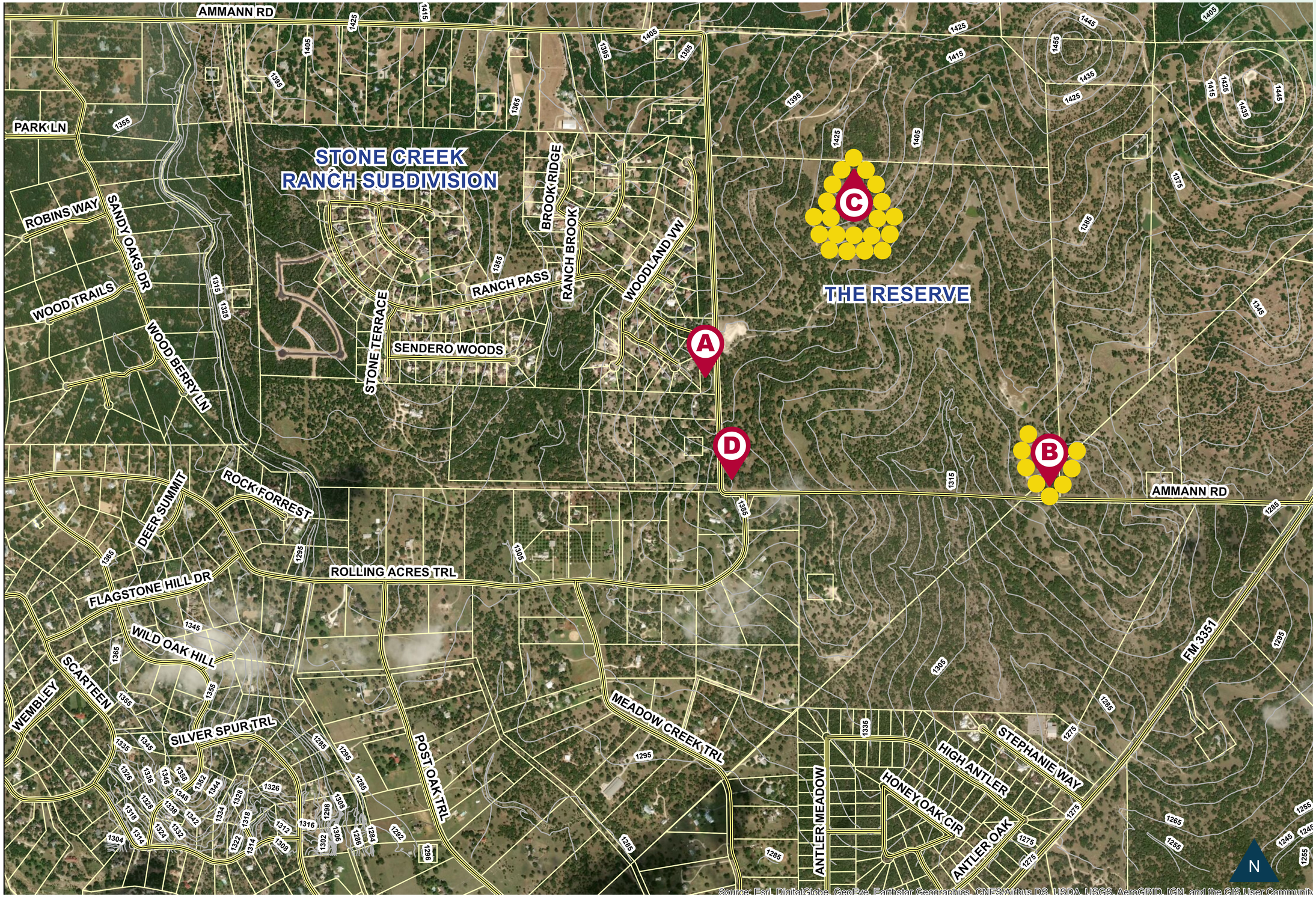
9/31
OF RESIDENTS
WITHIN ONE-MILE RADIUS OF ANY SITE

22/31
OF RESIDENTS
OUTSIDE ONE-MILE RADIUS OF ANY SITE

THREE (3) ATTENDEES
OUTSIDE CITY LIMITS/ETJ

POTENTIAL **TANK SITES**

Kimley»Horn
Expect More. Experience Better.



PRESSURE ZONES

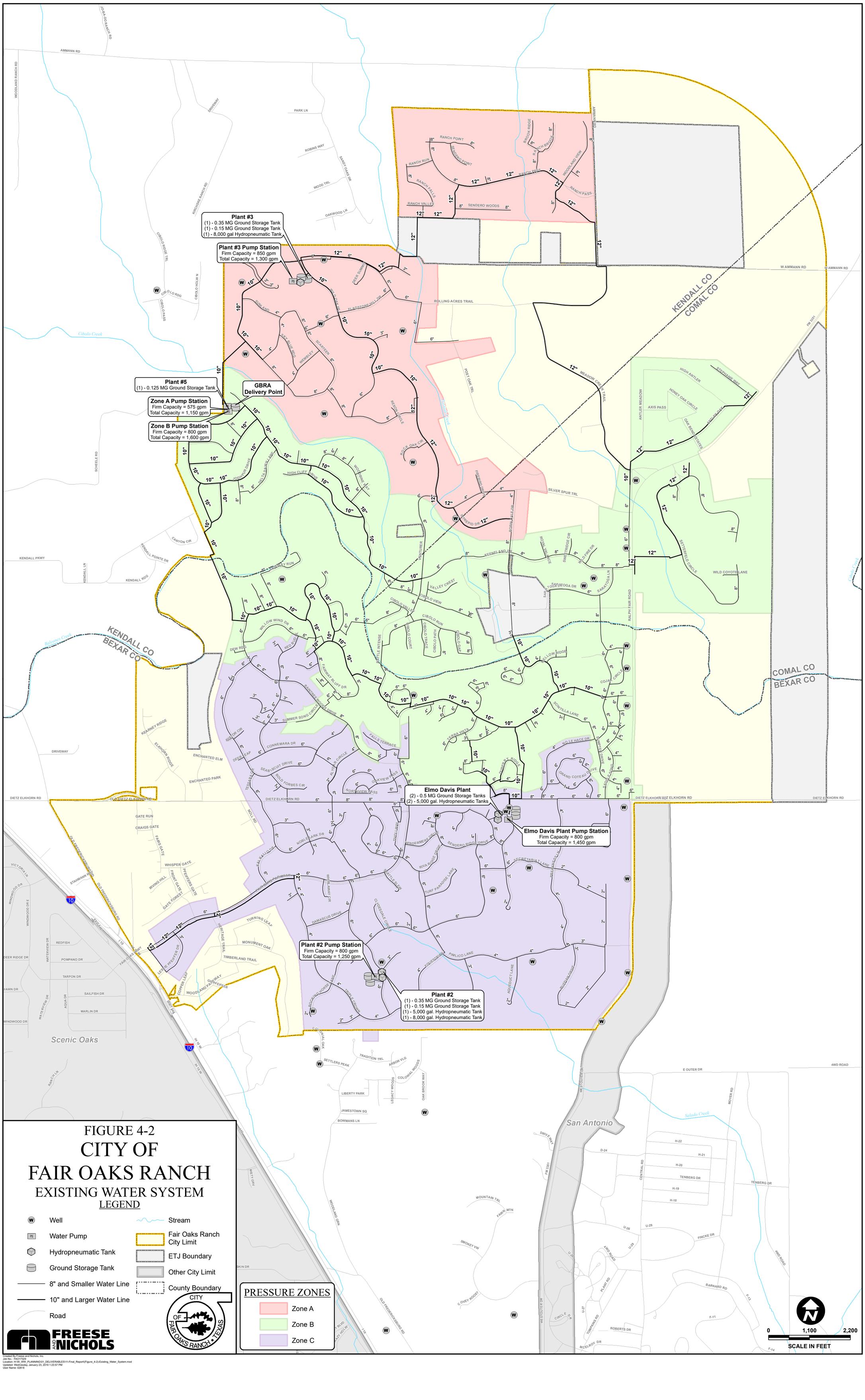


FIGURE 4-2

CITY OF FAIR OAKS RANCH

EXISTING WATER SYSTEM

LEGEND

- Well
- Water Pump
- Hydropneumatic Tank
- Ground Storage Tank
- 8" and Smaller Water Line
- 10" and Larger Water Line
- Road
- Stream
- Fair Oaks Ranch City Limit
- ETJ Boundary
- Other City Limit
- County Boundary

PRESSURE ZONES

- Zone A
- Zone B
- Zone C

FREESE AND NICHOLS

CITY OF FAIR OAKS RANCH • TEXAS

Created By Freese and Nichols, Inc.
Job No.: FAO17329
Location: H:\W_WW_PLANNING\01_DELIVERABLES\11-Final_Report\(Figure_4-2)-Existing_Water_System.mxd
Updated: Wednesday, January 23, 2019 1:23:57 PM
User Name: 02818

1 MULTI-COLUMN TANK

2 COMPOSITE TANK

3 SPHEROID TANK

CITY OF FAIR OAKS RANCH – ELEVATED STORAGE TANK CAMP BULLIS MEETING MINUTES			
Project:	City of Fair Oaks Ranch – Elevated Storage Tank	Meeting Date:	Wednesday July 10, 2019 (10:30 A.M.)
	Kimley-Horn and Associates, Inc.	Place/Room:	2080 Wilson Way – Bldg 247 – Room 107
Attendees:	See Sign-in Sheet		

Introductions

Project Discussion

1. Project Overview
   Kimley-Horn (KH) was selected to design the City of Fair Oaks Ranch Elevated Storage Tank project. City has identified the need for an elevated tank in their 2014 Impact Fee Study and recent Water Master Plan to accommodate future growth on the northeastern part of the City limits and ETJ. Tank will provide elevated storage, pressure maintenance, and fire flow capacity as City continues to grow.

2. Potential Tank Site Locations
   Based on factors such as developer and community feedback along with proximity to existing infrastructure and access, four potential site locations have been selected (see attached exhibit), all generally located northwest of Camp Bullis.
   a. Combat Assault Landing Strip (CALS) Elevation (1158-feet above-ground sea level)
   b. Tank Height Elevation (Approx. 1545-feet above-ground sea level)
      i. Tank Elevation Approx. 387 feet above CALS elevation

3. Stakeholder Requirements/Feedback
   Joint Base San Antonio (JBSA) mentioned that they are in the process of acquiring easements by the CALS to limit development in the surrounding area of Camp Bullis.
   a. Military Influence Areas
      i. Light Military Influence Area
         - JBSA didn't identify a specific concern, other than ensuring that applicable light ordinances are followed. JBSA mentioned that they follow City of San Antonio light ordinance and asked if Fair Oaks Ranch if they had a light ordinance. City of Fair Oaks Ranch confirmed that they have a lighting ordinance in place.

      ii. Vertical Obstruction Military Influence Area
         - JBSA had some concerns with the proximity of Site B to the landing strip given the approx. tank height of 1545-feet. JBSA mentioned that Site A and Site C would be preferred since they were further away, but that the formal FAA study would be required to confirm this.
         - JBSA mentioned that activity and future operations on the base may be impacted by the elevated storage tank.

      iii. Noise Military Influence Area

- JBSA didn't identify a specific concern regarding the noise military influence area. Noise would primarily apply to properties immediately adjacent to Camp Bullis operations.

iv. Safety Military Influence Area
- Proposed tank site locations are entirely outside the safety military influence area and JBSA didn't identify a specific concern.

b. Joint Airport Zoning Board (JAZB)
i. Approval/Control Compatible Land Use Area

c. Combat Assault Landing Strip Expansion
i. Landing Strip Design
- JBSA mentioned that the available land on Camp Bullis may not allow for a landing strip expansion, but it depends on what the future operational use of Camp Bullis will be. JBSA will circle back internally to find out the status of potential expansion to the landing strip.

ii. Anticipated schedule

4. Schedule
a. Milestones
- Community Workshop #2 – (Tentative: Tuesday September 10th)
- 30% Design – Final Technical Memorandum (October 4, 2019)
- Final Tank Site Council Approval – (October 18, 2019)
- 60% Design Workshop – (March 2, 2020)
- 90% Design Workshop – (May 6, 2020)
- Bid Documents – (August 18, 2020)
- Construction – (November 2020 – November 2021)

Action Items
- KHA to send Camp Stanley meeting invite to JBSA.
- KHA to submit FAA permit to open case number. KHA will reference the JBSA contact in the "Comments" section of the application.
- JBSA will coordinate internally to understand Camp Bullis' future operations and will get back with the City and design engineer next week.

Kimley»Horn

601 NW Loop 410
Suite 350
San Antonio, TX 78216

TEL 210.541.9166
FAX 210.541.8699

Meeting Sign-In Sheet

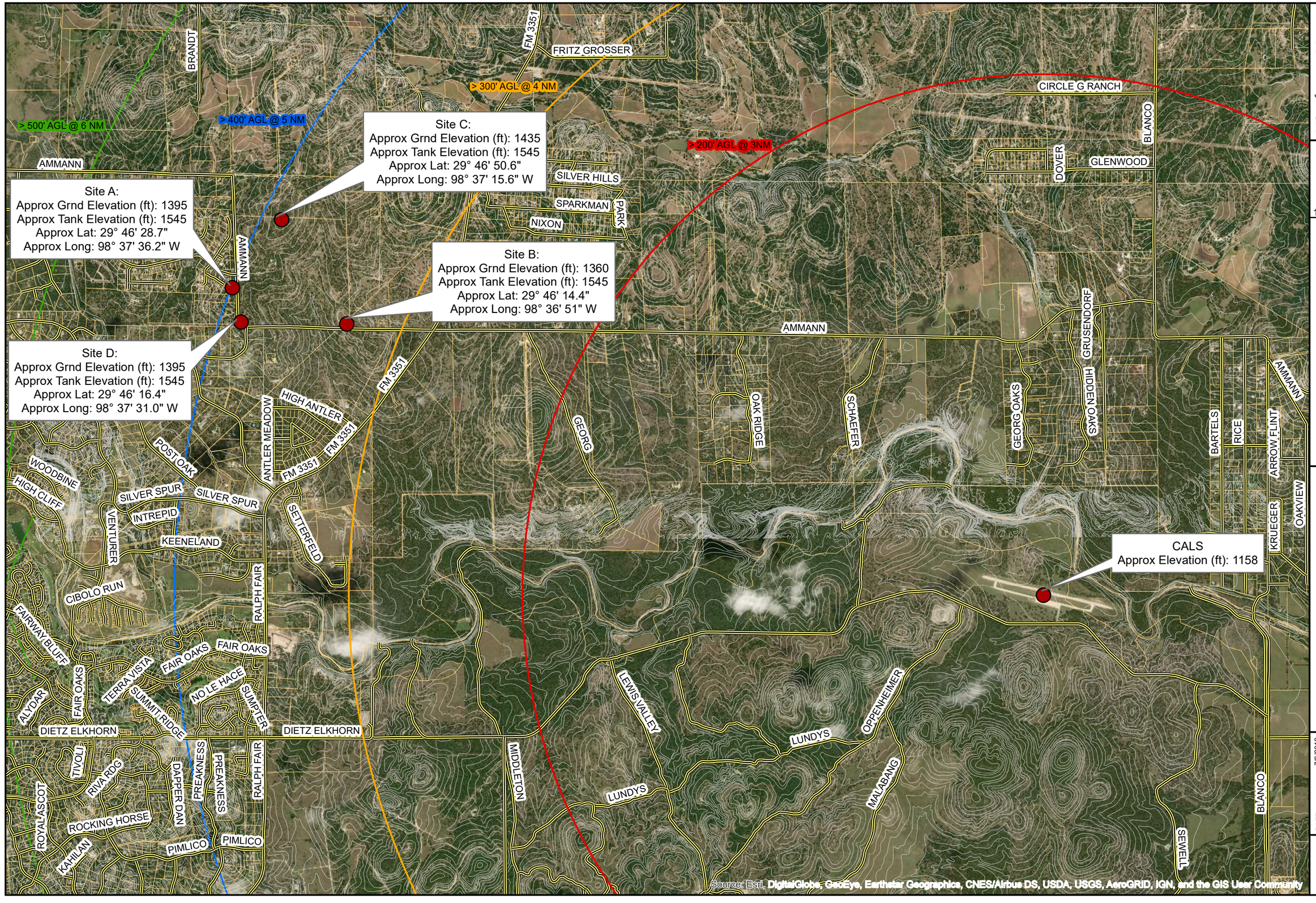
Project: City of Fair Oaks Ranch - EST

Date: July 10, 2019

Time: 10:30 A.M.

Location: 2080 Wilson Way – Bldg 247, Room 107

Name (Please Print Clearly)	Organization	Title	Phone Number	E-Mail Address
Ron Emmons	City of Fair Oaks Ranch	Director of Public Works	210-698-0900	remmons@fairoaksranchtx.org
Adrian Garcia	City of Fair Oaks Ranch	Manager of Engineering Services	210-698-0900 ex 215	agarcia@fairoaksranchtx.org
Sandra Gorski	City of Fair Oaks Ranch			sgorski@fairoaksranchtx.org
Meg Reyes	JBSA	Executive Director, Community Initiatives	210-808-7505	Margaret.a.reyes.civ@mail.mil
Travis Witt	JBSA			Travis.k.witt.civ@mail.mil
Wiley Smith	JBSA	Community Planner	210 671 0124	Wiley.e.smith6.civ@mail.mil
Ryan Sowa	Kimley-Horn	Project Manager	210-321-3414	ryan.sowa@kimley-horn.com
Mario Valdez	Kimley-Horn	Project Engineer	210-321-3407	mario.valdez@kimley-horn.com
Valerie Ramirez	JBSA		(210)808-7521	Valerie.y.Ramirez.civ@mail.mil



Kimley»Horn

No.	Revision	By	Date

1 inch = 3,000 feet

City of Fair Oaks Ranch

Elevated Storage Tank Project

Potential Tank Site Locations

DATE:	7/9/2019	DESIGN:	KHA	
		DRAWN:	KHA	
		CHECKED:	KHA	
		KHA NO.:	068686901	

SHEET

1

OF 1 SHEETS

Document Path: K:\SNA_Utilities\068686901\GRAPHICS\GIS\Exhibits\20190708_FORTank_Sites.mxd

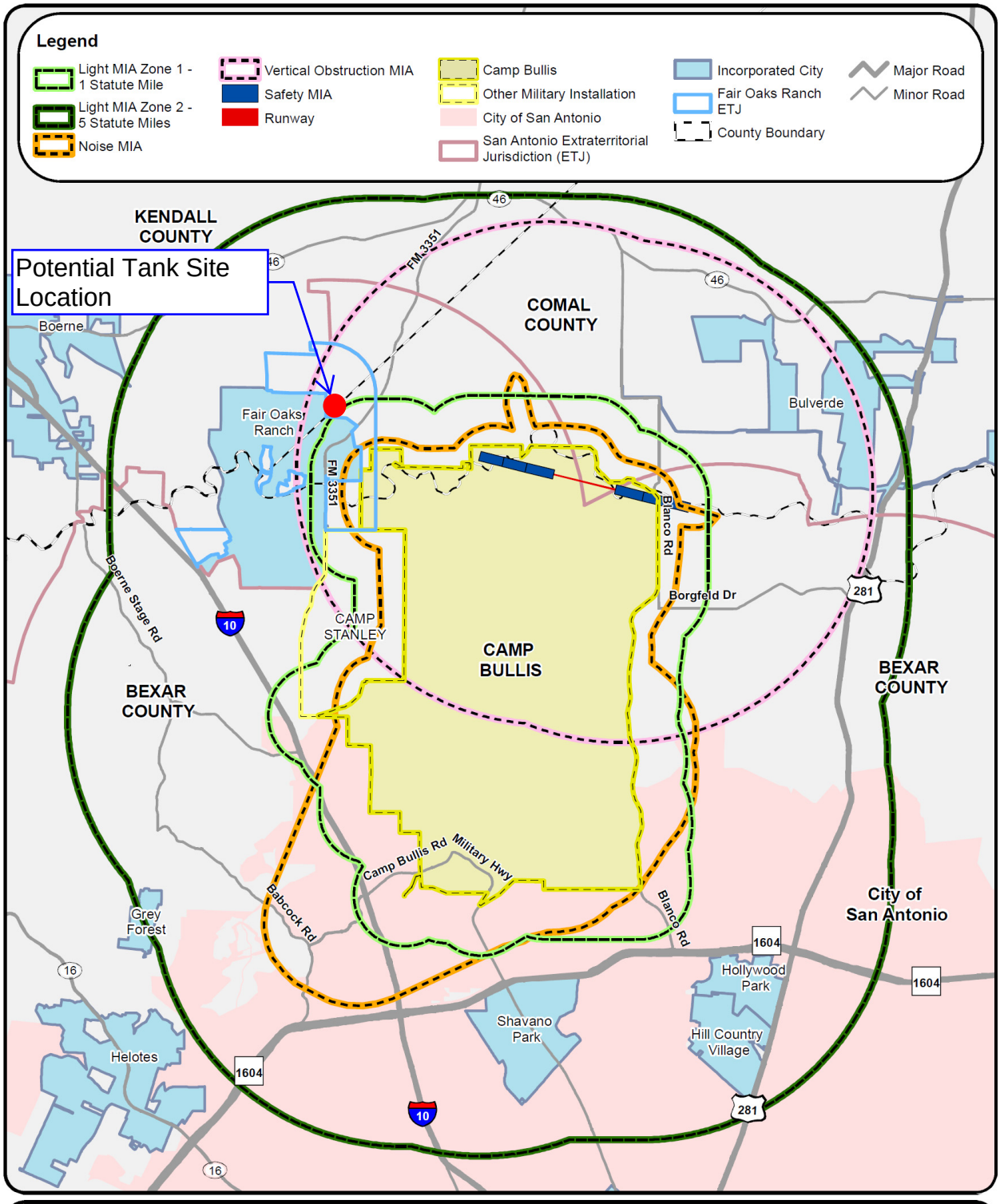


Figure 5-2
Military Influence Areas (MIA)

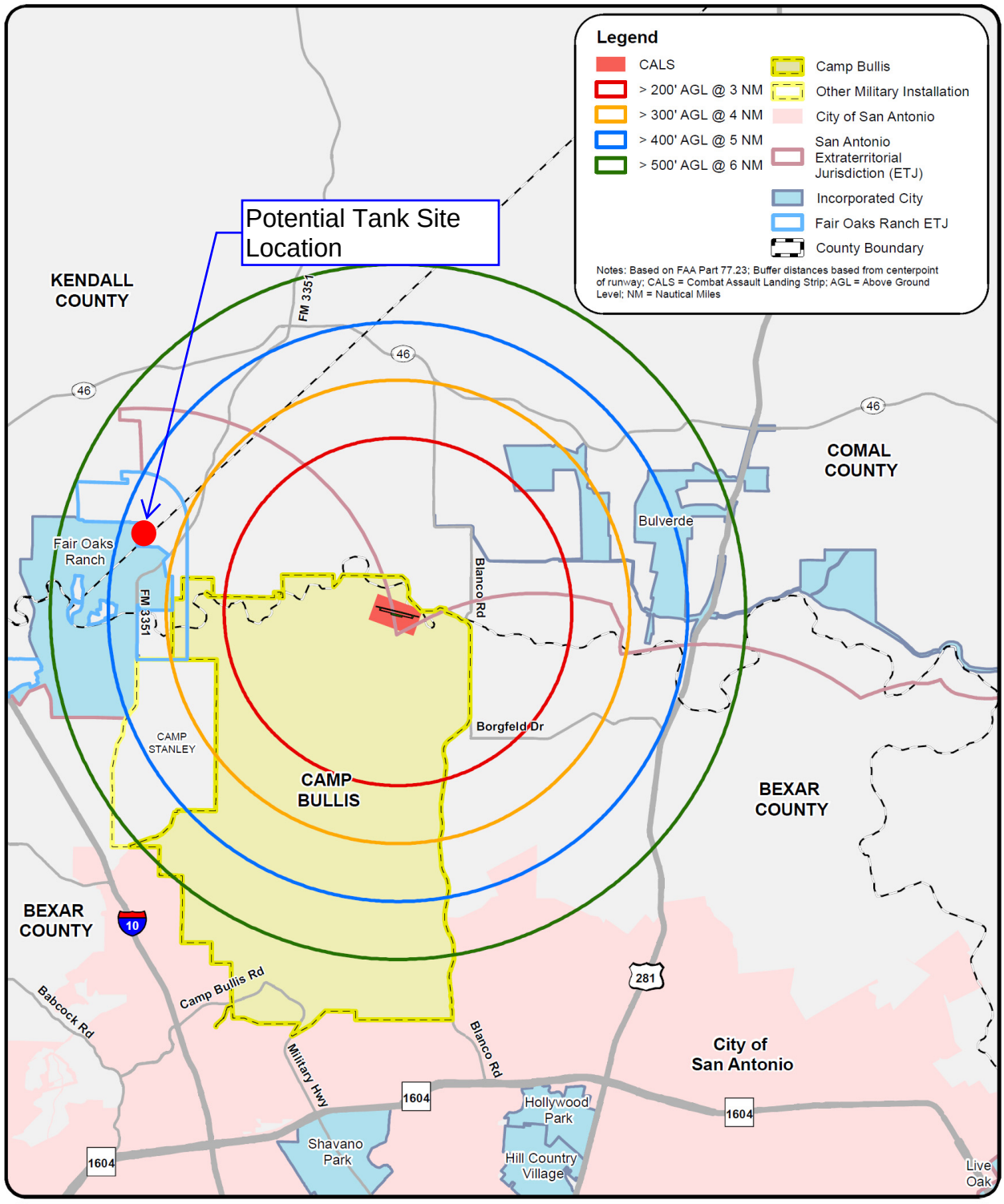


Figure 3-6
FAA Part 77 Vertical Obstruction Compliance

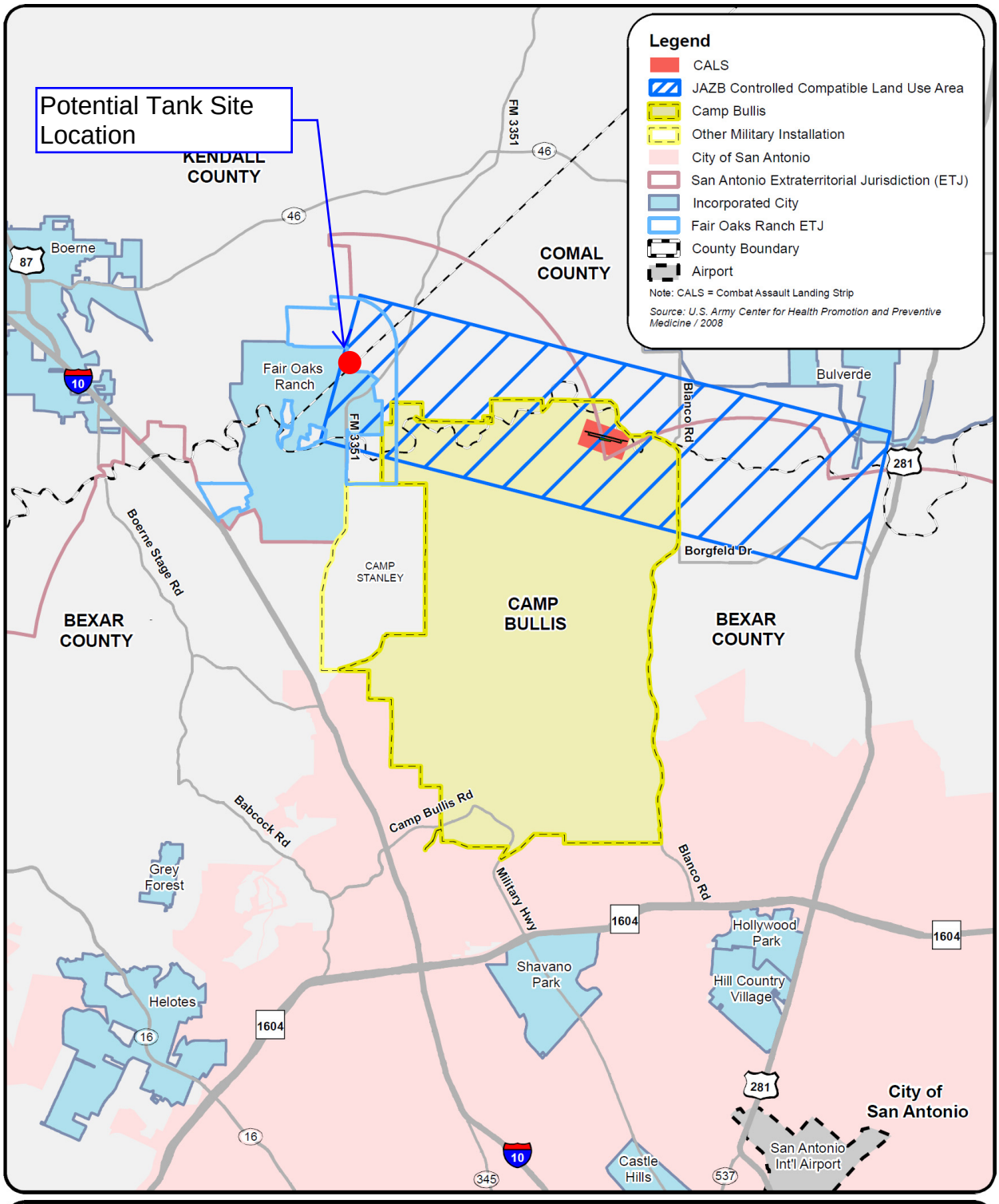


Figure 3-3
Potential JAZB Controlled Compatible Land Use Area

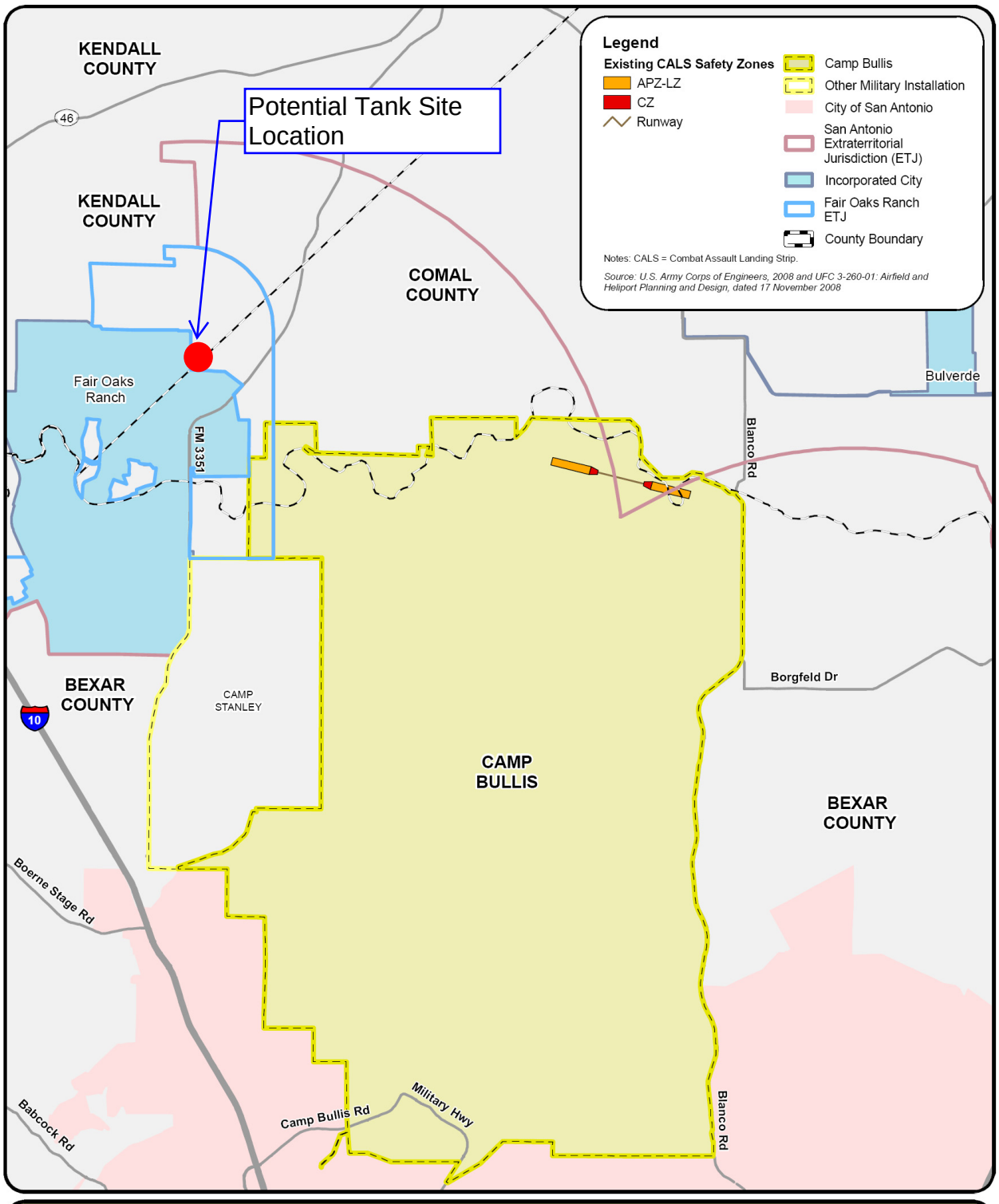


Figure 3-4
Existing CALS Safety Zones

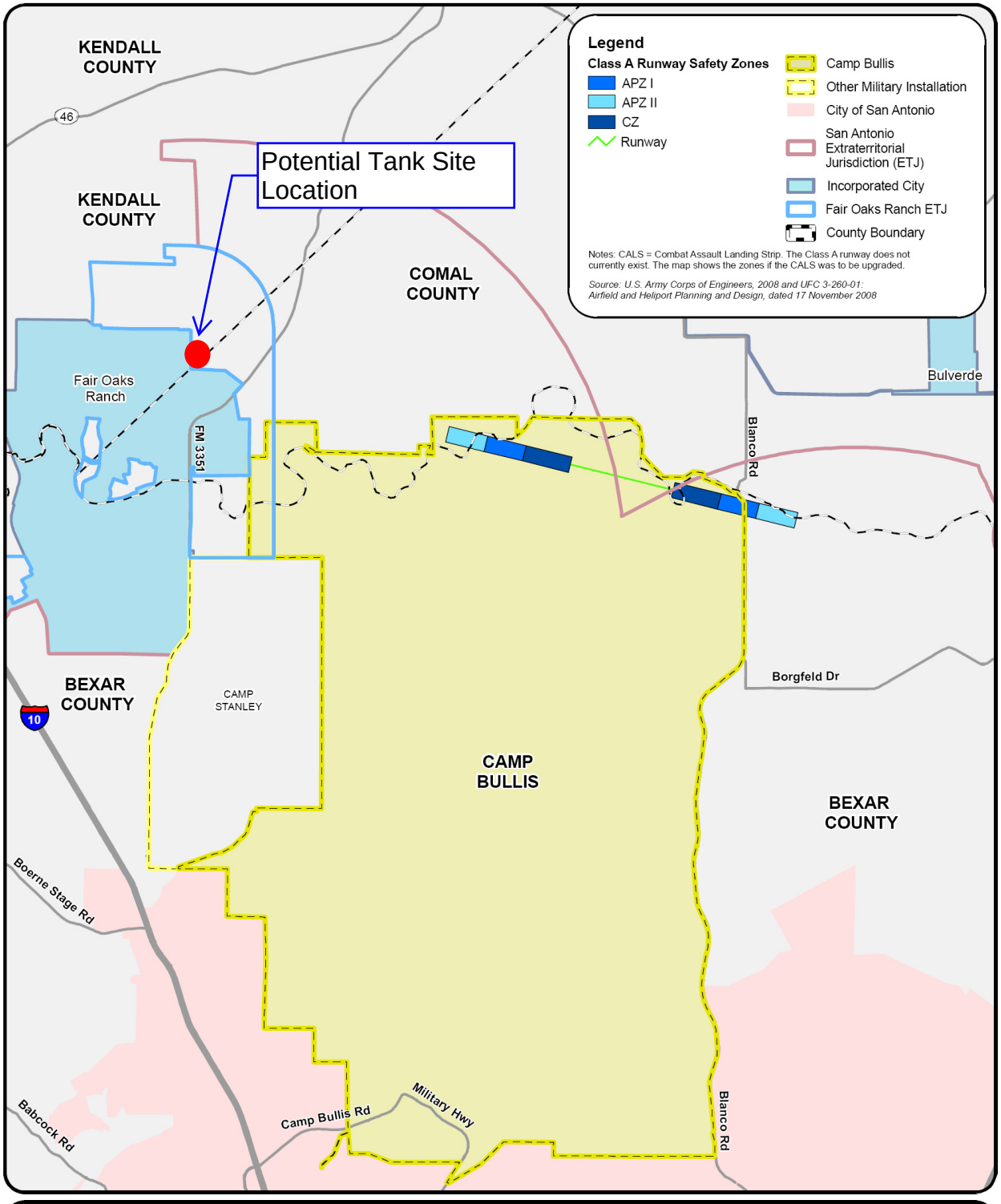


Figure 3-5
Potential Upgraded Class A Runway Safety Zones

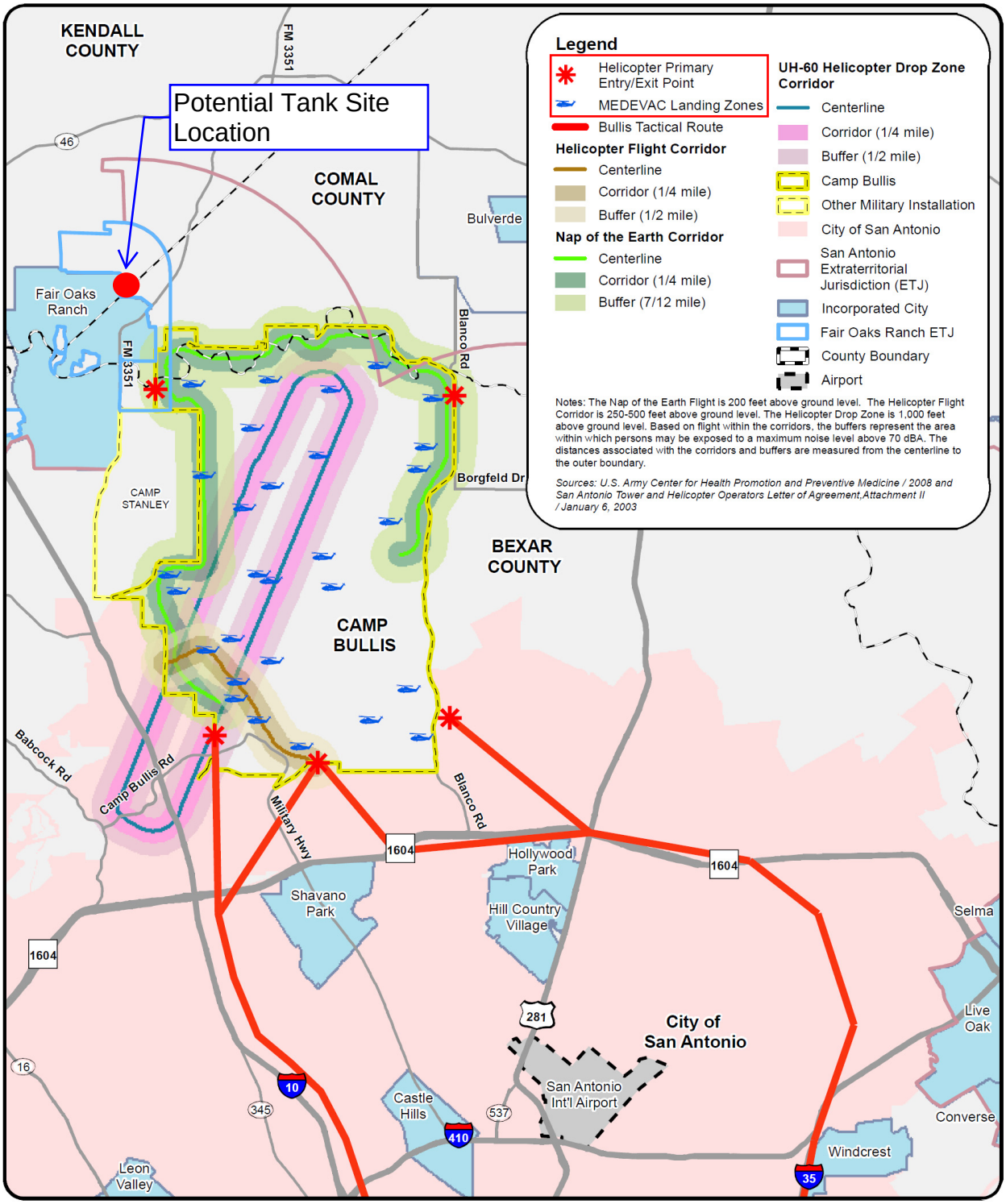


Figure 3-11
Helicopter Noise Corridors

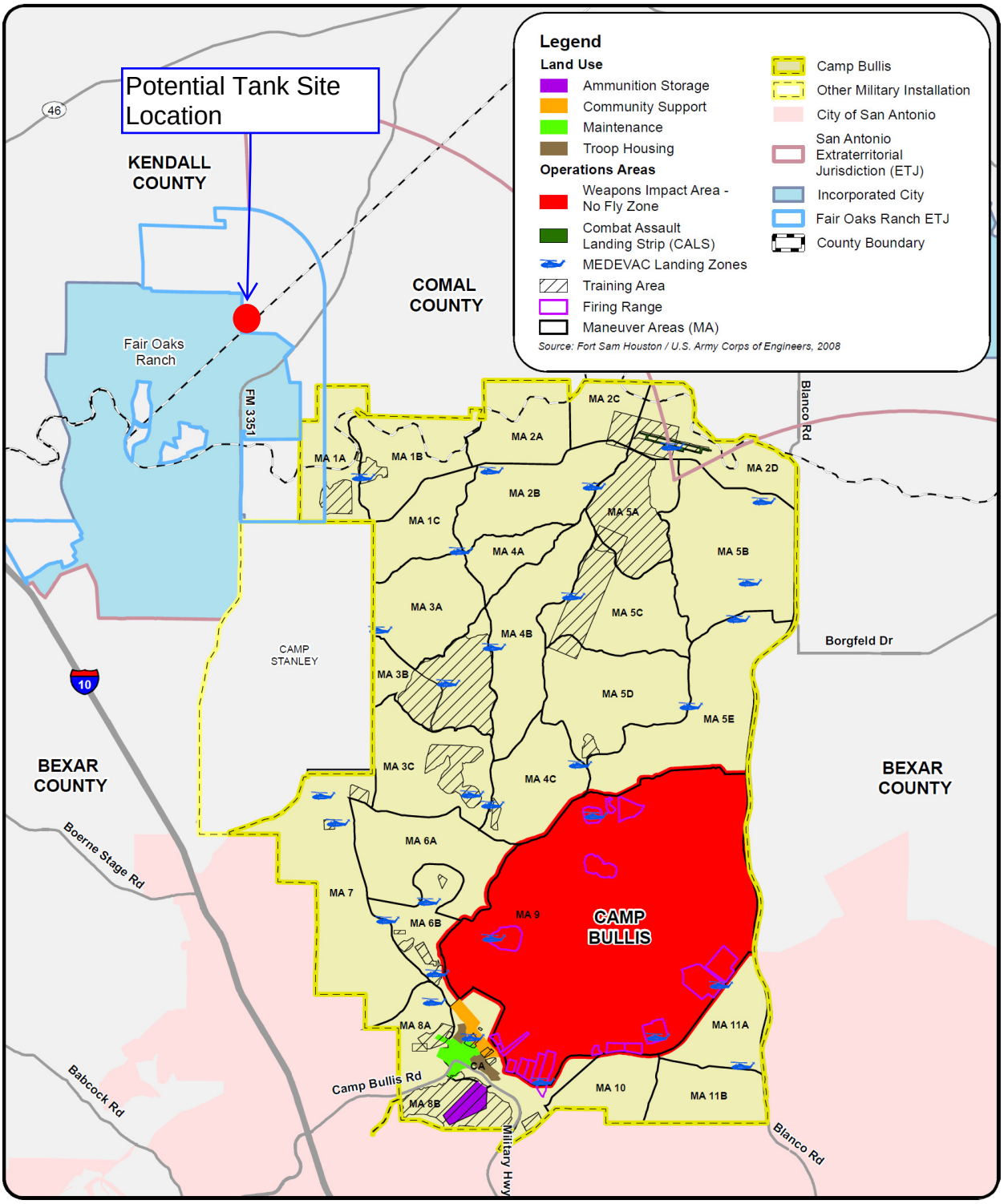


Figure 2-3
Camp Bullis Land Use / Operations Areas

CITY OF FAIR OAKS RANCH – ELEVATED STORAGE TANK
CAMP STANLEY MEETING MINUTES

Project:	City of Fair Oaks Ranch – Elevated Storage Tank	Meeting Date:	Thursday July 11, 2019 (2:00 P.M.)
	Kimley-Horn and Associates, Inc.	Place/Room:	7286 Dietz Elkhorn, Fair Oaks Ranch, TX 78015
Attendees:	See Sign-in Sheet		

Introductions

Project Discussion

1. Project Overview
   Kimley-Horn (KH) was selected to design the City of Fair Oaks Ranch Elevated Storage Tank project. City has identified the need for an elevated tank in their 2014 Impact Fee Study and recent Water Master Plan to accommodate future growth on the northeastern part of the City limits and ETJ. Tank will provide elevated storage, pressure maintenance, and fire flow capacity as City continues to grow.

2. Potential Tank Site Locations
   Based on developer and community feedback along with proximity to existing infrastructure and site access, four potential site locations have been selected (see attached exhibit).
   a. Tank Height Elevation (Approx. 1545-feet above-ground sea level)

3. Stakeholder Requirements/Feedback
   - Camp Stanley didn't have any concern with the four potential tank site locations identified at the meeting (see attached exhibit).
   - Camp Stanley is used primarily for ammunition storage and testing. All the potential tank site locations are outside of the testing range. The area immediately north of Camp Stanley (between E Outer Dr. and Dietz Elkhorn Rd.) is undeveloped. The development of an Elevated Storage Tank in that region would be cause for concern with potential stray rounds. No Elevated Storage Tank is currently proposed in this region of the City.

4. Schedule
   a. Milestones
      - Community Workshop #2 – (Tentative: Tuesday September 10th)
      - 30% Design – Final Technical Memorandum (October 4, 2019)
      - Final Tank Site Council Approval – (October 18, 2019)
      - 60% Design Workshop – (March 2, 2020)
      - 90% Design Workshop – (May 6, 2020)
      - Bid Documents – (August 18, 2020)
      - Construction – (November 2020 – November 2021)

Action Items

None

Kimley»Horn

601 NW Loop 410
Suite 350
San Antonio, TX 78216

TEL 210.541.9166
FAX 210.541.8699

Meeting Sign-In Sheet

Project: City of Fair Oaks Ranch - EST

Date: July 11, 2019

Time: 2:00 P.M.

Location: 7286 Dietz Elkhorn Rd. Fair Oaks Ranch, TX 78015

Name (Please Print Clearly)	Organization	Title	Phone Number	E-Mail Address
Ron Emmons	City of Fair Oaks Ranch	Director of Public Works	210-698-0900	remmons@fairoaksranchtx.org
Adrian Garcia	City of Fair Oaks Ranch	Manager of Engineering Services	210-698-0900 ex 215	agarcia@fairoaksranchtx.org
Sandra Gorski	City of Fair Oaks Ranch		210-698-0900	sgorski@fairoaksranchtx.org
Martin Martinez	Camp Stanley	Chief/Engineering	210-295-7034	Martin.martinez90.civ@mail.mil
Dennis Kayhoe	Camp Stanley			Dennis.e.kayhoe.civ@mail.mil
Jason Shirley	Camp Stanley			Jason.d.shirley.civ@mail.mil
Ryan Sowa	Kimley-Horn	Project Manager	210-321-3414	ryan.sowa@kimley-horn.com
Mario Valdez	Kimley-Horn	Project Engineer	210-321-3407	mario.valdez@kimley-horn.com
Mikaela Vara	Kimley-Horn	Project Analyst	210-660-2959	Mikaela.vara@kimley-horn.com
Clint Johnson	Camp Stanley	Eng.	210-336-0103	johnsond@civ.mail.mil

Site A:
Approx Grnd Elevation (ft): 1395
Approx Tank Elevation (ft): 1545
Approx Lat: 29° 46' 28.7"
Approx Long: 98° 37' 36.2" W

Site B:
Approx Grnd Elevation (ft): 1360
Approx Tank Elevation (ft): 1545
Approx Lat: 29° 46' 14.4"
Approx Long: 98° 36' 51" W

Site C:
Approx Grnd Elevation (ft): 1435
Approx Tank Elevation (ft): 1545
Approx Lat: 29° 46' 50.6"
Approx Long: 98° 37' 15.6" W

Site D:
Approx Grnd Elevation (ft): 1395
Approx Tank Elevation (ft): 1545
Approx Lat: 29° 46' 16.4"
Approx Long: 98° 37' 31.0" W

CALS

Camp Stanley

GLENWOOD
PARK
AMMANN
FM 3351
STEPHANIE
GEORG
OAK RIDGE
SCHAEFER
GEORG OAKS
SILVER SPUR
INTREPID
KEENELAND
SETTERFELD
RALPH FAIR
CIBOLO RUN
E OUTER DR
RALPH FAIR RD

Source: Esri, DigitalGlobe, GeoEye, Earthstar and the GIS User Community

SHEET **EX 1** OF 1 SHEETS	DATE: 7/17/2019 DESIGN: KHA DRAWN: KHA CHECKED: KHA KHA NO.: 068686901	Potential Tank Site Locations	City of Fair Oaks Ranch Elevated Storage Tank Project	1 inch = 3,500 feet	Kimley»Horn No. / Revision / By / Date

Document Path: K:\SNA_Utilities\068686901\GRAPHICS\GIS\Exhibits\20190715_Stanley_Exhibit.mxd

CITY OF FAIR OAKS RANCH – ELEVATED STORAGE TANK STONE CREEK RANCH HOA MEETING MINUTES			
Project:	City of Fair Oaks Ranch – Elevated Storage Tank	**Meeting Date:**	August 12, 2019 (6:30 P.M.)
	Kimley-Horn and Associates, Inc.	**Place/Room:**	Stone Creek Ranch 205 Ranch Pass
Attendees:	24 Attendees, including 4 City staff and Kimley-Horn representatives.		

Introductions

Project Discussion

1. Project Overview
   Kimley-Horn (KH) was selected to design the City of Fair Oaks Ranch Elevated Storage Tank project. City has identified the need for an elevated tank in their 2014 Impact Fee Study and recent Water Master Plan to accommodate future growth on the northeastern part of the City limits and ETJ. Tank will provide elevated storage, pressure maintenance, and fire flow capacity as City continues to grow.

2. Potential Tank Site Locations
   a. Available land and developer coordination
      - The developer agreement for Stone Creek Ranch included the stipulation that the potential tank site should be within a half-mile radius of the subdivision.
   b. Proximity to existing infrastructure
   c. Topography

3. Tank Styles
   - The multi-column tank style received the least amount of votes.
4. Schedule
   a. Milestones
      - Community Workshop #2 – (Tentative: Tuesday September 10th)
      - 30% Design – Final Technical Memorandum (October 4, 2019)
      - Final Tank Site Council Approval – (October 18, 2019)
      - 60% Design Workshop – (March 2, 2020)
      - 90% Design Workshop – (May 6, 2020)
      - Bid Documents – (August 18, 2020)
      - Construction – (November 2020 – November 2021)

Feedback Received from Residents

- A resident stated that the impact on property values should be included in Request for Qualifications (RFQ) and project scopes for this project and future projects.
- Residents made statements to express concerns with the tank site locations.
- The City highly encouraged residents to attend council meetings and community workshop.
- Property owners stated that they wanted property values to be included in the tank site assessment.
  - Additional residents strongly agreed with the aforementioned statement.
- Residents expressed interest in the cost breakdowns for tank site locations and styles.

Questions Received from Residents

- Will City Council members attend the community workshop?
    - Kimley-Horn stated that the City Council members will be notified of the community workshop.
- Is there a reason why Site B or C would not be selected?
    - The City noted that they have no information that would indicate elimination of either site.
    - KH stated that Site B would require the longest water line extension and is at the lowest elevation.
- Does the City own any of the sites?
    - The City noted that they do not own any of the sites, there are only developer agreements.
- Is cost the sole factor being considered in tank site location selection or will the City Council consider community input?
    - The City noted that community input is being evaluated and citizens can attend City Council meetings every first and third Thursday of the month.
- Are the water rates going to increase due to the addition of an elevation storage tank?
    - The City noted that they would look into the effects the tank would have on residents water rates.

CITY OF FAIR OAKS RANCH – ELEVATED STORAGE TANK GBRA MEETING MINUTES			
Project:	City of Fair Oaks Ranch – Elevated Storage Tank	**Meeting Date:**	August 13, 2019 (2:00 P.M.)
	Kimley-Horn and Associates, Inc.	**Place/Room:**	Western Canyon WTP – 4775 South Cranes Mill Road
Attendees:	See Sign-in Sheet		

Introductions

Project Discussion

1. Project Overview

Kimley-Horn (KH) was selected to design the City of Fair Oaks Ranch Elevated Storage Tank project. City has identified the need for an elevated tank in their 2014 Impact Fee Study and recent Water Master Plan to accommodate future growth on the northeastern part of the City limits and ETJ. Tank will provide elevated storage, pressure maintenance, and fire flow capacity as City continues to grow.

2. Potential Tank Site Locations

Based on developer and community feedback along with proximity to existing infrastructure and site access, four potential site locations have been selected (see attached exhibit).

a. GBRA – Second Delivery Point
   - The City indicated that they would prefer to split the water supplied by Guadalupe-Blanco River Authority (GBRA) between the existing delivery point and a proposed second delivery point; no additional overall capacity is requested by the City.
   - A second delivery point would be identical to Plant #5 delivery point. The standard installation would include a meter and valve.

b. Waterline Extension logistics
   - GBRA indicated that the customer would be responsible for the extension of the water line from GBRA's transmission line to the delivery point. GBRA noted that a hot tap would be used to tie into the existing 24-inch water line.
   - GBRA stated that pressure on the discharge side of the pumps ranges from 80-90 psi at GBRA's pump station east of Site B along Ammann Rd. (see attached exhibit). GBRA mentioned that water would need to be delivered to a tank through an air gap. GBRA was uncertain whether the transmission line would be able to deliver water up to the overflow elevation (1530 feet) of the elevated storage tank. GBRA indicated that any boosters required to supplement pressure in the line must be provided by the customer.

3. Process

a. Timeline

b. Approvals
   - The City would need to amend their agreement with GBRA to add a second delivery point.
   - GBRA will conduct a 30-day design review upon receipt of the submittal. GBRA mentioned that submittal must include location of hot tap to GBRA's system and demand.

4. Schedule
    a. Milestones
        - Community Workshop #2 – (Tentative: Tuesday September 10th)
        - 30% Design – Final Technical Memorandum (October 4, 2019)
        - Final Tank Site Council Approval – (October 18, 2019)
        - 60% Design Workshop – (March 2, 2020)
        - 90% Design Workshop – (May 6, 2020)
        - Bid Documents – (August 18, 2020)
        - Construction – (November 2020 – November 2021)

Action Items

- City to further evaluate timing of second delivery point to serve the northeastern part of the City.
- KH to confirm whether GBRA transmission line would be able to deliver water up to the elevated storage tank.
- KH to provide GBRA with tank site location for design review.
- KH to provide GBRA with hot tap location and flow volume for hydraulic modeling.

Misc.

- The City mentioned that additional right-of-way may be obtained to widen Ammann Rd. GBRA mentioned that if their water line would need to be relocated to widen the road, it would require the water line to be within an easement of the same width they currently have and would be at the expense of the City.
- Split casing to be installed over 24-inch water line for new road crossings.

Kimley»Horn

601 NW Loop 410
Suite 350
San Antonio, TX 78216

TEL 210.541.9166
FAX 210.541.8699

Meeting Sign-In Sheet

Project: City of Fair Oaks Ranch - EST

Date: August 13, 2019

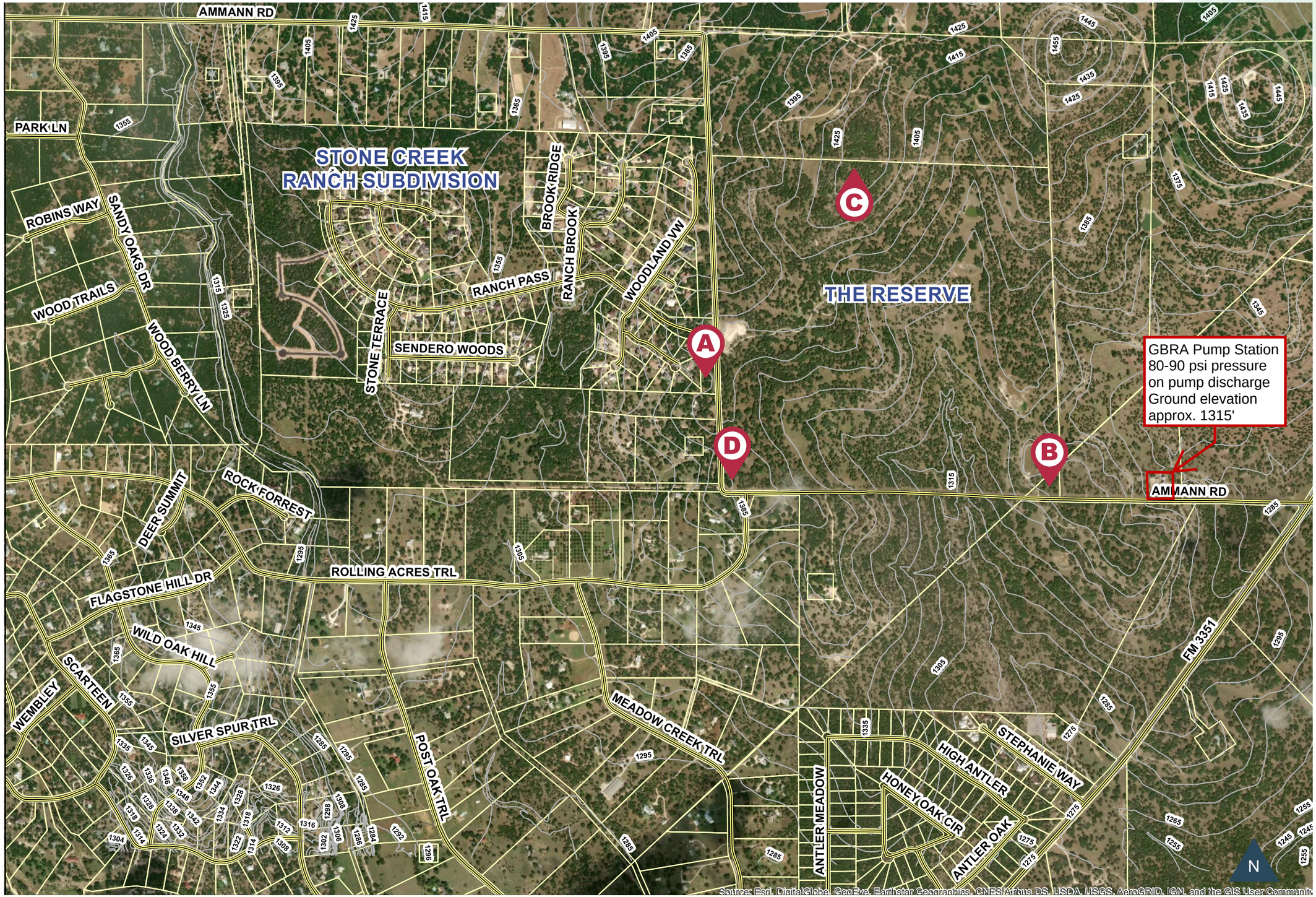
Time: 2:00 P.M.

Location: 4775 South Cranes Mill Road, Canyon Lake, TX 78132

Name (Please Print Clearly)	Organization	Title	Phone Number	E-Mail Address
Ron Emmons	City of Fair Oaks Ranch	Director of Public Works	210-698-0900	remmons@fairoaksranchtx.org
Adrian Garcia	City of Fair Oaks Ranch	Manager of Engineering Services	210-698-0900 ex 215	agarcia@fairoaksranchtx.org
Sandra Gorski	City of Fair Oaks Ranch		210-698-0900	sgorski@fairoaksranchtx.org
Charles Hickman	GBRA	Executive Manager of Engineering	830-379-5822	chickman@gbra.org
Chris Lewis	GBRA	Engineering	210-825-6472	clewis@gbra.org
David Harris	GBRA		830 379 5822	dharris@gbra.org
Alvin Schuerg	GBRA			aschuerg@gbra.org
Darel Ball	GBRA	EXECUTIVE MANAGER OF OPERATIONS	830-379-5822	dball@gbra.org
Hunter Duncan	GBRA	Division Manager	830 885 2639	Hduncan@gbra.org
Ryan Sowa	Kimley-Horn	Project Manager	210-321-3414	ryan.sowa@kimley-horn.com
Mario Valdez	Kimley-Horn	Project Engineer	210-321-3407	mario.valdez@kimley-horn.com
Mikaela Vara	Kimley-Horn	Project Analyst	210-660-2959	Mikaela.vara@kimley-horn.com

POTENTIAL **TANK SITES**

Kimley»Horn
Expect More. Experience Better.



Plant #3
(1) - 0.35 MG Ground Storage Tank
(1) - 0.15 MG Ground Storage Tank
(1) - 8,000 gal Hydropneumatic Tank

Plant #3 Pump Station
Firm Capacity = 850 gpm
Total Capacity = 1,300 gpm

Plant #5
0.125 MG Ground Storage Tank
0.50 MG Ground Storage Tank

Zone A Pump Station
Firm Capacity = 575 gpm
Total Capacity = 1,150 gpm

Zone B Pump Station
Firm Capacity = 800 gpm
Total Capacity = 1,600 gpm
400 gpm Zone B PS Expansion

GBRA Delivery Point

0.50 MG Zone A EST

Plant #6
600 gpm Zone A PS
1,600 gpm Zone B PS
1.00 MG GST

New GBRA Delivery Point

New Pressure Reducing Valve

Elmo Davis Plant
(2) - 0.5 MG Ground Storage Tanks
(2) - 5,000 gal. Hydropneumatic Tanks

Zone C Pump Station
Firm Capacity = 800 gpm
Total Capacity = 1,450 gpm
650 gpm Zone C PS Expansion

Plant #2 Pump Station
Firm Capacity = 800 gpm
Total Capacity = 1,250 gpm

Plant #2
(1) - 0.35 MG Ground Storage Tank
(1) - 0.15 MG Ground Storage Tank
(1) - 8,000 gal. Hydropneumatic Tank

0.50 MG Plant #2 EST

9,000 gal. Hydropneumatic Tank

FIGURE 5-1
CITY OF FAIR OAKS RANCH
WATER SYSTEM CAPITAL IMPROVEMENT PLAN
LEGEND

5-Year Improvements
- Valve
- Pump Station
- Hydropneumatic Tank
- Ground Storage Tank
- Elevated Storage Tank
- Water Line

10-Year Improvements
- Pump Station
- Ground Storage Tank
- Water Line

Buildout Improvements
- Elevated Storage Tank
- Water Line

Existing Water Systen
- Well
- Pump Station
- Hydropneumatic Tank
- Ground Storage Tank
- 8" and Smaller Water Line
- 10" and Larger Water Line
- GBRA Western Canyon Line
- Road
- Stream
- Parcel
- Fair Oaks Ranch City Limit
- ETJ Boundary
- Other City Limit
- County Boundary

CITY OF FAIR OAKS RANCH • TEXAS

FREESE AND NICHOLS

PRESSURE ZONES
- Zone A (1,525 feet)
- Zone B (1,460 feet)
- Zone C (1,555 feet)

0 1,100 2,200
SCALE IN FEET

Created By Freese and Nichols, Inc.
Job No.: FAO17329
Location: H:\W_WW_PLANNING\01_DELIVERABLES\11-Final_Report\(Figure_5-1)-Water_SystemCIP.mxd
Updated: Thursday, January 31, 2019 11:32:47 AM
User Name: 02818

CITY OF FAIR OAKS RANCH – ELEVATED STORAGE TANK MEETING WITH 346 AMMANN RD PROPERTY OWNER			
Project:	City of Fair Oaks Ranch – Elevated Storage Tank	**Meeting Date:**	Tuesday, September 3, 2019 (1:30 pm)
	Kimley-Horn and Associates, Inc.	**Place/Room:**	7286 Dietz Elkhorn Rd, Fair Oaks Ranch, TX 78015
Attendees:	See Sign-In Sheet		

Introduction

Kimley-Horn (KH) was selected to design the City of Fair Oaks Ranch Elevated Storage Tank project. City has identified the need for an elevated tank in their 2014 Impact Fee Study and recent Water Master Plan to accommodate future growth on the northeastern part of the City limits and ETJ. Tank will provide elevated storage, pressure maintenance, and fire flow capacity as City continues to grow.

Project Overview

1. Project Overview
2. Potential Tank Site Locations

Based on developer and community feedback along with proximity to existing infrastructure and site access, five potential site locations have been selected (see attached exhibit).

a. Community/Stakeholder Input
b. Preliminary Criteria for Site Analysis
   - Zoeller family indicated a strong preference for Sites A, B, and D.
   - Zoeller family expressed concerns regarding the depreciation of their land with Sites C and E.

   i. Proximity to utilities (water and electric)
   ii. Site access
      - Zoeller family inquired about the lot size for the tank Site. Kimley-Horn provided an estimate of one (1) acre, not including the access road. Kimley-Horn estimated that the access road would be 15-20 feet in width, running along the southern property line within a 40-foot easement for the waterline extension.

   iii. Ground elevation
      - Zoeller family inquired about the difference between Sites C and E. Kimley-Horn noted that the elevation at Site E is 3 feet higher than Site C.

3. Schedule

The Zoeller family expressed concerns that there would not be adequate time to reach an agreement on land acquisition and other relevant matters.

a. Community Workshop #2 – (Tuesday, September 10th)
   - The Zoeller family was informed of the Community Workshop and expressed interest in attending. The family inquired about obtaining a copy of the presentation if they were unable to attend. The City noted that the presentation would be available on the elevated storage tank webpage.

b. 30% Design – Final TM (October 4, 2019)
c. City Council Briefing – (October 17, 2019)
d. Final Tank Site Council Approval – (November 21, 2019)

e. 60% Design Workshop – (March 2, 2020)
f. 90% Design Workshop – (May 6, 2020)
g. Bid Documents – (August 18, 2020)

City of Fair Oaks Ranch

1. Elevated Storage Tanks Site
    a. Discuss land acquisition process
        - The Zoeller family inquired about the classification of their property and asked the City whether their property could change from Rural Residential to High Density if selected for the tank site. The City indicated that City Council would make the determination if Site E was selected.
        - The Zoeller family inquired about the land acquisition process if they were unable to reach an agreement with the City. The City noted the possibility of City Council declaring condemnation.

Action Items

- Kimley-Horn to email Zoeller family a copy of the Site Location exhibit presented at the meeting.

Kimley»Horn

601 NW Loop 410
Suite 350
San Antonio, TX 78216

TEL 210.541.9166
FAX 210.541.8699

Meeting Sign-In Sheet

Project: City of Fair Oaks Ranch - EST

Date: September 3, 2019

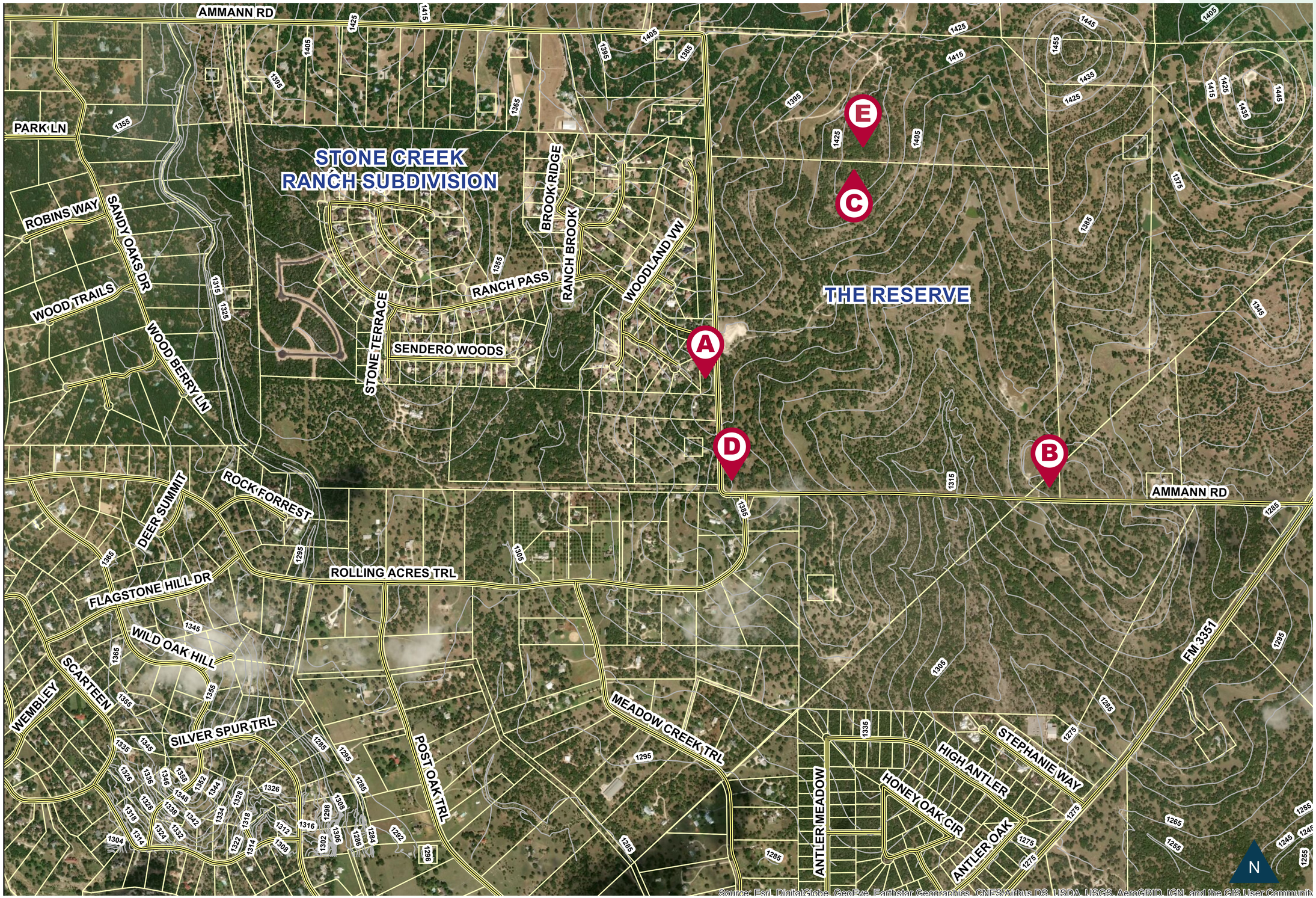
Time: 1:30 pm

Location: City of Fair Oaks Ranch – Municipal Office

Name (Please Print Clearly)	Organization	Title	Phone Number	E-Mail Address
Ron Emmons RCE	City of Fair Oaks Ranch	Director of Public Works	210-698-0900	remmons@fairoaksranchtx.org
Adrian Garcia	City of Fair Oaks Ranch	Manager of Engineering Services	210-698-0900 ex 215	agarcia@fairoaksranchtx.org
Sandy Gorski SG	City of Fair Oaks Ranch	Public Works Administrative Assistant		sgorski@fairoaksranchtx.org
Ryan Sowa	Kimley-Horn	Project Manager	210-321-3414	ryan.sowa@kimley-horn.com
Mario Valdez MDV	Kimley-Horn	Project Engineer	210-321-3407	mario.valdez@kimley-horn.com
Mikaela Vara MV	Kimley-Horn	Project Analyst	210-660-2959	mikaela.vara@kimley-horn.com
Mary Lou Zoeller MLZ		Property Owner		MLzoeller@gvtc.com
Duane Zoeller DZ				DJZOELLER@gmail.com
Debra Thomason DT				debby@gvtc.com
[illegible]				S-ZOELLER@AG.TAMU.EDU
Kyle Zoeller				L-ZOELLER@AG.TAMU.EDU
[illegible]				M2OELLER@GVTC.COM

POTENTIAL **TANK SITES**

Kimley»Horn
Expect More. Experience Better.



Plant #3
(1) - 0.35 MG Ground Storage Tank
(1) - 0.15 MG Ground Storage Tank
(1) - 8,000 gal Hydropneumatic Tank

Plant #3 Pump Station
Firm Capacity = 850 gpm
Total Capacity = 1,300 gpm

Plant #5
0.125 MG Ground Storage Tank
0.50 MG Ground Storage Tank

GBRA Delivery Point

Zone A Pump Station
Firm Capacity = 575 gpm
Total Capacity = 1,150 gpm

Zone B Pump Station
Firm Capacity = 800 gpm
Total Capacity = 1,600 gpm
400 gpm Zone B PS Expansion

New Pressure Reducing Valve

0.50 MG Zone A EST

Plant #6
600 gpm Zone A PS
1,600 gpm Zone B PS
1.00 MG GST

New GBRA Delivery Point

Elmo Davis Plant
(2) - 0.5 MG Ground Storage Tanks
(2) - 5,000 gal. Hydropneumatic Tanks

Zone C Pump Station
Firm Capacity = 800 gpm
Total Capacity = 1,450 gpm
650 gpm Zone C PS Expansion

Plant #2 Pump Station
Firm Capacity = 800 gpm
Total Capacity = 1,250 gpm

0.50 MG Plant #2 EST

Plant #2
(1) - 0.35 MG Ground Storage Tank
(1) - 0.15 MG Ground Storage Tank
(1) - 5,000 gal. Hydropneumatic Tank
(1) - 8,000 gal. Hydropneumatic Tank

9,000 gal. Hydropneumatic Tank

FIGURE 4-5
CITY OF FAIR OAKS RANCH
BUILDOUT WATER SYSTEM PEAK HOUR PRESSURES

LEGEND

Buildout Improvements
- Valve
- Pump Station
- Hydropneumatic Tank
- Ground Storage Tank
- Elevated Storage Tank
- Water Line

Existing Water System
- Pump Station
- Hydropneumatic Tank
- Ground Storage Tank

- 8" and Smaller Water Line
- 10" and Larger Water Line
- GBRA Western Canyon Line
- Road
- Stream
- Parcel
- Fair Oaks Ranch City Limit
- ETJ Boundary
- Other City Limit
- County Boundary

PRESSURES
- Less than 35 psi
- 35 - 50 psi
- 50 - 80 psi
- 80 - 100 psi
- Greater than 100 psi

PRESSURE ZONES
- Zone A (1,525 feet)
- Zone B (1,460 feet)
- Zone C (1,555 feet)

0 1,100 2,200
SCALE IN FEET

Created By Freese and Nichols, Inc.
Job No.: FAO17329
Location: H:\W_WW_PLANNING\01_DELIVERABLES\11-Final_Report\(Figure_4-5)-Buildout_Water_System_Min_Pressure_CIP.mxd
Updated: Friday, January 25, 2019 3:50:59 PM
User Name: G2326

Community Workshop #2 – Notes

Comments made by residents after presentation:

- Residents with property adjacent to Site A voiced concerns about a decrease in their property value if Site A were selected.
- Residents of Stone Creek Ranch claimed that they were not informed about the developer agreement with the City that named Site A as the elevated storage tank site.
- The Zoeller family indicated that they did not want a tank at Site E due to the effects it would have on their property value.
- A realtor in the community stated that property values could decrease by up to 25% due to the construction of an elevated storage tank nearby.
- Residents noted that the tax base would drop with an increase in development and the addition of an elevated storage tank.
- Residents with property adjacent to Site A stated that their home would not be sellable if Site A was selected.
- A consensus was shared amongst residents to remove all sites within close proximity to existing residences.
- A resident suggested to evaluate the 3351 corridor for a potential tank site, to serve as an entrance monument to the City.
- A representative from Boerne Ranch Estates made a statement that if Site B, C, or D were selected, Boerne Ranch Estates would donate the land for the site and contribute to approximately $1,050,000 of the cost for an elevated storage tank at those sites.
- A resident noted that a lack of available fire flow may have an impact on homeowner's insurance policies and rates.

Questions posed by residents after presentation:

- What area of the City will the tank serve?
    - Kimley-Horn noted that the tank would provide elevated storage and fire flow to Pressure Zone A.
- Do other pressure zones within the City have elevated storage tanks?
    - Kimley-Horn displayed the Existing Water System exhibit (see attached) and discussed the TCEQ requirements for elevated storage.
- Are houses being built in The Reserve area?
    - The City noted that development of The Reserve was included in the planning process.
- When are the land acquisition costs included?
    - The City stated that it was too early in the process to know when the land acquisition costs would be determined.
- How is the tank going to be funded? What is going to be affected (taxes, water rates, property taxes)?
    - The City noted that the only residents on the City water system would be affected by the cost. The costs would appear on resident's water bill from the City. All three pressure zones would bear the cost of the elevated storage tank.

- Will there be an opportunity for us (residents) to discuss our concerns about the tank with the City?
    - The City noted that residents could attend a City Council meeting and make a statement during the “Citizens to be Heard” portion of the meeting.
- Is chlorine going to be stored on site?
    - Kimley-Horn noted that chlorine storage was being considered at all potential tank sites.

Station 1

- How was Site A first selected by the City as a potential location for a water tower?
- A City Council member inquired about the need for an elevated storage tank and asked about the difference between an elevated storage tank, ground storage, and hydropneumatic tanks.

Workshop Sign-In Sheet

Project: City of Fair Oaks Ranch Elevated Storage Tank Date: September 10, 2019 Time: 6:30pm

	Name (Please Print Clearly)	Address	Phone Number	E-Mail Address
1	Bill Scorpio	29 Sendero Point	630-302-4201	Wmscorp80@aol.com
2	Cindy Scorpio	29 Sendero Point	630-308-2044	Cindyathome@aol.com
3	Mary Lou Zoeller	115 Scheele Rd.	830-981-4492	mlzoeller@gvtc.com
4	Richard Holt	7 Stone Terrace	830-2295331	rcholt@gvtc.com
5	Garry Manitzas	30850 Man O War Dr.	210-602-5760	mayor@fairoaksranch.org
6	Mike Steward	7911 Scenic Chase	310-344-9312	mikestewart@yahoo.com
7	Bruce Womer	21 Ranch Brook	530-336-2298	brucesaundra@gmail.com
8	Wes Pieper	6264 Dietz Elkhorn	830-255-5368	pieper@zaho.com
9	Kay Burleson	8622 Rolling Acres Trl	830-981-4100	
10	Joel Burleson	8622 Rolling Acres Trl		
11	Polly Sparks	41 Terrace Pt	210-639-5625	plsparks@gvtrc.com
12	Bill Sparks	41 Terrace Pt.	210-259-3025	wasparks@gvtc.com
13	Craig Riha	49 Ranch Terrace	830-336-3580	criha@gvtc.com
14	Gina Riha	49 Ranch Terrace	830-336-3580	rihagina@gmail.com
15	Steve Hartpence	31360 Meadow Creek Trail		
16	Kelly Miller	24 Ranch Terrace	925-389-6134	Kmiller282266@gmail.com
17	Ernest Winslett	85 Ranch Brook	985-264-1961	
18	Matthew Turman	460 Ranch Falls	281-450-9757	Matthew.turman@yahoo.com
19	Mark Minahan	31280 FM 3351	210-844-7529	minahangeo@gmail.com
20	Jody Ruhl	29458 Summit Ridge	830-7556052	jofrancesruhl@yahoo.com
21				
22				
23				
24				
25				

Workshop Sign-In Sheet

Project: City of Fair Oaks Ranch Elevated Storage Tank Date: September 10, 2019 Time: 6:30pm

Name (Please Print Clearly)	Address	Phone Number	E-Mail Address
26 Lyle Zoeller	129 Western Ridge Rd. Gatesville, TX	254-223-4517	lzoeller@tamu.edu
27 Sandy Gorski (property tax show Morrow as last name)	31657 Sky Blue Ridge	210-243-6678	sfgorski@aol.com
28 Connie Clark			Hill Country Weekly
29 Nancy Hill	48 Ranch Terrace	901-233-5244	nvzhill@gmail.com
30 Deb Liberatore	8160 Rolling Acres Trl	415-250-7857	Debliberatore@lne.com
31 Patti Nelson	56 Terrace Pt	210-387-3830	pattidnelson@gmail.com
32 Frank Trapasso	31820 Rolling Acres Trl	830-456-7031	ftrapasso@gvtc.com
33 Matt Dwyer	55 Brook Ridge	405-213-5408	matthewmdwyer@gmail.com
34 Seth Mitchell	8111 Pintado	280-394-6336	
35 Tom Miller	24 Ranch Terrace	925-321-4464	Tommiller2222@gmail.com
36 Melissa Glanton	22 Sendero Woods	830-229-5059	cmglanton@gvtc.com
37 Brandon Franz	435 Ranch Pass	210-364-1288	
38 Charissa Franz	435 Ranch Pass	210-884-9052	charissavx@yahoo.com
39 Paul Mebane	30006 Mellow Ct	830-755-8050	hpmebane@gvtc.com
40 Carolyn Knopf	58 Sendero Point	210-618-9797	Carolyn.knopf@usaa.com
41			
42			
43			
44			
45			
46			
47			
48			
49			
50			

Workshop Sign-In Sheet

Project: City of Fair Oaks RanchElevated Storage Tank Date: September 10, 2019 Time: 6:30pm

Name (Please Print Clearly)	Address	Phone Number	E-Mail Address
51 Steven H. Bennett	P.O. Box 1934	210-287-3776	Msg1975ag@gmail.com
52 Carolyn Holt	7 Stone Terrace	830-229-5331	rcholt@gvtc.com
53 MaryAnne & Jim Harvard	8617 Delta Dawn Lane	830-446-6117	
54			
55 Snehal Patel	8527 Alydar Cir	512-695-2745	
56 Bud Paulson	84 Ranch Point	830-499-5543	Colmep43@gmail.com
57 John Hill	48 Ranch Terrace	901-361-2027	John.hill@valero.com
58 Craig Glendenning	418 Ammann (unable to verify)	210-287-4868	Cglendenning61@yahoo.com
59 Brett & Deb Mussey	8472 Rolling Acres Trl	830-368-4744	brettmussey@gmail.com
60 Krista Upham		210-884-5276	krista@lonestarboerne.com
61 Stephen Zoellar	346D Ammann	830-765-2519	szoeller@ag.tamu.edu
62 David Horwath (property not listed in this name)	7921 Turf Paradise Ln	210-698-5280	dshorwath@yahoo.com
63 Debbie Payne	472 Roanoake Pass (unable to verify)	702-807-2857	Debpayne472@gmail.com
64 Susan Willis	119 Woodland VW	830-388-6867	Susanwillis1@gmail.com
65 Kyle Clark	17 Ranch Terrace	210-296-7520	txsaggiekyle@hotmail.com
66			
67			
68			
69			
70			
71			
72			
73			
74			

CITY OF **FAIR OAKS RANCH**

CITY LIMITS

EXTRA TERRITORIAL JURISDICTION *(ETJ)*

A

B

C

D

E

AMMANN RD.

ROLLING ACRES TR.

FIRST BAPTIST CHURCH OF FAIR OAKS RANCH

3351

YOU ARE HERE
CIBOLO CREEK COMMUNNITY CHURCH

FAIR OAKS RANCH GOLF & COUNTRY CLUB

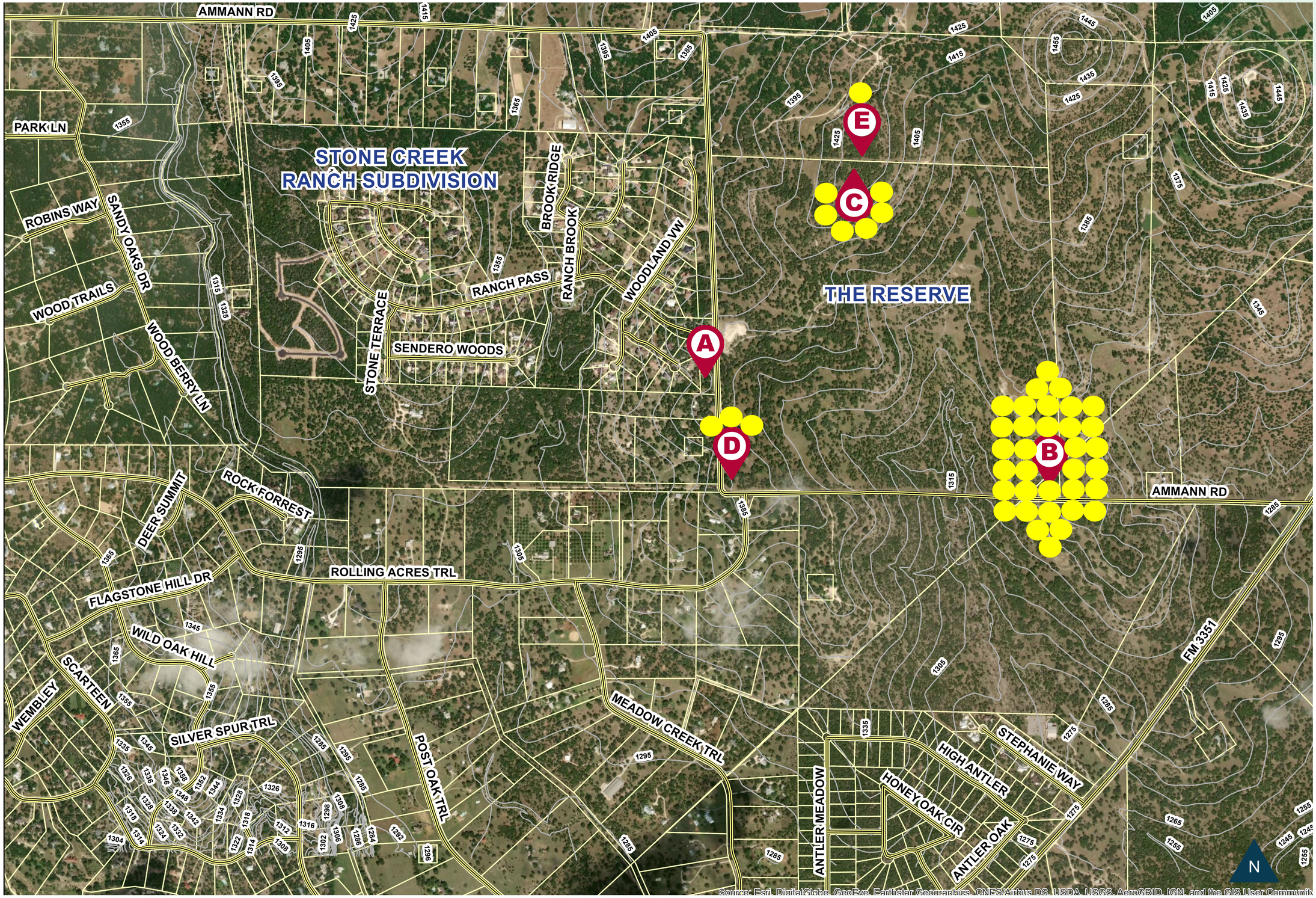
DIETZ ELKHORN RD.

FAIR OAKS PKWY.

35

POTENTIAL **TANK SITES**

Kimley»Horn
Expect More. Experience Better.



PRESSURE ZONES

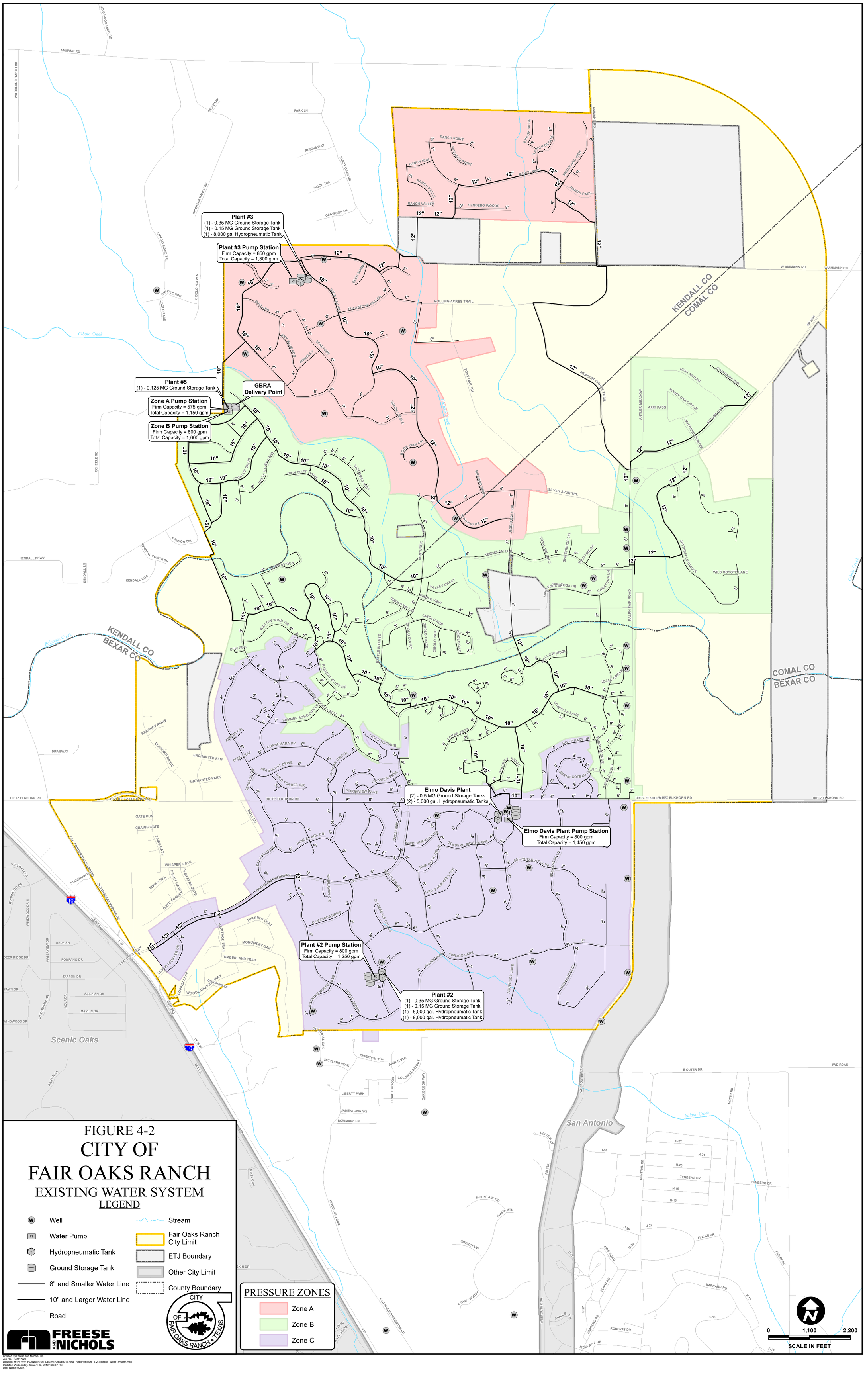


FIGURE 4-2

CITY OF FAIR OAKS RANCH

EXISTING WATER SYSTEM

LEGEND

- Well
- Water Pump
- Hydropneumatic Tank
- Ground Storage Tank
- 8" and Smaller Water Line
- 10" and Larger Water Line
- Road
- Stream
- Fair Oaks Ranch City Limit
- ETJ Boundary
- Other City Limit
- County Boundary

PRESSURE ZONES

- Zone A
- Zone B
- Zone C

FREESE AND NICHOLS

CITY OF FAIR OAKS RANCH • TEXAS

Created By Freese and Nichols, Inc.
Job No.: FAO17329
Location: H:\W_WW_PLANNING\01_DELIVERABLES\11-Final_Report\(Figure_4-2)-Existing_Water_System.mxd
Updated: Wednesday, January 23, 2019 1:23:57 PM
User Name: 02818

1 MULTI-COLUMN TANK

2 COMPOSITE TANK

3 SPHEROID TANK

APPENDIX D: EXISTING UTILITY INFORMATION

FIGURE 4-4
CITY OF FAIR OAKS RANCH
EXISTING WATER SYSTEM AVAILABLE FIRE FLOW

LEGEND

- Well
- Pump Station
- Hydropneumatic Tank
- Ground Storage Tank
- 8" and Smaller Water Line
- 10" and Larger Water Line
- Road
- Stream
- Fair Oaks Ranch City Limit
- ETJ Boundary
- Other City Limit
- County Boundary

AVAILABLE FIRE FLOW

- Less than 500 gpm
- 500 - 1,000 gpm
- 1,000 - 2,000 gpm
- 2,000 - 3,000 gpm
- Greater than 3,000 gpm

Plant #3
(1) - 0.35 MG Ground Storage Tank
(1) - 0.15 MG Ground Storage Tank
(1) - 8,000 gal Hydropneumatic Tank

Plant #3 Pump Station
Firm Capacity = 850 gpm
Total Capacity = 1,300 gpm

Plant #5
(1) - 0.125 MG Ground Storage Tank

Zone A Pump Station
Firm Capacity = 575 gpm
Total Capacity = 1,150 gpm

GBRA Delivery Point

Zone B Pump Station
Firm Capacity = 800 gpm
Total Capacity = 1,600 gpm

Elmo Davis Plant
(2) - 0.5 MG Ground Storage Tanks
(2) - 5,000 gal. Hydropneumatic Tanks

Elmo Davis Plant Pump Station
Firm Capacity = 800 gpm
Total Capacity = 1,450 gpm

Plant #2 Pump Station
Firm Capacity = 800 gpm
Total Capacity = 1,250 gpm

Plant #2
(1) - 0.35 MG Ground Storage Tank
(1) - 0.15 MG Ground Storage Tank
(1) - 5,000 gal. Hydropneumatic Tank
(1) - 8,000 gal. Hydropneumatic Tank

Kendall County
Comal County
Bexar County
San Antonio
Scenic Oaks

0 1,500 3,000
SCALE IN FEET

Created By Freese and Nichols, Inc.
Job No.: FAO17329
Location: H:\W_WW_PLANNING\01_DELIVERABLES\11-Final_Report\(Figure_4-4)-Existing_Available_Fire_Flow.mxd
Updated: Wednesday, January 23, 2019 1:27:15 PM

Plant #3
(1) - 0.35 MG Ground Storage Tank
(1) - 0.15 MG Ground Storage Tank
(1) - 8,000 gal Hydropneumatic Tank

Plant #3 Pump Station
Firm Capacity = 850 gpm
Total Capacity = 1,300 gpm

Plant #5
(1) - 0.125 MG Ground Storage Tank

GBRA Delivery Point

Zone A Pump Station
Firm Capacity = 575 gpm
Total Capacity = 1,150 gpm

Zone B Pump Station
Firm Capacity = 800 gpm
Total Capacity = 1,600 gpm

Elmo Davis Plant
(2) - 0.5 MG Ground Storage Tanks
(2) - 5,000 gal. Hydropneumatic Tanks

Elmo Davis Plant Pump Station
Firm Capacity = 800 gpm
Total Capacity = 1,450 gpm

Plant #2 Pump Station
Firm Capacity = 800 gpm
Total Capacity = 1,250 gpm

Plant #2
(1) - 0.35 MG Ground Storage Tank
(1) - 0.15 MG Ground Storage Tank
(1) - 5,000 gal. Hydropneumatic Tank
(1) - 8,000 gal. Hydropneumatic Tank

FIGURE 4-2
CITY OF FAIR OAKS RANCH
EXISTING WATER SYSTEM
LEGEND

- Well
- Water Pump
- Hydropneumatic Tank
- Ground Storage Tank
- 8" and Smaller Water Line
- 10" and Larger Water Line
- Road
- Stream
- Fair Oaks Ranch City Limit
- ETJ Boundary
- Other City Limit
- County Boundary

PRESSURE ZONES
- Zone A
- Zone B
- Zone C

FREESE AND NICHOLS

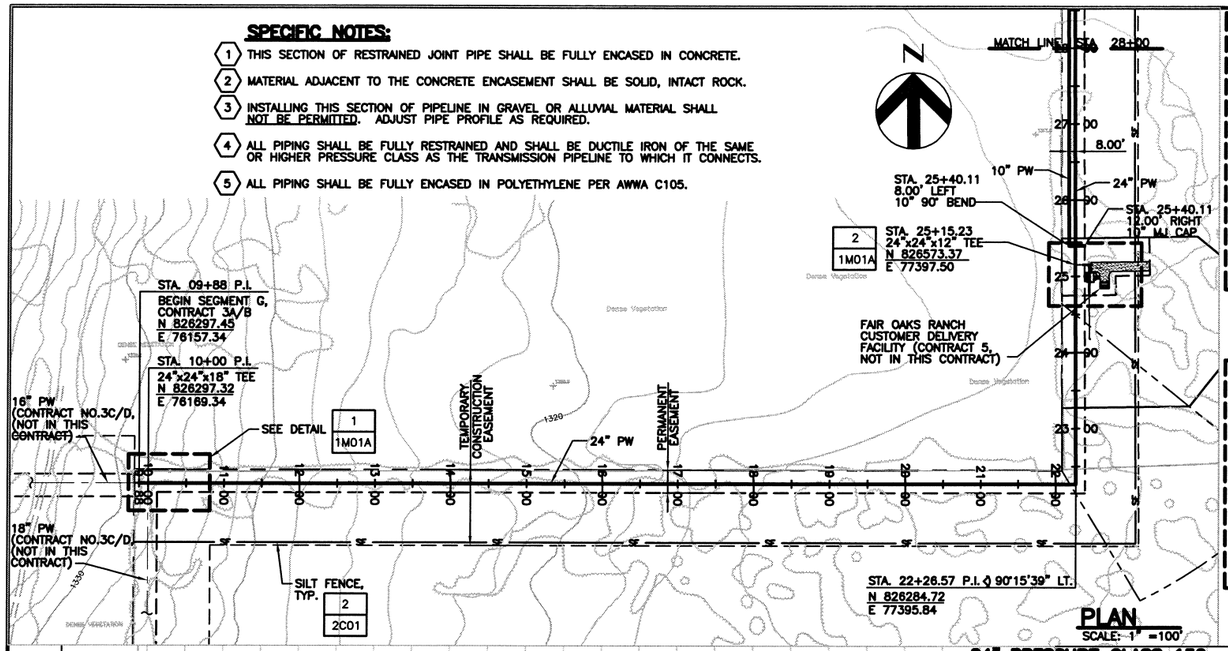
CITY OF FAIR OAKS RANCH • TEXAS

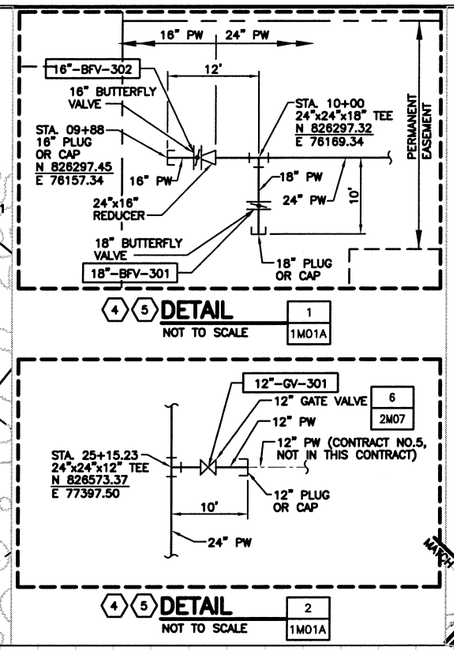
0 1,100 2,200
SCALE IN FEET

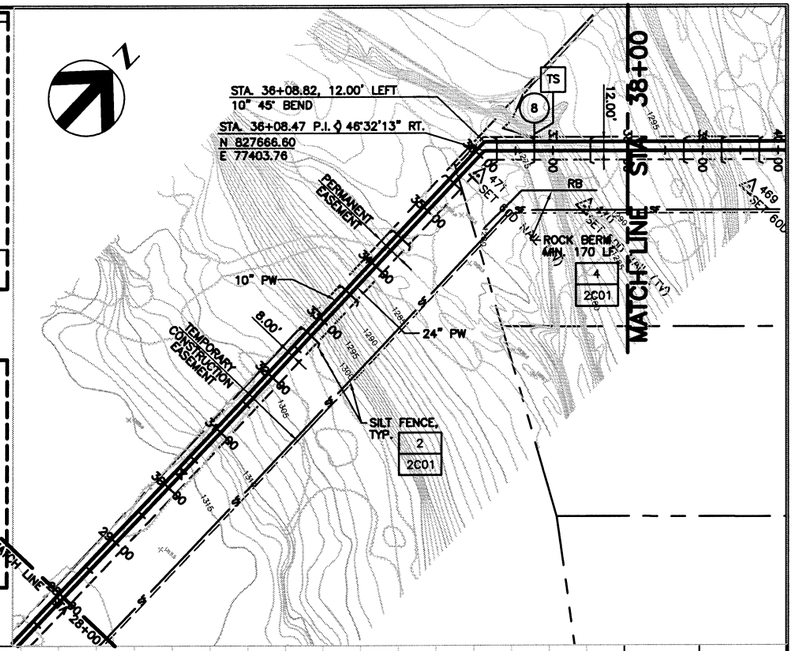
Created By Freese and Nichols, Inc.
Job No.: FAO17329
Location: H:\W_WW_PLANNING\01_DELIVERABLES\11-Final_Report\(Figure_4-2)-Existing_Water_System.mxd
Updated: Wednesday, January 23, 2019 1:23:57 PM
User Name: 02818

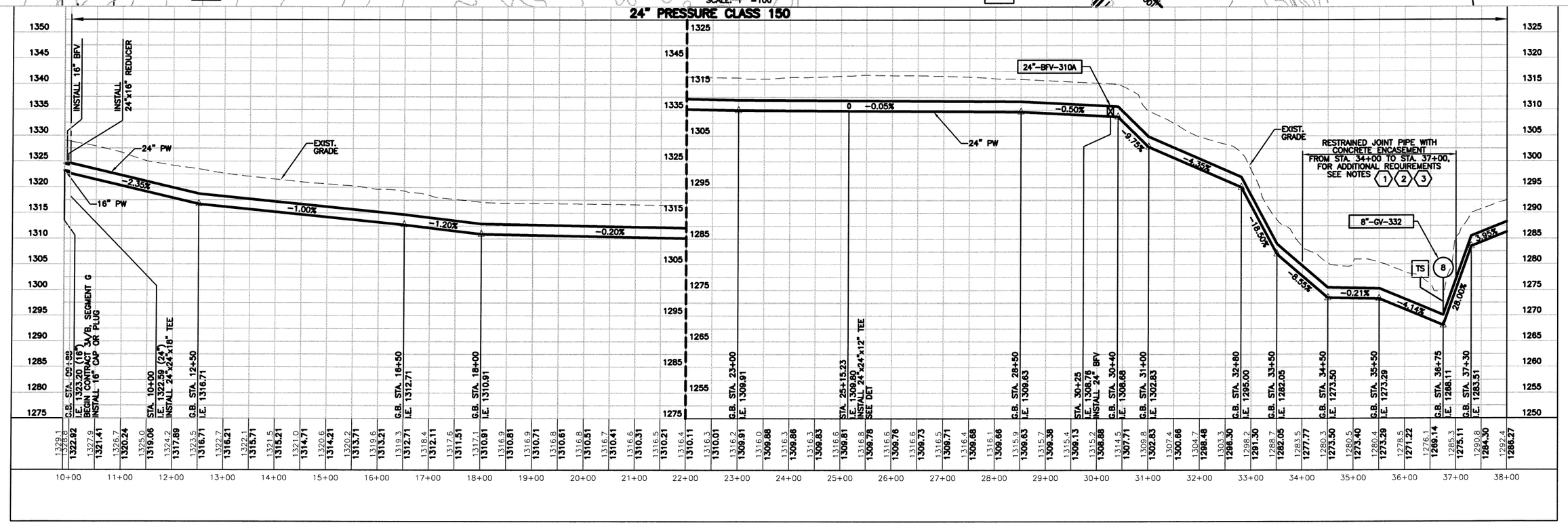
SPECIFIC NOTES:

1. THIS SECTION OF RESTRAINED JOINT PIPE SHALL BE FULLY ENCASED IN CONCRETE.
2. MATERIAL ADJACENT TO THE CONCRETE ENCASEMENT SHALL BE SOLID, INTACT ROCK.
3. INSTALLING THIS SECTION OF PIPELINE IN GRAVEL OR ALLUVIAL MATERIAL SHALL NOT BE PERMITTED. ADJUST PIPE PROFILE AS REQUIRED.
4. ALL PIPING SHALL BE FULLY RESTRAINED AND SHALL BE DUCTILE IRON OF THE SAME OR HIGHER PRESSURE CLASS AS THE TRANSMISSION PIPELINE TO WHICH IT CONNECTS.
5. ALL PIPING SHALL BE FULLY ENCASED IN POLYETHYLENE PER AWWA C105.









PROFILE
HORIZ: 1" = 100'
VERT: 1" = 10'

MATCHLINE FOR CONTINUATION SEE DWG 1M01B

//AUSNCC3/CAD/07081-4913/CONTRACT-3-TWPIPELINE/DWGS-CIVIL-3C_D/GBRA-3A-1M01-ALDWG
11-30-04 MWAUER 15:06:27

IF BAR DOES NOT MEASURE 1" ON ORIGINAL DRAWING, THEN ADJUST SCALE ACCORDINGLY.

MALCOLM PIRNIE

ELECTRONIC SEAL AND SIGNATURE HAVE BEEN REMOVED. THIS MEDIA SHOULD NOT BE CONSIDERED A CERTIFIED DOCUMENT.

HDR Engineering, Inc.

AS-RECORDED

THIS DOCUMENT IS FOR THE OWNER'S USE AS A RECORD SET OF THE CONSTRUCTED PROJECT. IT HAS BEEN MODIFIED FROM THE ORIGINAL CONSTRUCTION DOCUMENTS TO INCLUDE REVISION AND CONSTRUCTION RELATED CHANGES AS RECORDED BY THE GENERAL CONTRACTOR: OSCAR RENDA CONTRACTING 522 BENSON LANE, ROANOKE, TX 76262 (817) 491-2703, (817) 491-1627. THIS DOCUMENT IS NOT TO BE USED OR ISSUED FOR CONSTRUCTION OR ANY OTHER PURPOSE WITHOUT PRIOR CONSULTATION AND APPROVAL BY HDR ENGINEERING, INC. AND THE ENGINEER RESPONSIBLE FOR SEALING THIS DOCUMENT.

PROJECT MANAGER	E. D. WHITIS
DESIGNED	S. D. BEROSET
DESIGNED	E. D. WHITIS
CHECKED	
DRAWN	J. ABED

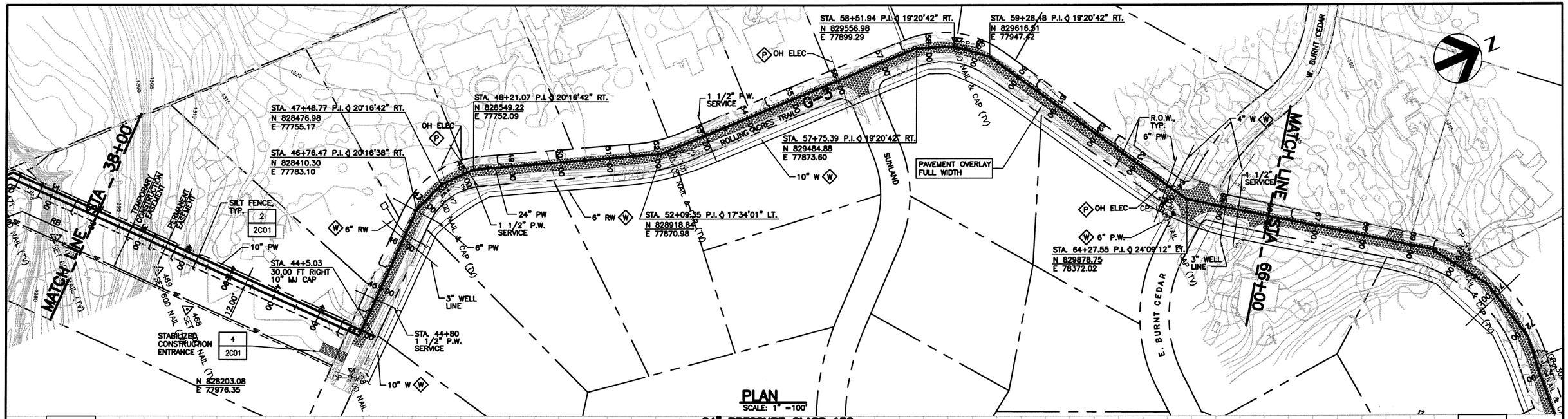
GBRA
GUADALUPE-BLANCO RIVER AUTHORITY

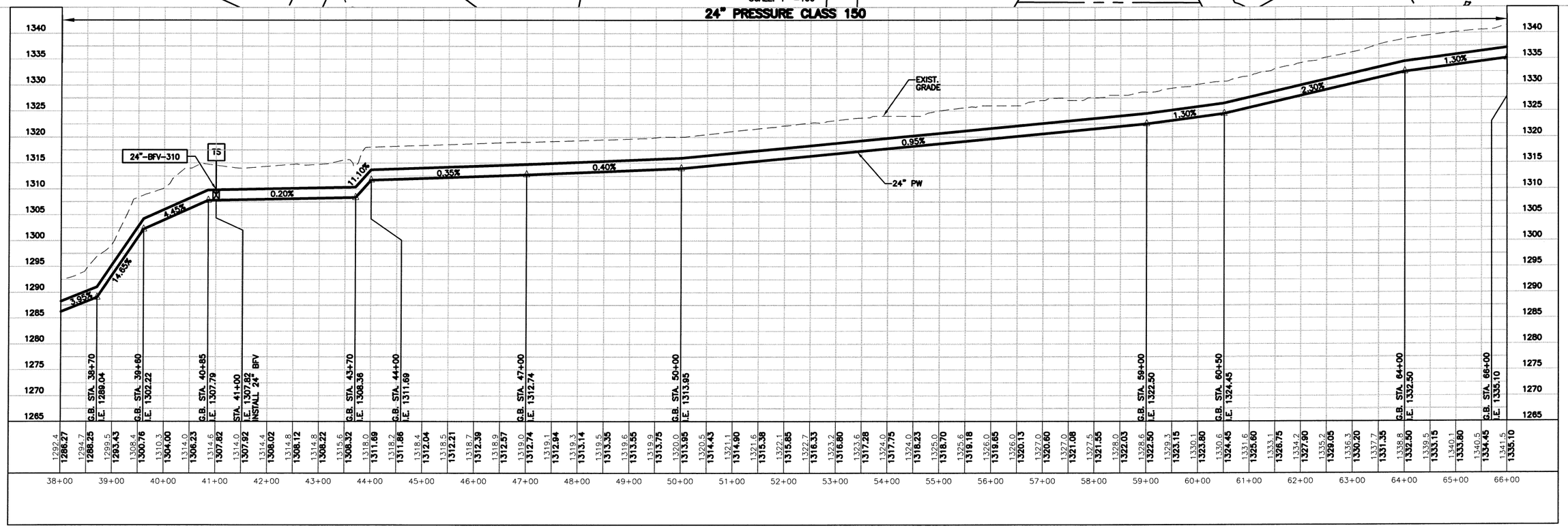
GUADALUPE-BLANCO RIVER AUTHORITY
WESTERN CANYON REGIONAL WATER SUPPLY PROJECT

CONTRACT NO. 3A/B
TREATED WATER TRANSMISSION PIPELINE

SEGMENT G
PLAN AND PROFILE
STATION 09+88 TO
STATION 38+00

DATE	SEPTEMBER 2004
SCALE	AS NOTED
FILE NAME	GBRA-3A-1M01A.DWG
SHEET NO.	1M01A
ISSUE	6





MATCHLINE FOR CONTINUATION SEE DWG 1M01A

MATCHLINE FOR CONTINUATION SEE DWG 1M01C

PROFILE
HORIZ: 1" = 100'
VERT: 1" = 10'

//AUSNOC3/CAD/07081-491/CONTRACT-3-TWPIPELINE/DWGS-CIVIL-3C_D/GBRA-3A-1M01-B-SEG-G.DWG
03-21-2006 JABED 15:07:46

BAR LENGTH ON ORIGINAL DRAWING IS ONE INCH. ADJUST SCALE ACCORDINGLY.

MALCOLM PIRNIE

ELECTRONIC SEAL AND SIGNATURE HAVE BEEN REMOVED. THIS MEDIA SHOULD NOT BE CONSIDERED A CERTIFIED DOCUMENT.

HDR Engineering, Inc.

AS-RECORDED

THIS DOCUMENT IS FOR THE OWNER'S USE AS A RECORD SET OF THE CONSTRUCTED PROJECT. IT HAS BEEN MODIFIED FROM THE ORIGINAL CONSTRUCTION DOCUMENTS TO INCLUDE REVISION AND CONSTRUCTION RELATED CHANGES AS RECORDED BY THE GENERAL CONTRACTOR: OSCAR RENDA CONTRACTING 522 BENSON LANE, ROANOKE, TX 76262 (817) 491-2703. (817) 491-1627. THIS DOCUMENT IS NOT TO BE USED OR ISSUED FOR CONSTRUCTION OR ANY OTHER PURPOSE WITHOUT PRIOR CONSULTATION AND APPROVAL BY HDR ENGINEERING, INC. AND THE ENGINEER RESPONSIBLE FOR SEALING THIS DOCUMENT.

PROJECT MANAGER	E. D. WHITIS
DESIGNED	S. D. BEROSET
DESIGNED	E. D. WHITIS
CHECKED	
DRAWN	J. ABED

GBRA
GUADALUPE-BLANCO RIVER AUTHORITY

GUADALUPE-BLANCO RIVER AUTHORITY
WESTERN CANYON REGIONAL WATER SUPPLY PROJECT

CONTRACT NO. 3A/B
TREATED WATER TRANSMISSION PIPELINE

SEGMENT G
PLAN AND PROFILE
STATION 38+00 TO
STATION 66+00

DATE	SEPTEMBER 2004
SCALE	AS NOTED
FILE NAME	GBRA-3A-1M02.DWG
SHEET NO.	1M01B
ISSUE	6

STA. 69+42.79 P.I. ◊ 20°20'58" RT.
N 830305.18
E 78661.24

1 1/2" P.W. SERVICE

CP-94 60D NAIL & CAP (TV)

CP-300 60D NAIL & CAP (TV)

STA. 70+78.88 P.I. ◊ 20°20'58" RT.
N 830384.21
E 78772.02

STA. 72+14.97 P.I. ◊ 20°20'58" RT.
N 830419.78
E 78903.37

STA. 76+16.40 PC,
N 830415.49
E 78950.55

10" W

6" RW

STA. 76+59.02 PT,
N 830427.47
E 79346.08

CP-92 60D NAIL & CAP (TV)

OH ELEC

SILT FENCE, TYP.

ROLLING ACRES TRAIL
G-3

STA. 78+99.24 PC,
N 830463.66
E 79583.57

6" RW

10" W

24" PW

8" W

STA. 84+97.73 PT,
N 830485.02
E 80180.34

6" RW

R.O.W., TYP.

PAVEMENT OVERLAY FULL WIDTH

1 1/2" P.W. SERVICE

OH ELEC

STA. 90+88.94 PC,
N 830437.98
E 80769.68

8" W

1 1/2" P.W. SERVICE

CP-91 60D NAIL & CAP (TV)

MATCH LINE STA. 66+00

MATCH LINE STA. 94+00

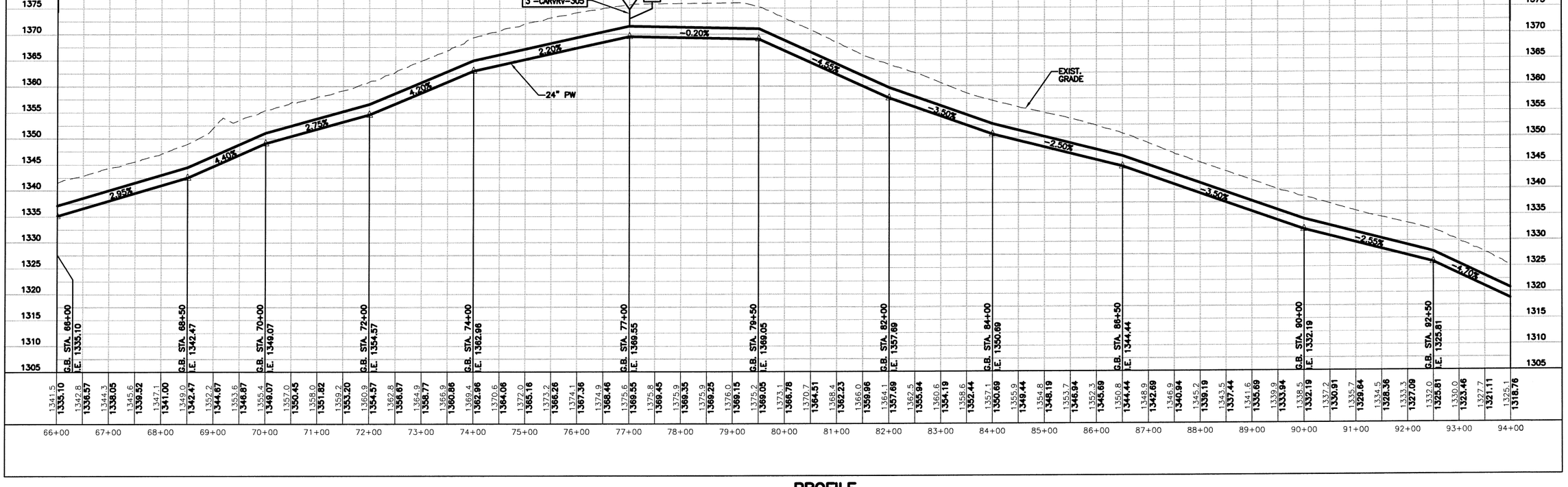
N

WILD OAK HILL

E. BURNT CEDAR

CURVE TABLE					
CURVE	LENGTH	RADIUS	TANGENT	DELTA	CHORD
C1	396.68'	1639.91'	199.31'	13°51'33"	395.71'
C2	598.49'	2592.19'	300.58'	13°13'43"	597.16'
C3	396.51'	975.23'	201.03'	23°17'43"	393.78'

PLAN
SCALE: 1" =100'



PROFILE
HORIZ: 1" = 100'
VERT: 1" = 10'

MATCHLINE FOR CONTINUATION SEE DWG 1M01B

MATCHLINE FOR CONTINUATION SEE DWG 1M02

C:\MNDW\07081-4913\CONTRACT-3-TWPIPELINE\DWGS-CIVIL\GBRA-3A-1M01-C-SEG-G.DWG
05-21-2006 JABED 11:01:38

BAR LENGTH ON ORIGINAL DRAWING IS 1" IF NOT, ADJUST SCALE ACCORDINGLY.

MALCOLM PIRNIE

ELECTRONIC SEAL AND SIGNATURE HAVE BEEN REMOVED. THIS MEDIA SHOULD NOT BE CONSIDERED A CERTIFIED DOCUMENT.

HDR Engineering, Inc.

AS-RECORDED

THIS DOCUMENT IS FOR THE OWNER'S USE AS A RECORD SET OF THE CONSTRUCTED PROJECT. IT HAS BEEN MODIFIED FROM THE ORIGINAL CONSTRUCTION DOCUMENTS TO INCLUDE REVISION AND CONSTRUCTION RELATED CHANGES AS RECORDED BY THE GENERAL CONTRACTOR: OSCAR RENDA CONTRACTING 522 BENSON LANE, ROANOKE, TX 76262 (817) 491-2703. (817) 491-1827. THIS DOCUMENT IS NOT TO BE USED OR ISSUED FOR CONSTRUCTION OR ANY OTHER PURPOSE WITHOUT PRIOR CONSULTATION AND APPROVAL BY HDR ENGINEERING, INC. AND THE ENGINEER RESPONSIBLE FOR SEALING THIS DOCUMENT.

PROJECT MANAGER	E. D. WHITIS
DESIGNED	S. D. BEROSET
DESIGNED	E. D. WHITIS
CHECKED	
DRAWN	J. ABED

GBRA
GUADALUPE-BLANCO RIVER AUTHORITY

GUADALUPE-BLANCO RIVER AUTHORITY
WESTERN CANYON REGIONAL WATER SUPPLY PROJECT

CONTRACT NO. 3A/B
TREATED WATER TRANSMISSION PIPELINE

SEGMENT G
PLAN AND PROFILE
STATION 66+00 TO
STATION 94+00

DATE	SEPTEMBER 2004
SCALE	AS NOTED
FILE NAME	GBRA-3A-1M01C.DWG
SHEET NO.	1M01C
ISSUE	3

MATCH LINE STA 94+00

CURVE TABLE					
CURVE	LENGTH	RADIUS	TANGENT	DELTA	CHORD
C4	392.53'	710.17'	201.42'	31°40'07"	387.55'
C5	154.42'	980.52'	77.37'	9°01'24"	154.26'

10 / 2M01 STA. 95+35 (+/-) 36" ARCH CMP

11 / 2M01 STA. 97+73 (+/-) 4-36" ARCH CMP

STA. 94+85.44 PT, N 830328.04 E 81147.80

STA. 97+67.40 PC, N 830196.28 E 81397.08

STA. 101+59.93 PT, N 829928.56 E 81677.30

STA. 107+69.37 P.I. ◊ 24°55'24" LT. N 829403.30 E 81986.35

STA. 108+62.27 P.I. ◊ 24°55'24" LT. N 829350.53 E 82062.82

STA. 113+01, BEGIN OFFSET INSTALL 45° ELBOW N 829276.76 E 82495.30

STA. 113+31.75 PT, 30.75' OFFSET-RIGHT INSTALL 45° BEND N 82924.27 E 82520.44

STA. 113+79.97 PC, N 829263.48 E 82573.14

STA. 114+58.46, 30.75' OFFSET-RIGHT INSTALL 45° BEND N 829222.76 E 82648.23

STA. 114+86.76, END 30.75' OFFSET INSTALL 45° BEND N 829251.28 E 82679.18

STA. 115+34.39 PT, N 829249.56 E 82726.78

STA. 180+56 (+/-) 24" ARCH CMP — 10 / 2M01

2 / 2C01 SILT FENCE, TYP.

PAVEMENT OVERLAY FULL WIDTH

ROCK FOREST

DEER SUMMIT

FLAGSTONE HILL

ROLLING ACRES TRAIL

POST OAK TRAIL

G-3

R.O.W., TYP.

1 1/2" P.W. SERVICE

8" W

24" PW

3" WELL LINE

4" W

6" W

6" RW

6" P.W. SERVICE

OH ELEC

UTIL DRAINAGE

UG PHONE LINE

CP-87

GOOD NAIL & CAP (TV)

GOOD NAIL AND CAP (PD TRAV)

NOTE: EXISTING TOPOGRAPHIC INFORMATION AND EXISTING UTILITY LOCATIONS IN THIS AREA WERE NOT ACQUIRED PRIOR TO PROJECT DESIGN

MATCH LINE STA 122+00

PLAN
SCALE: 1" =100'

MATCHLINE FOR CONTINUATION SEE DWG 1M01C

MATCHLINE FOR CONTINUATION SEE DWG 1M03

24" PRESSURE CLASS 150

EXIST. GRADE

24" PW

8"-GV-331

3"-CARVRV-304

24"-BFV-309

STA. 119+75 INSTALL 24" BUTTERFLY VALVE

-4.70% -1.20% -0.25% -1.10% -0.20% -1.05% -3.90% -1.30% 7.90% 2.15% 1.05% -0.75%

STA	94+00	95+00	96+00	97+00	98+00	99+00	100+00	101+00	102+00	103+00	104+00	105+00	106+00	107+00	108+00	109+00	110+00	111+00	112+00	113+00	114+00	115+00	116+00	117+00	118+00	119+00	120+00	121+00	122+00
G.B.	1318.76	1316.41	1314.06	1313.46	1312.86	1312.26	1311.66	1311.05	1310.45	1309.85	1309.25	1309.13	1309.00	1308.88	1308.75	1308.20	1307.65	1307.10	1306.73	1306.63	1306.53	1306.43	1306.33	1306.23	1306.13	1306.03	1305.93	1305.83	1305.73	1305.63	1305.61	1305.19	1304.66	1304.14	1303.61	1303.08	1302.56	1302.45	1300.89	1298.94	1296.99	1295.03	1294.38	1293.73	1305.0	1297.68	1301.63	1302.71	1303.78	1304.86	1305.93	1306.46	1308.98	1307.51	1308.03	1308.56	1308.18	1307.81	1307.43	1307.06
I.E.	1325.1	1322.5	1321.2	1319.8	1319.2	1318.3	1318.0	1317.4	1316.7	1316.0	1315.5	1315.0	1315.0	1315.0	1315.0	1314.5	1314.0	1313.6	1313.0	1312.7	1312.7	1312.5	1312.4	1312.2	1312.1	1312.0	1312.0	1312.0	1312.0	1312.0	1311.9	1309.4	1309.1	1308.2	1306.7	1303.8	1301.6	1301.0	1300.1	1305.0	1309.1	1309.3	1310.6	1311.4	1312.2	1313.0	1313.6	1314.2	1314.5	1314.6	1314.4	1314.0	1313.6	1313.3	- - -

PROFILE
HORIZ: 1" = 100'
VERT: 1" = 10'

C:/WWDM/07081-4913/CONTRACT-3-TWPIPELINE/DWGS-CIVIL/GBRA-3A-1M02-SEG-G.DWG
03-21-2006 JABED 11:03:57

BAR LENGTH ON ORIGINAL DRAWING IS ONE INCH. ADJUST SCALE ACCORDINGLY.

MALCOLM PIRNIE

ELECTRONIC SEAL AND SIGNATURE HAVE BEEN REMOVED. THIS MEDIA SHOULD NOT BE CONSIDERED A CERTIFIED DOCUMENT.

HDR Engineering, Inc.

AS-RECORDED

THIS DOCUMENT IS FOR THE OWNER'S USE AS A RECORD SET OF THE CONSTRUCTED PROJECT. IT HAS BEEN MODIFIED FROM THE ORIGINAL CONSTRUCTION DOCUMENTS TO INCLUDE REVISION AND CONSTRUCTION RELATED CHANGES AS RECORDED BY THE GENERAL CONTRACTOR: OSCAR RENDA CONTRACTING 522 BENSON LANE, ROANOKE, TX 76262 (817) 491-2703. (817) 491-1627. THIS DOCUMENT IS NOT TO BE USED OR ISSUED FOR CONSTRUCTION OR ANY OTHER PURPOSE WITHOUT PRIOR CONSULTATION AND APPROVAL BY HDR ENGINEERING, INC. AND THE ENGINEER RESPONSIBLE FOR SEALING THIS DOCUMENT.

PROJECT MANAGER	E. D. WHITIS
DESIGNED	S. D. BEROSET
DESIGNED	E. D. WHITIS
CHECKED	
DRAWN	J. ABED

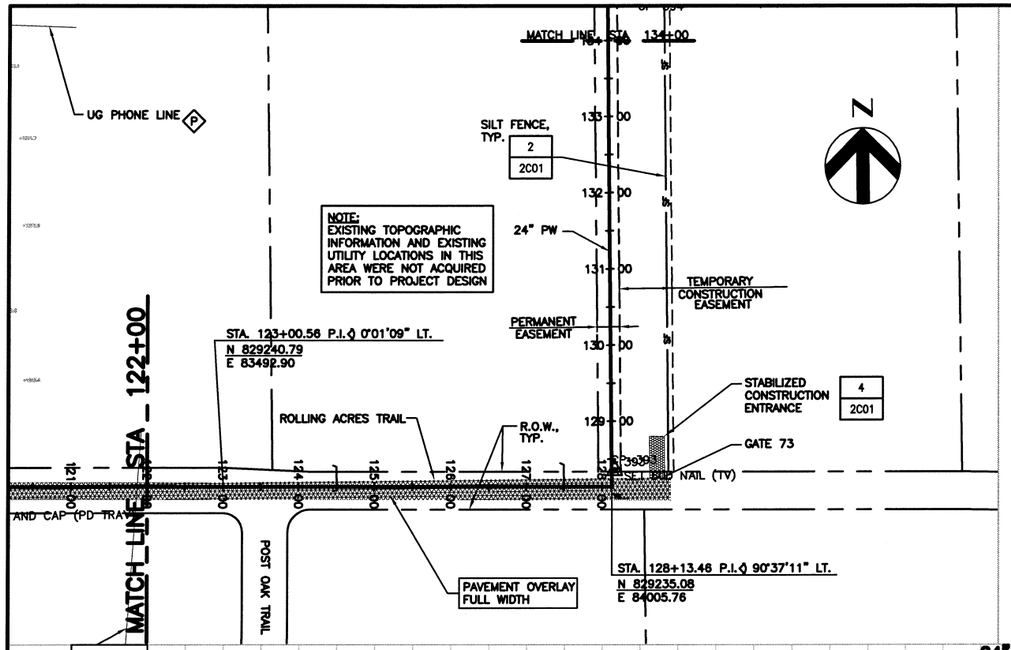
GBRA
GUADALUPE-BLANCO RIVER AUTHORITY

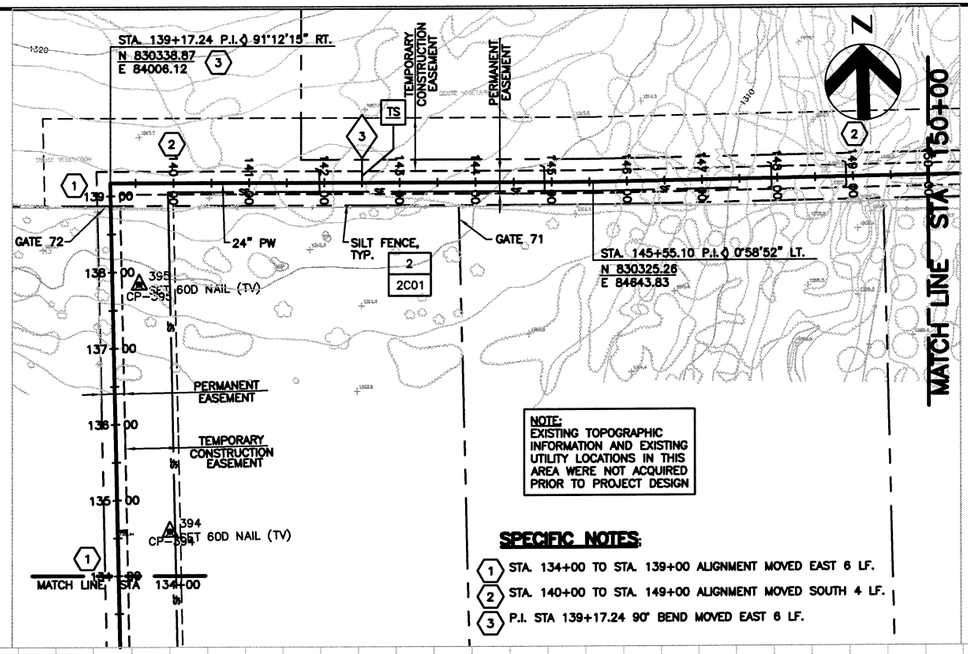
GUADALUPE-BLANCO RIVER AUTHORITY
WESTERN CANYON REGIONAL WATER SUPPLY PROJECT

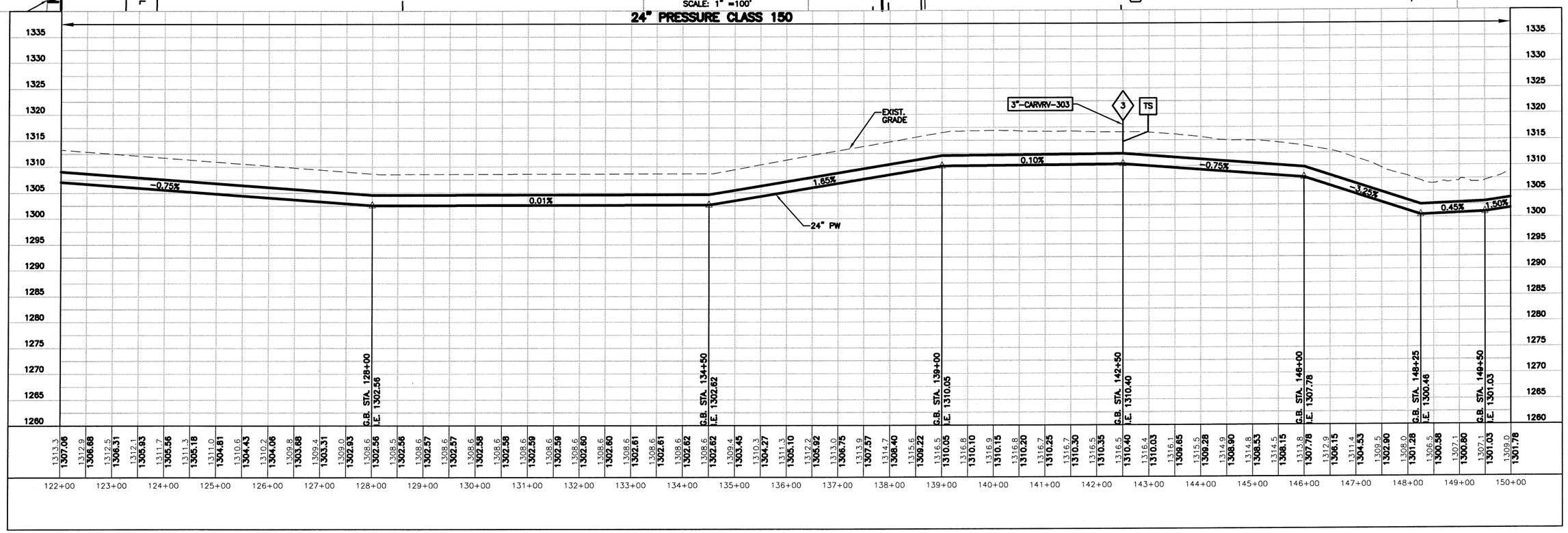
CONTRACT NO. 3A/B
TREATED WATER TRANSMISSION PIPELINE

SEGMENT G
PLAN AND PROFILE
STATION 94+00 TO
STATION 122+00

DATE	SEPTEMBER 2004
SCALE	AS NOTED
FILE NAME	GBRA-3A-1M02.DWG
SHEET NO.	1M02
ISSUE	4







PROFILE
HORIZ: 1" = 100'
VERT: 1" = 10'

C:/WNDM/07081-4913/CONTRACT-3-TWPIPELINE/DWGS-CIVIL/GBRA-3A-1M03-SEC-G.DWG
03-21-2006 JABED 11:05:34

BAR LENGTH ON ORIGINAL DRAWING IS ONE INCH. ADJUST SCALE ACCORDINGLY.

MALCOLM PIRNIE

ELECTRONIC SEAL AND SIGNATURE HAVE BEEN REMOVED. THIS MEDIA SHOULD NOT BE CONSIDERED A CERTIFIED DOCUMENT.

HDR Engineering, Inc.

AS-RECORDED

THIS DOCUMENT IS FOR THE OWNER'S USE AS A RECORD SET OF THE CONSTRUCTED PROJECT. IT HAS BEEN MODIFIED FROM THE ORIGINAL CONSTRUCTION DOCUMENTS TO INCLUDE REVISION AND CONSTRUCTION RELATED CHANGES AS RECORDED BY THE GENERAL CONTRACTOR: OSCAR RENDA CONTRACTING 522 BENSON LANE, ROANOKE, TX. 76262 (817) 491-2703, (817) 491-1627. THIS DOCUMENT IS NOT TO BE USED OR ISSUED FOR CONSTRUCTION OR ANY OTHER PURPOSE WITHOUT PRIOR CONSULTATION AND APPROVAL BY HDR ENGINEERING, INC. AND THE ENGINEER RESPONSIBLE FOR SEALING THIS DOCUMENT.

PROJECT MANAGER	E. D. WHITIS
DESIGNED	S. D. BEROSET
DESIGNED	E. D. WHITIS
CHECKED	
DRAWN	J. ABED

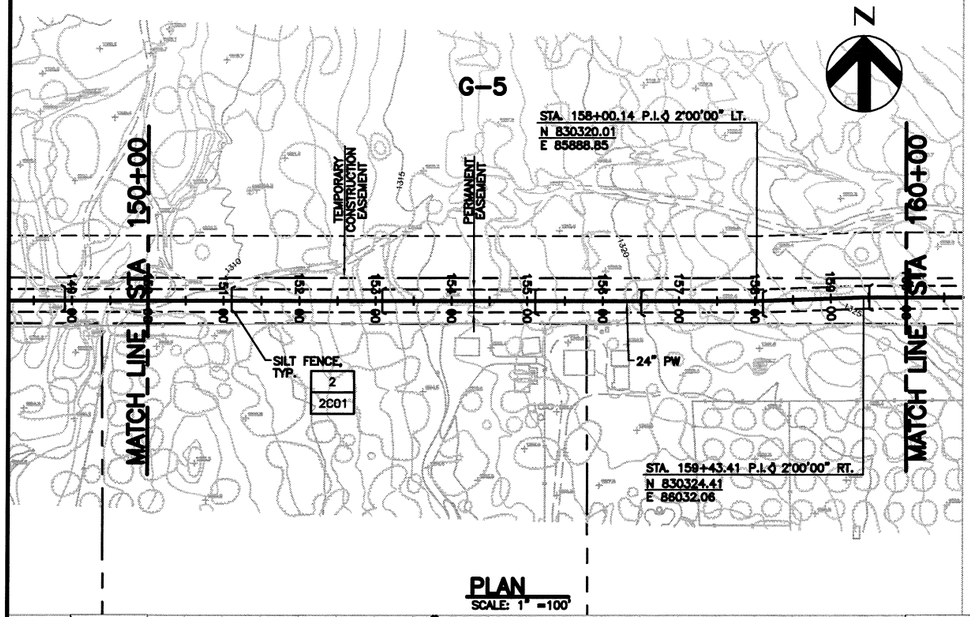
GBRA
GUADALUPE-BLANCO RIVER AUTHORITY

GUADALUPE-BLANCO RIVER AUTHORITY
WESTERN CANYON REGIONAL WATER SUPPLY PROJECT

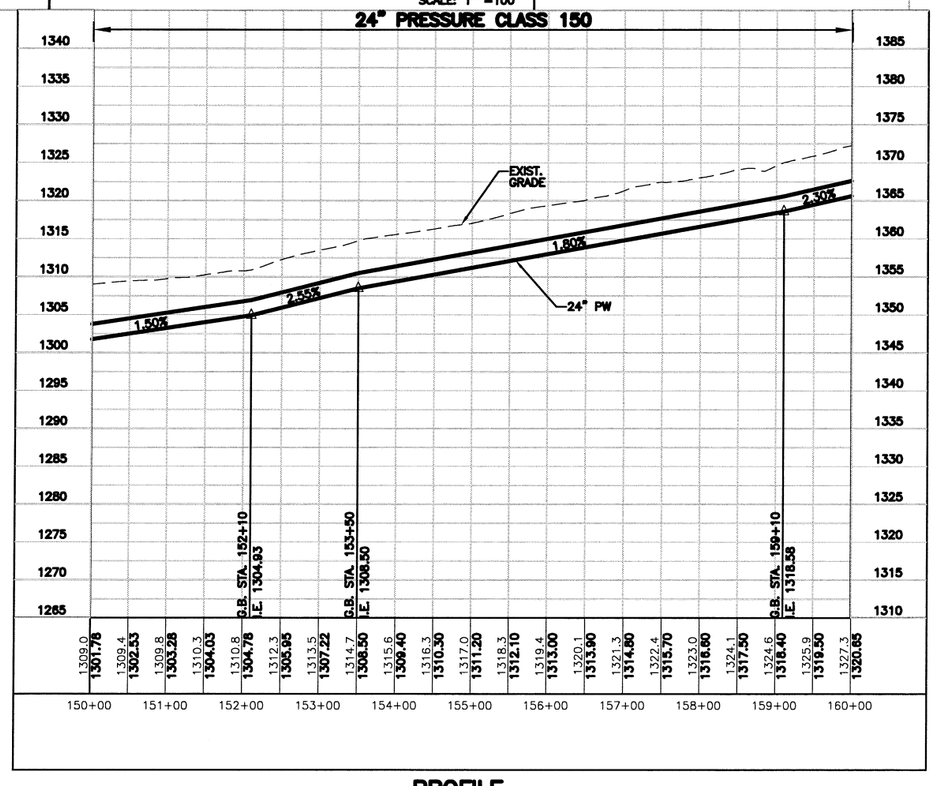
CONTRACT NO. 3A/B
TREATED WATER TRANSMISSION PIPELINE

SEGMENT G
PLAN AND PROFILE
STATION 122+00 TO
STATION 150+00

DATE	SEPTEMBER 2004
SCALE	AS NOTED
FILE NAME	GBRA-3A-1M03.DWG
SHEET NO.	1M03
ISSUE	3



PLAN
SCALE: 1" =100'



PROFILE
HORIZ: 1" = 100'
VERT: 1" = 10'

C:/WINDM/107081-4913/CONTRACT-3-TWPIPELINE/DWGS-CIVIL/GBRA-3A-1M04-SEG-G.DWG
03-21-2006 JABED 11:07:40

IF THIS BAR IS NOT ONE INCH, DRAWING IS NOT ORIGINAL SCALE ACCORDINGLY.

MALCOLM PIRNIE

ELECTRONIC SEAL AND SIGNATURE HAVE BEEN REMOVED. THIS MEDIA SHOULD NOT BE CONSIDERED A CERTIFIED DOCUMENT.

HDR Engineering, Inc.

AS-RECORDED

THIS DOCUMENT IS FOR THE OWNER'S USE AS A RECORD SET OF THE CONSTRUCTED PROJECT. IT HAS BEEN MODIFIED FROM THE ORIGINAL CONSTRUCTION DOCUMENTS TO INCLUDE REVISION AND CONSTRUCTION RELATED CHANGES AS RECORDED BY THE GENERAL CONTRACTOR: OSCAR RENDA CONTRACTING 522 BENSON LANE, ROANOKE, TX 76262 (817) 491-2703. (817) 491-1627. THIS DOCUMENT IS NOT TO BE USED OR ISSUED FOR CONSTRUCTION OR ANY OTHER PURPOSE WITHOUT PRIOR CONSULTATION AND APPROVAL BY HDR ENGINEERING, INC. AND THE ENGINEER RESPONSIBLE FOR SEALING THIS DOCUMENT.

PROJECT MANAGER	E. D. WHITIS
DESIGNED	S. D. BEROSET
DESIGNED	E. D. WHITIS
CHECKED	
DRAWN	J. ABED

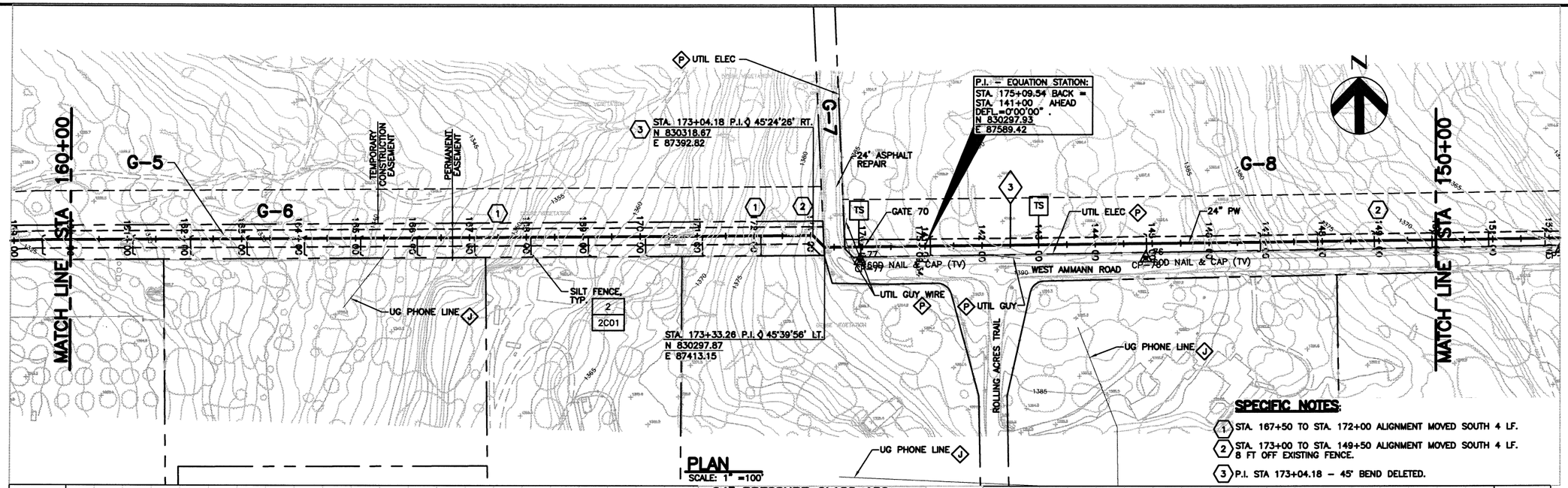
GBRA
GUADALUPE-BLANCO RIVER AUTHORITY

GUADALUPE-BLANCO RIVER AUTHORITY
WESTERN CANYON REGIONAL WATER SUPPLY PROJECT

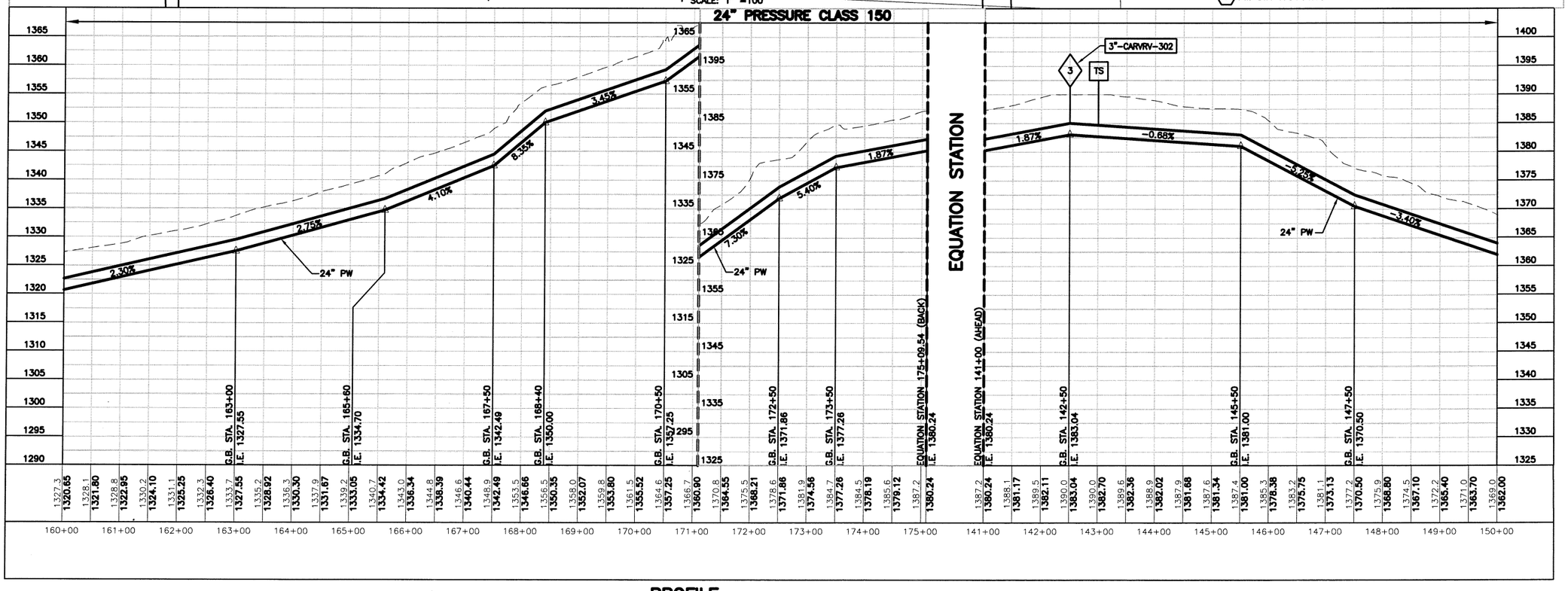
CONTRACT NO. 3A/B
TREATED WATER TRANSMISSION PIPELINE

SEGMENT G
PLAN AND PROFILE
STATION 150+00 TO
STATION 160+00

DATE	SEPTEMBER 2004
SCALE	AS NOTED
FILE NAME	GBRA-3A-1M04.DWG
SHEET NO.	1M04
ISSUE	3



PLAN
SCALE: 1" =100'



PROFILE
HORIZ: 1" = 100'
VERT: 1" = 10'

C:\WINDM\07081-4913\CONTRACT-3-TWPIPELINE\DWGS-CIVIL\GBRA-3A-1M05-SEG-G.DWG
03-21-2006 JABED 11:09:23

BAR LENGTH ON ORIGINAL DRAWING EQUALS ONE INCH. ADJUST SCALE ACCORDINGLY.

MALCOLM PIRNIE

ELECTRONIC SEAL AND SIGNATURE HAVE BEEN REMOVED. THIS MEDIA SHOULD NOT BE CONSIDERED A CERTIFIED DOCUMENT.

HDR Engineering, Inc.

AS-RECORDED

THIS DOCUMENT IS FOR THE OWNER'S USE AS A RECORD SET OF THE CONSTRUCTED PROJECT. IT HAS BEEN MODIFIED FROM THE ORIGINAL CONSTRUCTION DOCUMENTS TO INCLUDE REVISION AND CONSTRUCTION RELATED CHANGES AS RECORDED BY THE GENERAL CONTRACTOR: OSCAR RENDA CONTRACTING 522 BENSON LANE, ROANOKE, TX 76262 (817) 491-2703. (817) 491-1627. THIS DOCUMENT IS NOT TO BE USED OR ISSUED FOR CONSTRUCTION OR ANY OTHER PURPOSE, WITHOUT PRIOR CONSULTATION AND APPROVAL BY HDR ENGINEERING, INC. AND THE ENGINEER RESPONSIBLE FOR SEALING THIS DOCUMENT.

PROJECT MANAGER	E. D. WHITIS
DESIGNED	S. D. BEROSET
DESIGNED	E. D. WHITIS
CHECKED	
DRAWN	J. ABED

GBRA
GUADALUPE-BLANCO RIVER AUTHORITY

GUADALUPE-BLANCO RIVER AUTHORITY
WESTERN CANYON REGIONAL WATER SUPPLY PROJECT

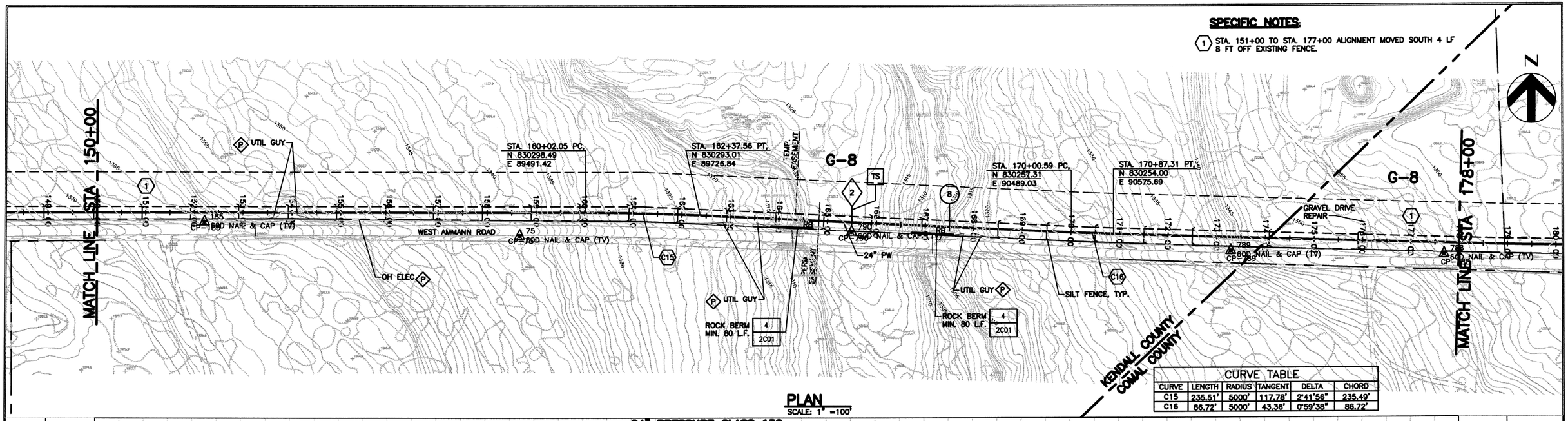
CONTRACT NO. 3A/B
TREATED WATER TRANSMISSION PIPELINE

SEGMENT G
PLAN AND PROFILE
STATION 160+00 TO
STATION 150+00

DATE	SEPTEMBER 2004
SCALE	AS NOTED
FILE NAME	GBRA-3A-1M05.DWG
SHEET NO.	1M05
ISSUE	3

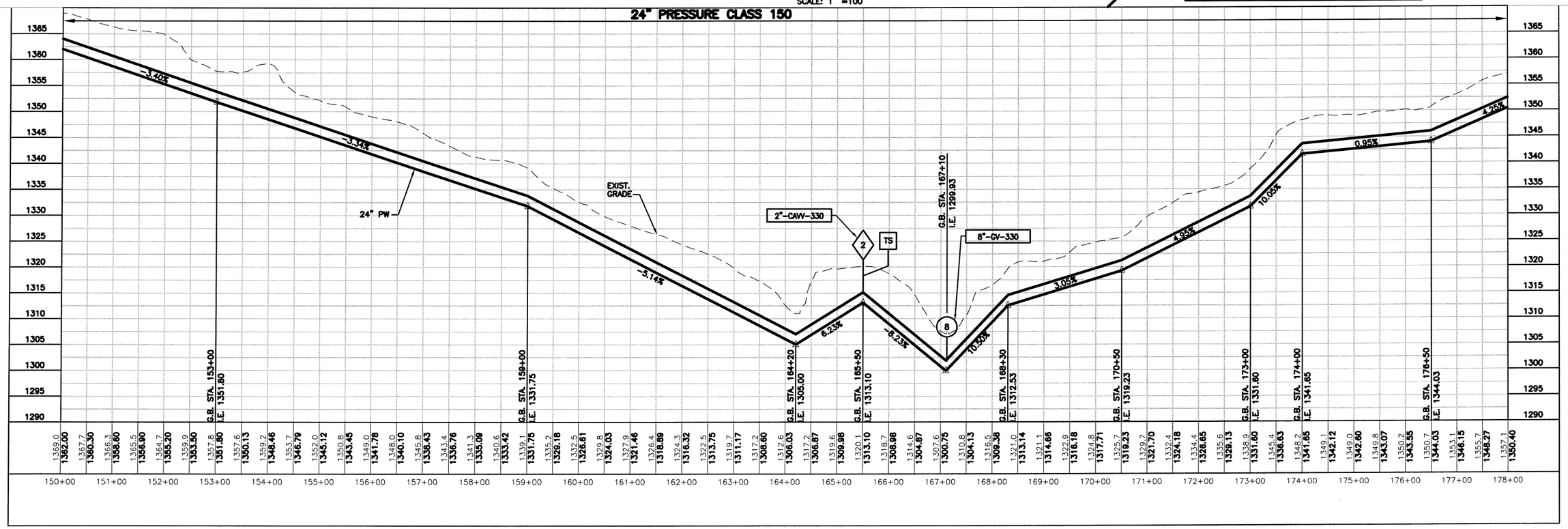
SPECIFIC NOTES:

1. STA. 151+00 TO STA. 177+00 ALIGNMENT MOVED SOUTH 4 LF 8 FT OFF EXISTING FENCE.



CURVE TABLE					
CURVE	LENGTH	RADIUS	TANGENT	DELTA	CHORD
C15	235.51'	5000'	117.78'	2°41'56"	235.49'
C16	86.72'	5000'	43.36'	0°59'38"	86.72'

PLAN
SCALE: 1" =100'



PROFILE
HORIZ: 1" = 100'
VERT: 1" = 10'

C:/WNDM/07081-4913/CONTRACT-3-TWPIPELINE/DWGS-CIVIL/GBRA-3A-1M06-SEG-G.DWG
03-21-2006 JABED 11:11:26

BAR LENGTH ON ORIGINAL DRAWING IS ONE INCH. ADJUST SCALE ACCORDINGLY.

MALCOLM PIRNIE

ELECTRONIC SEAL AND SIGNATURE HAVE BEEN REMOVED. THIS MEDIA SHOULD NOT BE CONSIDERED A CERTIFIED DOCUMENT.

HDR Engineering, Inc.

AS-RECORDED

THIS DOCUMENT IS FOR THE OWNER'S USE AS A RECORD SET OF THE CONSTRUCTED PROJECT. IT HAS BEEN MODIFIED FROM THE ORIGINAL CONSTRUCTION DOCUMENTS TO INCLUDE REVISION AND CONSTRUCTION RELATED CHANGES AS RECORDED BY THE GENERAL CONTRACTOR: OSCAR RENDA CONTRACTING 522 BENSON LANE, ROANOKE, TX 76262 (817) 491-2703. (817) 491-1827. THIS DOCUMENT IS NOT TO BE USED OR ISSUED FOR CONSTRUCTION OR ANY OTHER PURPOSE WITHOUT PRIOR CONSULTATION AND APPROVAL BY HDR ENGINEERING, INC. AND THE ENGINEER RESPONSIBLE FOR SEALING THIS DOCUMENT.

PROJECT MANAGER	E. D. WHITIS
DESIGNED	S. D. BEROSET
DESIGNED	E. D. WHITIS
CHECKED	
DRAWN	J. ABED

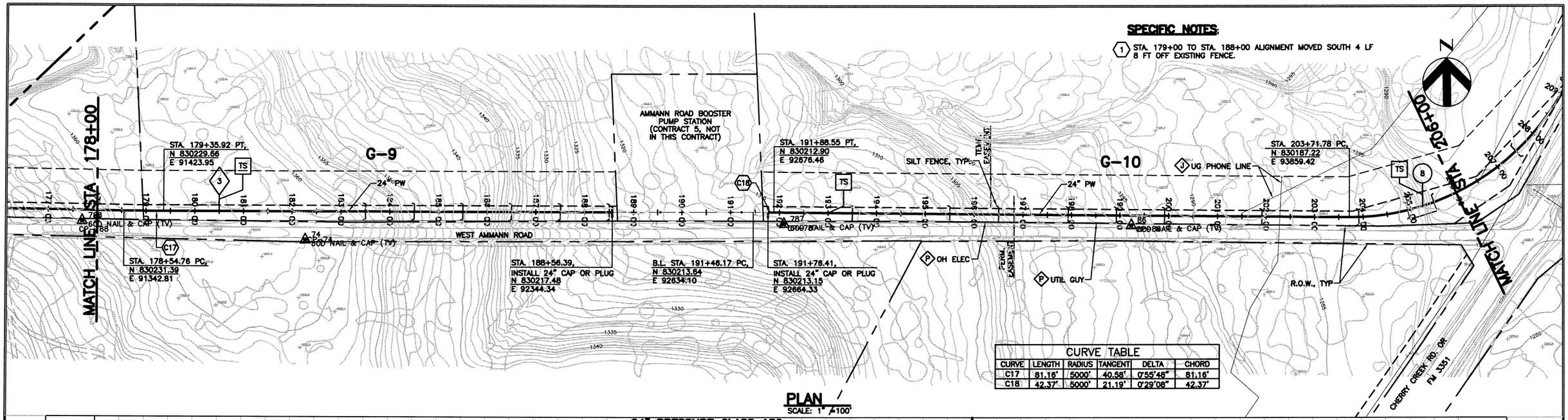
GBRA
GUADALUPE-BLANCO RIVER AUTHORITY

GUADALUPE-BLANCO RIVER AUTHORITY
WESTERN CANYON REGIONAL WATER SUPPLY PROJECT

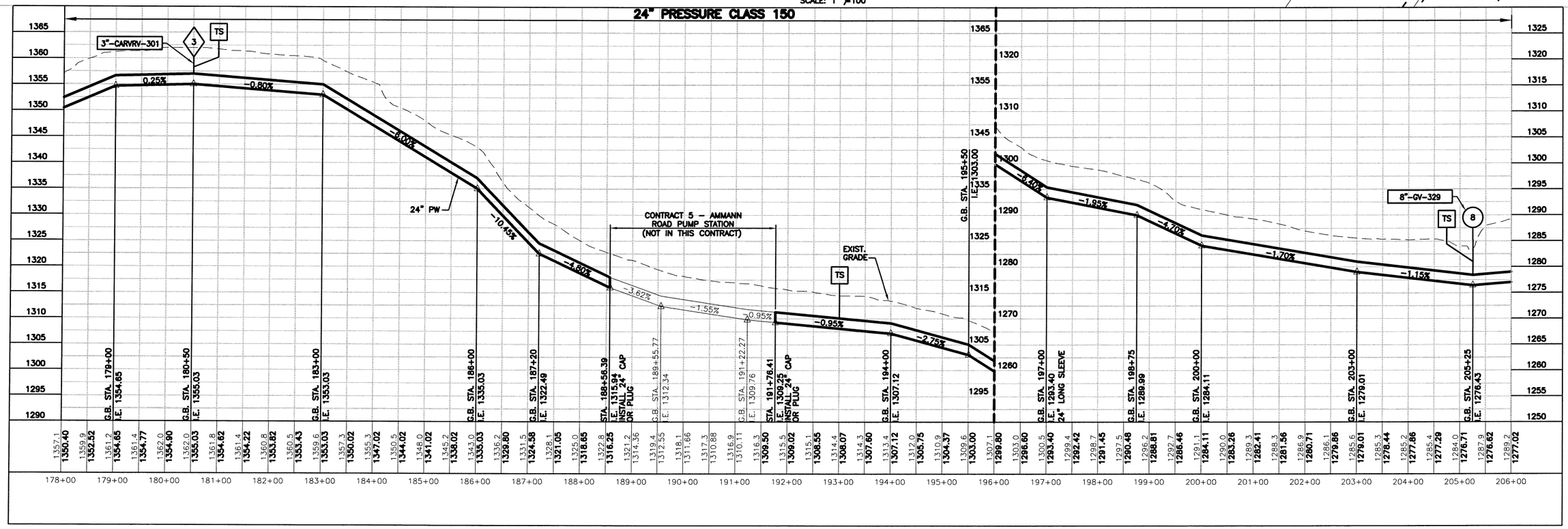
CONTRACT NO. 3A/B
TREATED WATER TRANSMISSION PIPELINE

SEGMENT G
PLAN AND PROFILE
STATION 150+00 TO
STATION 178+00

DATE	SEPTEMBER 2004
SCALE	AS NOTED
FILE NAME	GBRA-3A-1M6.DWG
SHEET NO.	1M06
ISSUE	3



PLAN
SCALE: 1" = 100'



PROFILE
HORIZ: 1" = 100'
VERT: 1" = 10'

C:/MNDOM/07081-4913/CONTRACT-3-TWPIPELINE/DWGS-CIVIL/GBRA-3A-1M07-SEG-G.DWG
03-21-2006 MMAUER 11:12:54

IF BAR IS NOT 1" LONG THIS IS A REDUCED DRAWING. ADJUST SCALE ACCORDINGLY.

MALCOLM PIRNIE

ELECTRONIC SEAL AND SIGNATURE HAVE BEEN REMOVED. THIS MEDIA SHOULD NOT BE CONSIDERED A CERTIFIED DOCUMENT.

HDR Engineering, Inc.

AS-RECORDED

THIS DOCUMENT IS FOR THE OWNER'S USE AS A RECORD SET OF THE CONSTRUCTED PROJECT. IT HAS BEEN MODIFIED FROM THE ORIGINAL CONSTRUCTION DOCUMENTS TO INCLUDE REVISION AND CONSTRUCTION RELATED CHANGES AS RECORDED BY THE GENERAL CONTRACTOR: OSCAR RENDA CONTRACTING 522 BENSON LANE, ROANOKE, TX 76262 (817) 491-2703, (817) 491-1627. THIS DOCUMENT IS NOT TO BE USED OR ISSUED FOR CONSTRUCTION OR ANY OTHER PURPOSE WITHOUT PRIOR CONSULTATION AND APPROVAL BY HDR ENGINEERING, INC. AND THE ENGINEER RESPONSIBLE FOR SEALING THIS DOCUMENT.

PROJECT MANAGER	E. D. WHITIS
DESIGNED	S. D. BEROSET
DESIGNED	E. D. WHITIS
CHECKED	
DRAWN	J. ABED

GBRA
GUADALUPE-BLANCO RIVER AUTHORITY

GUADALUPE-BLANCO RIVER AUTHORITY
WESTERN CANYON REGIONAL WATER SUPPLY PROJECT

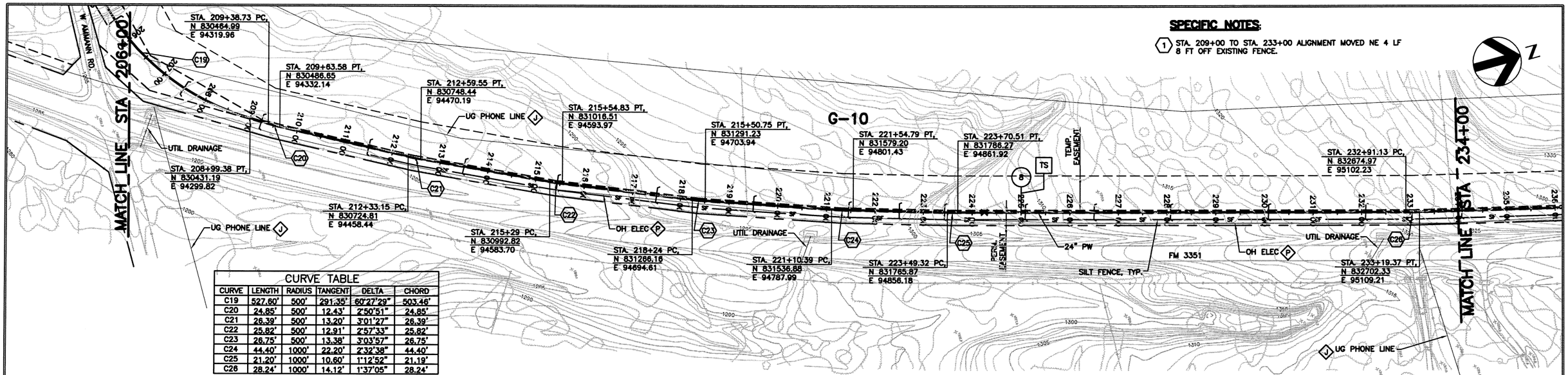
CONTRACT NO. 3A/B
TREATED WATER TRANSMISSION PIPELINE

SEGMENT G
PLAN AND PROFILE
STATION 178+00 TO
STATION 206+00

DATE	SEPTEMBER 2004
SCALE	AS NOTED
FILE NAME	GBRA-3A-1M07.DWG
SHEET NO.	1M07
ISSUE	3

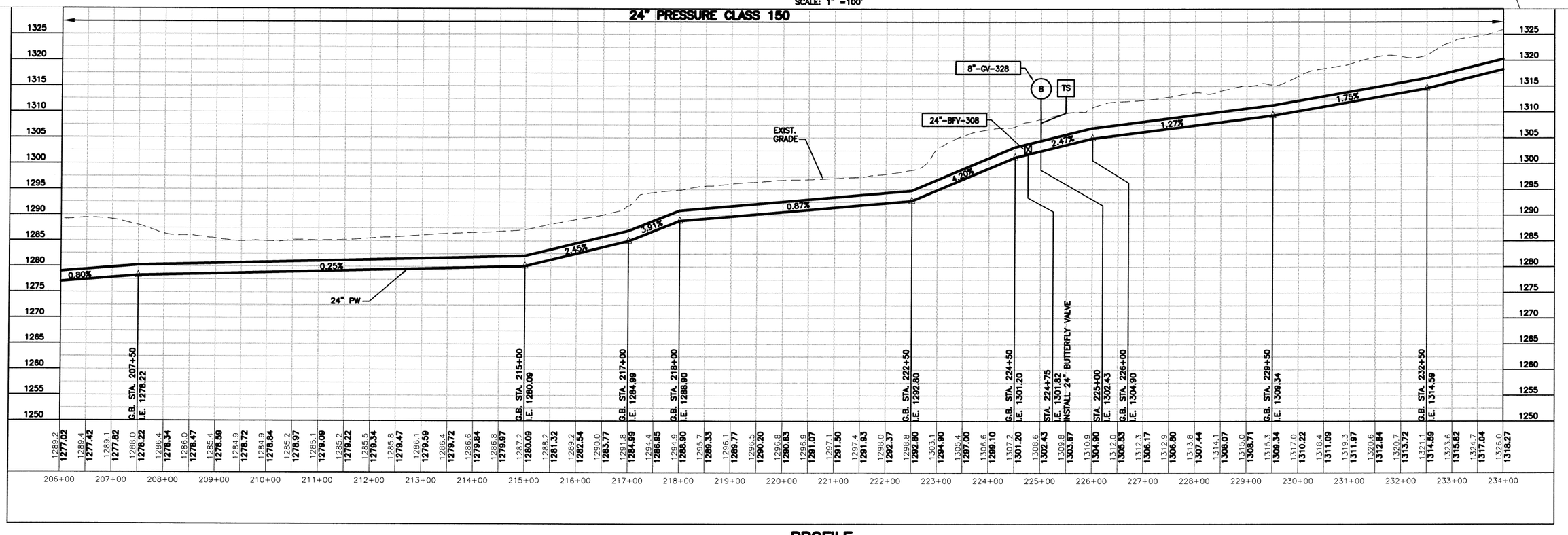
SPECIFIC NOTES:

1. STA. 209+00 TO STA. 233+00 ALIGNMENT MOVED NE 4 LF 8 FT OFF EXISTING FENCE.



CURVE TABLE					
CURVE	LENGTH	RADIUS	TANGENT	DELTA	CHORD
C19	527.60'	500'	291.35'	60°27'29"	503.46'
C20	24.85'	500'	12.43'	2°50'51"	24.85'
C21	26.39'	500'	13.20'	3°01'27"	26.39'
C22	25.82'	500'	12.91'	2°57'33"	25.82'
C23	26.75'	500'	13.38'	3°03'57"	26.75'
C24	44.40'	1000'	22.20'	2°32'38"	44.40'
C25	21.20'	1000'	10.60'	1°12'52"	21.19'
C26	28.24'	1000'	14.12'	1°37'05"	28.24'

PLAN
SCALE: 1" =100'



PROFILE
HORIZ: 1" = 100'
VERT: 1" = 10'

C:/WINDM/07081-4913/CONTRACT-3-TWPIPELINE/DWGS-CIVIL/GBRA-3A-1M08-SEG-G.DWG
03-21-2006 JABED 11:14:35

IF BAR DOES NOT MEASURE 1" ON ORIGINAL DRAWING, ADJUST SCALE ACCORDINGLY.

MALCOLM PIRNIE

ELECTRONIC SEAL AND SIGNATURE HAVE BEEN REMOVED. THIS MEDIA SHOULD NOT BE CONSIDERED A CERTIFIED DOCUMENT.

HDR Engineering, Inc.

AS-RECORDED

THIS DOCUMENT IS FOR THE OWNER'S USE AS A RECORD SET OF THE CONSTRUCTED PROJECT. IT HAS BEEN MODIFIED FROM THE ORIGINAL CONSTRUCTION DOCUMENTS TO INCLUDE REVISION AND CONSTRUCTION RELATED CHANGES AS RECORDED BY THE GENERAL CONTRACTOR: OSCAR RENDA CONTRACTING 522 BENSON LANE, ROANOKE, TX 76262 (817) 491-2703. (817) 491-1627. THIS DOCUMENT IS NOT TO BE USED OR ISSUED FOR CONSTRUCTION OR ANY OTHER PURPOSE WITHOUT PRIOR CONSULTATION AND APPROVAL BY HDR ENGINEERING, INC. AND THE ENGINEER RESPONSIBLE FOR SEALING THIS DOCUMENT.

PROJECT MANAGER	E. D. WHITIS
DESIGNED	S. D. BEROSET
DESIGNED	E. D. WHITIS
CHECKED	
DRAWN	J. ABED

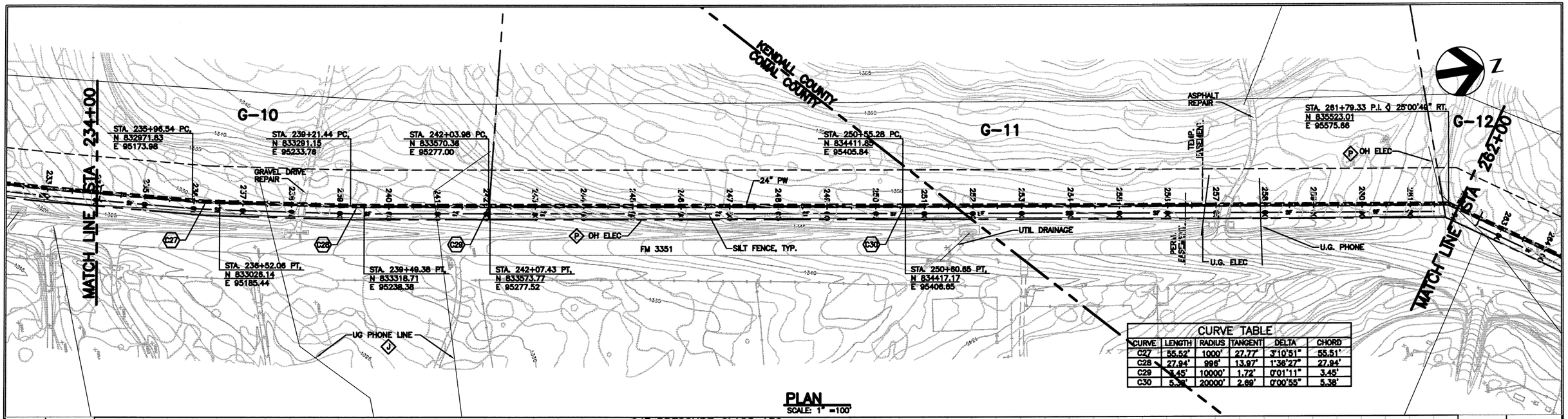
GBRA
GUADALUPE-BLANCO RIVER AUTHORITY

GUADALUPE-BLANCO RIVER AUTHORITY
WESTERN CANYON REGIONAL WATER SUPPLY PROJECT

CONTRACT NO. 3A/B
TREATED WATER TRANSMISSION PIPELINE

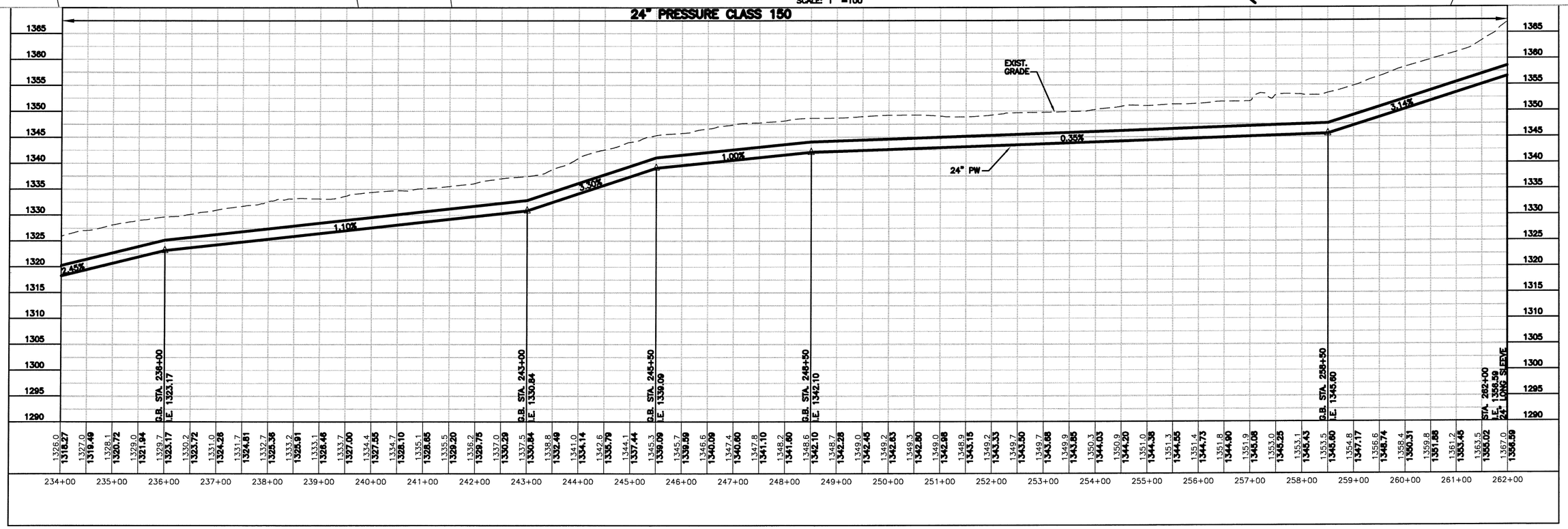
SEGMENT G
PLAN AND PROFILE
STATION 206+00 TO
STATION 234+00

DATE	SEPTEMBER 2004
SCALE	AS NOTED
FILE NAME	GBRA-3A-1M08.DWG
SHEET NO.	1M08
ISSUE	3



CURVE TABLE					
CURVE	LENGTH	RADIUS	TANGENT	DELTA	CHORD
C27	55.52'	1000'	27.77'	3°10'51"	55.51'
C28	27.94'	998'	13.97'	1°36'27"	27.94'
C29	3.45'	10000'	1.72'	0°01'11"	3.45'
C30	5.38'	20000'	2.69'	0°00'55"	5.38'

PLAN
SCALE: 1" =100'



PROFILE
HORIZ: 1" = 100'
VERT: 1" = 10'

C:/MWOW/07081-4913/CONTRACT-3-TWPPELINE/DWGS-CIVIL/GBRA-3A-1M09-SEG-G.DWG
03-21-2006 MWAUER 11:16:07

BAR LENGTH ON ORIGINAL DRAWING IS ONE INCH. ADJUST SCALE ACCORDINGLY.

MALCOLM PIRNIE

ELECTRONIC SEAL AND SIGNATURE HAVE BEEN REMOVED. THIS MEDIA SHOULD NOT BE CONSIDERED A CERTIFIED DOCUMENT.

HDR Engineering, Inc.

AS-RECORDED

THIS DOCUMENT IS FOR THE OWNER'S USE AS A RECORD SET OF THE CONSTRUCTED PROJECT. IT HAS BEEN MODIFIED FROM THE ORIGINAL CONSTRUCTION DOCUMENTS TO INCLUDE REVISION AND CONSTRUCTION RELATED CHANGES AS RECORDED BY THE GENERAL CONTRACTOR: OSCAR RENDA CONTRACTING 522 BENSON LANE, ROANOKE, TX 76262 (817) 491-2703. (817) 491-1827. THIS DOCUMENT IS NOT TO BE USED OR ISSUED FOR CONSTRUCTION OR ANY OTHER PURPOSE WITHOUT PRIOR CONSULTATION AND APPROVAL BY HDR ENGINEERING, INC. AND THE ENGINEER RESPONSIBLE FOR SEALING THIS DOCUMENT.

PROJECT MANAGER	E. D. WHITIS
DESIGNED	S. D. BEROSET
DESIGNED	E. D. WHITIS
CHECKED	
DRAWN	J. ABED

GBRA
GUADALUPE-BLANCO RIVER AUTHORITY

GUADALUPE-BLANCO RIVER AUTHORITY
WESTERN CANYON REGIONAL WATER SUPPLY PROJECT

CONTRACT NO. 3A/B
TREATED WATER TRANSMISSION PIPELINE

SEGMENT G
PLAN AND PROFILE
STATION 234+00 TO
STATION 262+00

DATE	SEPTEMBER 2004
SCALE	AS NOTED
FILE NAME	GBRA-3A-1M09.DWG
SHEET NO.	1M09
ISSUE	3

CURVE TABLE					
CURVE	LENGTH	RADIUS	TANGENT	DELTA	CHORD
C31	12.47'	1000'	6.24'	0°42'53"	12.47'
C32	39.13'	500'	19.58'	4°29'03"	39.12'
C33	17.84'	500'	8.92'	2°02'41"	17.84'
C34	74.14'	500'	37.14'	8°29'46"	74.07'
C35	56.04'	500'	28.05'	6°25'20"	56.01'
C36	79.96'	500'	40.06'	9°09'45"	79.87'
C37	17.63'	4996'	8.82'	0°12'08"	17.63'
C38	38.94'	496'	19.48'	4°29'54"	38.93'
C39	21.38'	500'	10.69'	2°27'00"	21.38'
C40	43.57'	500'	21.80'	4°59'36"	43.56'
C41	61.53'	500'	30.81'	7°03'04"	61.49'
C42	26.55'	500'	13.28'	3°02'34"	26.55'

SPECIFIC NOTES:

1. STA. 270+00 TO STA. 280+50 ALIGNMENT MOVED NW 6 LF 18 FT OFF EXISTING FENCE. F-1
2. STA. 282+00 TO STA. 284+00 ALIGNMENT MOVED NE 5 LF 7 FT OFF EXISTING FENCE.
3. STA. 285+00 TO STA. 301+00 ALIGNMENT MOVED NE 4 LF 8 FT OFF EXISTING FENCE.

MATCH LINE STA 262+00

MATCH LINE STA 290+00

ASPHALT AND GRAVEL REPAIR

STA. 265+30.63 PC, N 835815.26 E 95770.59

STA. 265+43.10 PT, N 835825.59 E 95777.57

UG PHONE LINE

GATE 67

GUTHRIE ROAD

G-12

G-13

G-14

G-15

STABILIZED CONSTRUCTION ENTRANCE

TEMP. EASEMENT

UG PHONE

STA. 269+58.54 PC, N 836168.30 E 96012.39

OH ELEC

SILT FENCE, TYP.

PERM. EASEMENT

FM 3351

SILVER HILLS DRIVE

STA. 269+97.87 PT, N 836201.41 E 96033.22

24" PW

UG FIBER OPTIC

STA. 272+82.15 PC, N 836448.72 E 96173.79

24' ASPHALT GRAVEL REPAIR

GATE 66

STA. 272+28.97 PC, N 836401.86 E 96148.64

STA. 272+82.15 PT, N 836417.45 E 96157.26

STA. 273+56.30 PT, N 836516.58 E 96203.50

STA. 274+78.13 PC, N 836631.49 E 96243.95

UG FIBER

STA. 275+34.17 PT, N 836685.29 E 96259.56

STA. 276+53.64 PC, N 836801.70 E 96286.38

STA. 277+33.59 PT, N 836880.72 E 96298.03

ASPHALT DRIVE REPAIR

UG PHONE

STA. 278+46.39 PC, N 836993.28 E 96305.39

STA. 278+85.33 PT, N 837032.20 E 96306.32

STA. 278+19.52 PT, N 836966.46 E 96303.70

STA. 278+01.89 PC, N 836948.86 E 96302.56

UG PHONE LINE

STA. 284+41.78 P.I. ◊ 0°23'55" RT. N 837587.61 E 96323.31

STA. 284+85.64 P.I. ◊ 18°02'47" RT. N 837631.15 E 96328.82

STA. 281+35.58 PC, N 837282.42 E 96302.42

STA. 281+56.96 PT, N 837303.80 E 96302.54

GATE 66

STA. 283+13.64 PT, N 837460.31 E 96308.70

STA. 282+70.06 PC, N 837416.86 E 96305.62

STA. 286+99.72 PC, N 837825.18 E 96419.08

STA. 287+81.25 PT, N 837879.21 E 96448.44

STA. 288+61.96 PC, N 837964.57 E 96501.88

GATE 65

STA. 288+88.51 PT, N 837986.70 E 96516.56

PLAN

SCALE: 1" = 100'

24" PRESSURE CLASS 150

MATCHLINE FOR CONTINUATION SEE DWG 1M09

MATCHLINE FOR CONTINUATION SEE DWG 1M11

6"-CARVRV-306

3.14%

-3.87%

-1.10%

-6.95%

-3.78%

-3.40%

-5.24%

4.45%

EXIST. GRADE

24" PW

8"-GV-326

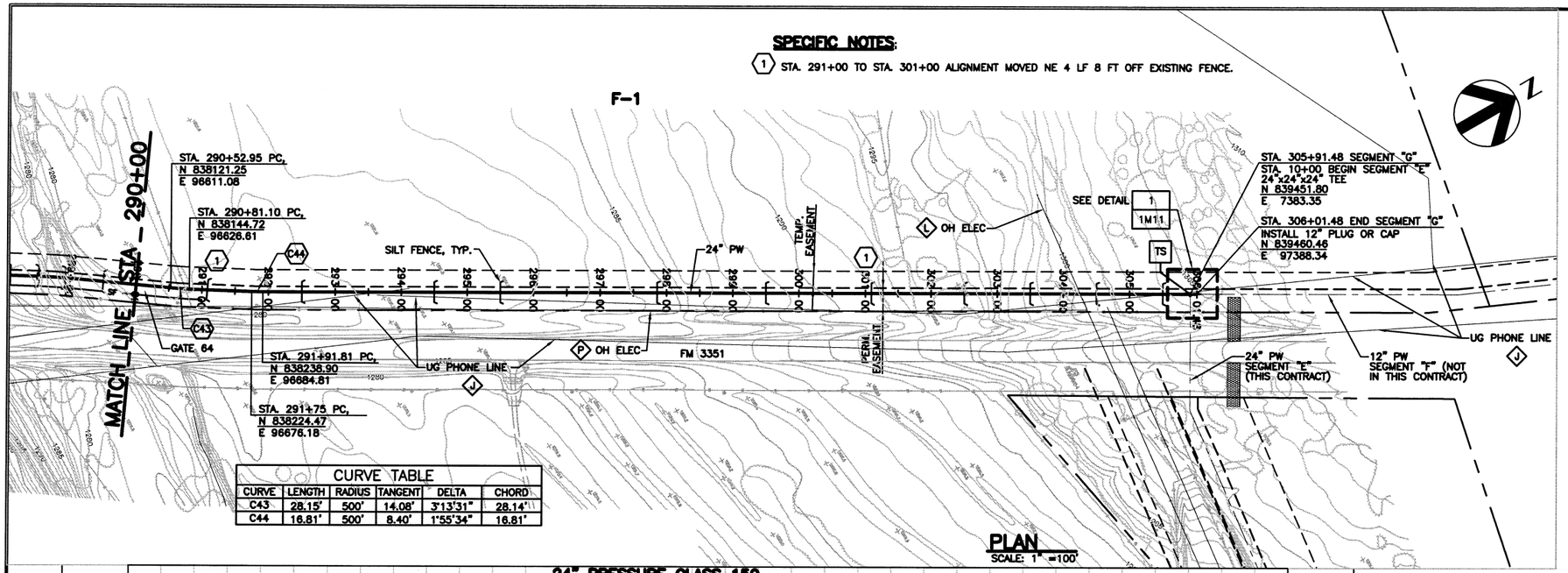
8"-GV-327

24" BUTTERFLY VALVE

| | | | | |

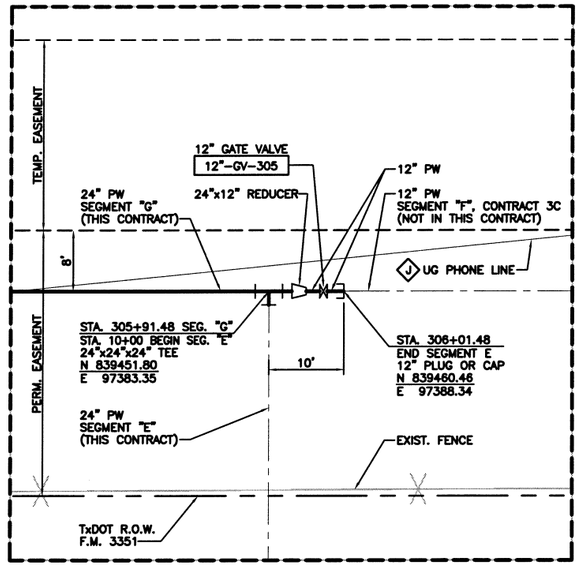
SPECIFIC NOTES:

(1) STA. 291+00 TO STA. 301+00 ALIGNMENT MOVED NE 4 LF 8 FT OFF EXISTING FENCE.



CURVE TABLE					
CURVE	LENGTH	RADIUS	TANGENT	DELTA	CHORD
C43	28.15'	500'	14.08'	3°13'31"	28.14'
C44	16.81'	500'	8.40'	1°55'34"	16.81'

PLAN
SCALE: 1" =100'



(1)(2) DETAIL — NOT TO SCALE — 1M11

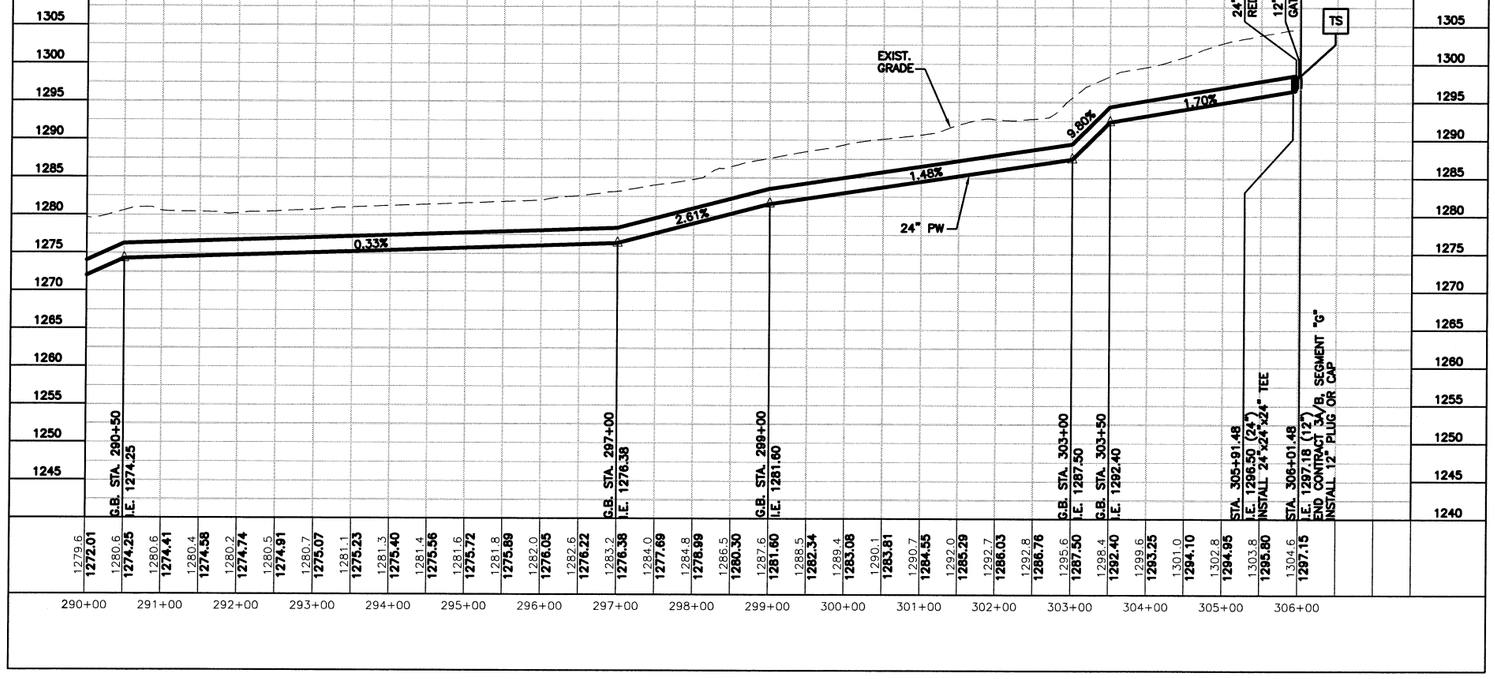
SPECIFIC NOTES:

(1) ALL PIPING SHALL BE FULLY RESTRAINED AND SHALL BE DUCTILE IRON OF THE SAME OR HIGHER PRESSURE CLASS AS THE TRANSMISSION PIPELINE TO WHICH IT CONNECTS.

(2) ALL PIPING SHALL BE FULLY ENCASED IN POLYETHYLENE PER AWWA C105.

MATCHLINE FOR CONTINUATION SEE DWG 1M10

MATCHLINE FOR CONTINUATION SEE SEGMENT "E"



PROFILE
HORIZ: 1" = 100'
VERT: 1" = 10'

C:/MNDM/07081-4913/CONTRACT_3-TWPIPELINE/DWGS-CIVIL/GBRA-3A-1M11-SEG-G.DWG
03-24-2006 MMAUER 08:24:33

IF THIS BAR IS NOT 1" ORIGINAL DRAWING IS OF INCORRECT SCALE ADJUST SCALE ACCORDINGLY.

MALCOLM PIRNIE

ELECTRONIC SEAL AND SIGNATURE HAVE BEEN REMOVED. THIS MEDIA SHOULD NOT BE CONSIDERED A CERTIFIED DOCUMENT.

HDR Engineering, Inc.

AS-RECORDED

THIS DOCUMENT IS FOR THE OWNER'S USE AS A RECORD SET OF THE CONSTRUCTED PROJECT. IT HAS BEEN MODIFIED FROM THE ORIGINAL CONSTRUCTION DOCUMENTS TO INCLUDE REVISION AND CONSTRUCTION RELATED CHANGES AS RECORDED BY THE GENERAL CONTRACTOR: OSCAR RENDA CONTRACTING 522 BENSON LANE, ROANOKE, TX 76262 (817) 491-2703. (817) 491-1627. THIS DOCUMENT IS NOT TO BE USED OR ISSUED FOR CONSTRUCTION OR ANY OTHER PURPOSE WITHOUT PRIOR CONSULTATION AND APPROVAL BY HDR ENGINEERING, INC. AND THE ENGINEER RESPONSIBLE FOR SEALING THIS DOCUMENT.

PROJECT MANAGER	E. D. WHITIS
DESIGNED	S. D. BEROSET
DESIGNED	E. D. WHITIS
CHECKED	
DRAWN	J. ABED

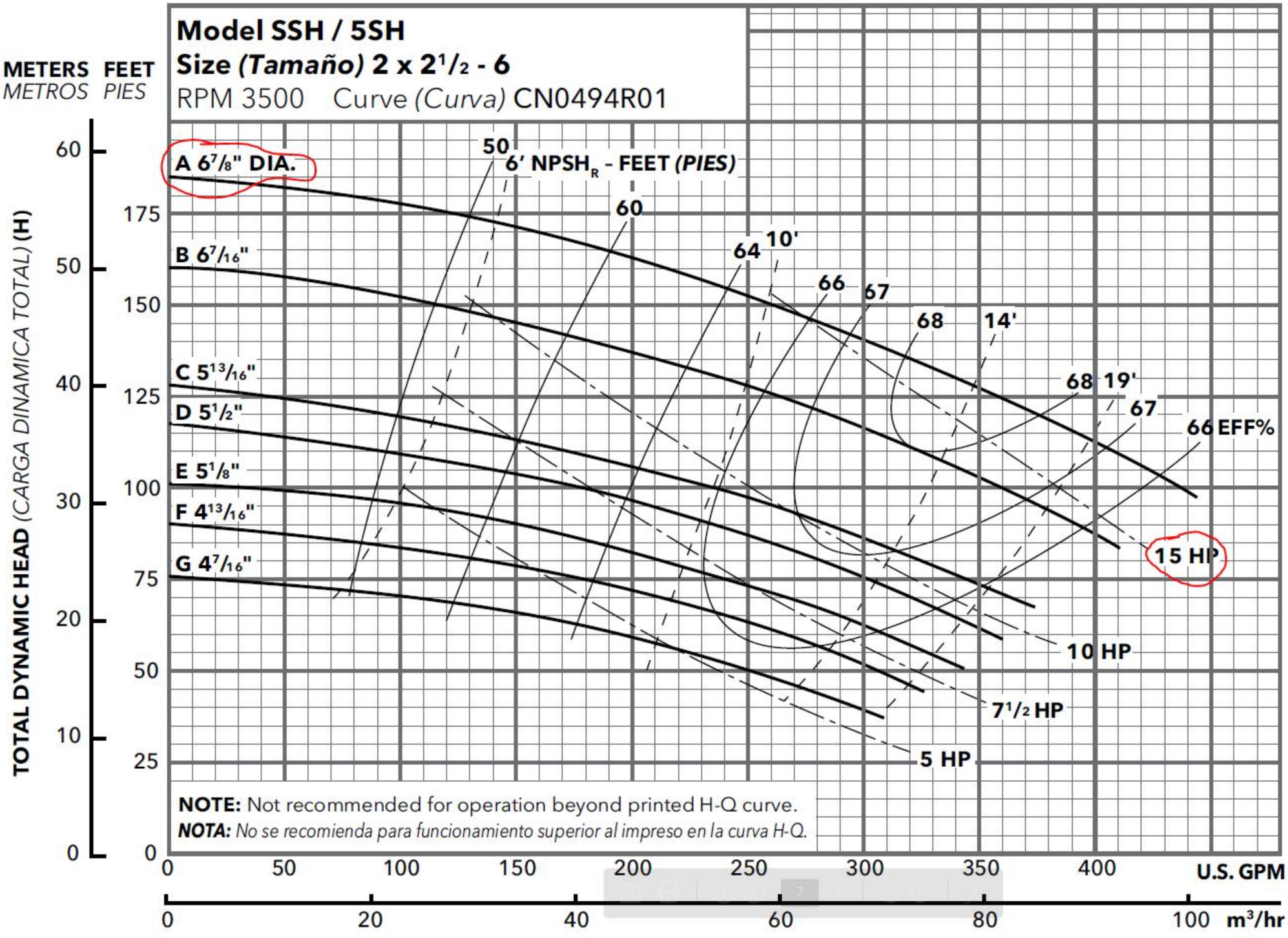
GBRA
GUADALUPE-BLANCO RIVER AUTHORITY

GUADALUPE-BLANCO RIVER AUTHORITY
WESTERN CANYON REGIONAL WATER SUPPLY PROJECT

CONTRACT NO. 3A/B
TREATED WATER TRANSMISSION PIPELINE

SEGMENT G
PLAN AND PROFILE
STATION 290+00 TO
STATION 305+91.48

DATE	SEPTEMBER 2004
SCALE	AS NOTED
FILE NAME	GBRA-3A-1M11.DWG
SHEET NO.	1M11
ISSUE	4



Optional Impeller, *Impulsor Opcional*		
Impeller Code, *Código del Impulsor*	**Dia., *Diá.***	**Standard HP Rating, *Estándar HP Potencia***
A	6 7/8"	15
B	6 7/16	15
C	5 13/16	10
D	5 1/2	10
E	5 1/8	7 1/2
F	4 13/16	7 1/2
G	4 7/16	5

NOTE: Pump will pass a sphere to 3/16" diameter.

NOTA: La bomba pasará una esfera a 3/16" diámetro.

SECTION 11062 PUMPING EQUIPMENT

EQUIPMENT: ITT GOULDS END SUCTION CENTRIFUGAL PUMPS

DESCRIPTION: Frame Mounted, stainless Steel, End Suction Pump

SERIES: SSH-F

REFERENCE:	P-402, P-403
SIZE:	3 X 4-8
PUMP MODEL	23SH
MOTOR FRAME	326TS/T
REFERENCE:	P-404, P-405
SIZE:	2 ½ X 3-8
PUMP MODEL	22SH
MOTOR FRAME	286TS/T

INSTALLER: PAYTON CONSTRUCTION, INC.
P.O. BOX 1734
WIMBERLEY, TX 78676
O.F. 512-847-3702 FAX 512-847-1108

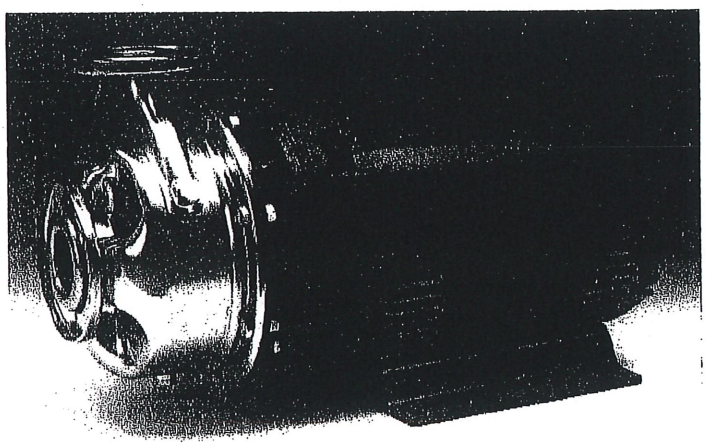
SUPPLIER: PEERLESS EQUIPMENT, LTD
5400 New Hwy 90 West
SAN ANTONIO, TX 78227
210-434-7867 FAX 210-434-7226

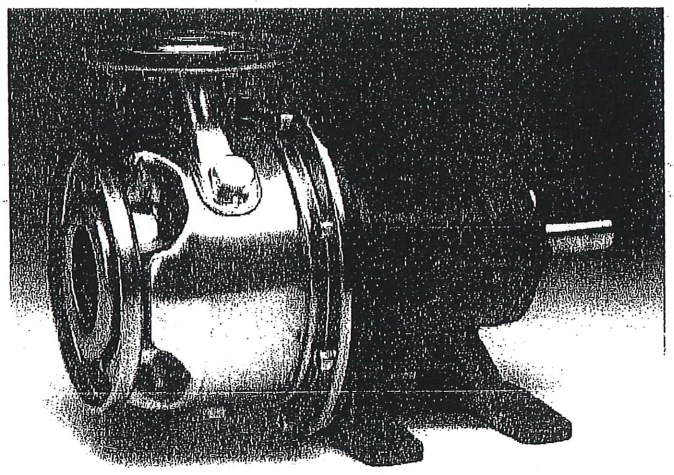
G&L Pumps

SSH

S & M-Group
316
Stainless Steel
End Suction
Pumps

Bombas de
Succión Final
de 316 Acero
Inoxidable
Grupo-M y S

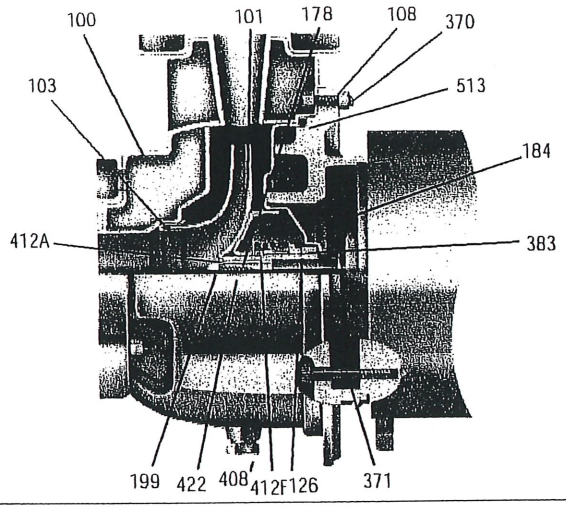




Goulds Pumps

ITT Industries

SSH Close Coupled – Materials of Construction
SSH Acople Cerrado – Materiales de Construcción

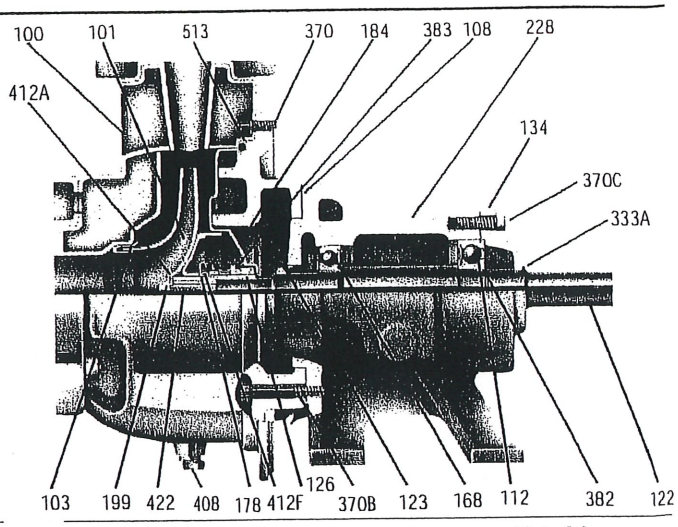


Item No., Parte No.	Description, Descripción	Materials, Materiales
100	Casing, *Carcasa*	316L SS, *316L acero inox.*
101	Impeller, *Impulsor*	
103	Wear ring, *Anillo de desgaste*	
184	Seal housing, *Alojamiento del sello*	
126	Shaft sleeve, *Camisa del eje*	316 SS, *316 acero inox.*
422	Impeller stud, *Perno del impulsor*	Steel, *Acero*
178	Impeller key, *Llave del impulsor*	Carbon steel, *Acero al carbono*
199	Impeller washer, *Arandela del impulsor*	316 SS, *316 acero inox.*
370	Casing bolt with nut (casing to adapter), *Tornillo de la carcasa con tuerca (carcasa para adaptador)*	316L SS, *316L acero inoxidable*
108	Adapter, *Adaptador*	Cast iron ASTM A48 CL20, *Hierro fundido ASTM A48CL20*
371	Hex head cap screw (adapter to motor), *Tornillo de cabeza hexagonal (adaptador para motor)*	Steel SAE 1200 series, *Acero SAE series 1200*
412A	O-ring, Impeller, *Anillo en O, impulsor*	Viton
412F	O-ring, shaft sleeve, *Anillo en O, camisa del eje*	
513	O-ring, *Anillo 'O'*	
408	Drain plug – ⅜ NPT, *Válvula de drenaje – ⅜ NPT*	316L SS, *316 acero inoxidable*
383	Mechanical seal, *Sello mecánico*	See seal chart, *Ver tabla del sello*

Mechanical Seal, *Sello Mecánico*

John Crane Type 21 Mechanical Seal, *Sello Mecánico John Crane Tipo 21*							
Item, *Parte*	Part No., *Pieza Número*		Rotary, *Rotativo*	Stationary, *Estacionario*	Elastomers, *Elastómeros*	Metal Parts, *Partes Metálicas*	Intended Duty, *Servicio Propuesto*
	180-210 Frames, *Armazones*	250-360 Frames, *Armazones*					
383 Options, *383 Opciones*	10K19	10K20	Carbon, Carbone	Silicon Carbide, *Carburo de silicona*	EPR	316 SS, *316 Acero inoxidable*	Hot Water
	10K27	10K45			Viton		Mild Abrasive
	10K64	10K65	Sil-Carb.				Severe Duty

SSH Frame Mounted – Materials of Construction
SSH Armazón Montado – Materiales de Construcción



Item No., Parte No.	Description, Descripción	Materials, Materiales
100	Casing, *Carcasa*	316L SS, *316L acero inox.*
101	Impeller, *Impulsor*	
103	Wear ring, *Anillo de desgaste*	
184	Seal housing, *Alojamiento del sello*	
126	Shaft sleeve, *Camisa del eje*	316 SS, *316 acero inox.*
178	Impeller key, *Llave del impulsor*	Carbon steel, *Acero al carbono*
422	Impeller Stud, *Perno del impulsor*	
199	Impeller washer, *Arandela del impulsor*	316 SS, *316 acero inox.*
370	Casing bolt with nut, *Tornillo de la carcasa con tuerca*	316L SS, *316L acero inox.*
408	Drain plug – ⅜ NPT, *Válvula de drenaje – ⅜ NPT*	
513	O-ring, *Anillo 'O'*	Viton
383	Mechanical seal, *Sello mecánico*	See seal chart, *Ver tabla del sello*
108	Adapter, *Adaptador*	Cast iron ASTM A48CL20, *Hierro fundido ASTM A48CL20*
228	Bearing frame, *Armazón de balineras*	
134	Bearing cover, *Cubierta de balineras*	
122	Pump shaft, *Eje de la bomba*	Carbon steel, *Acero al carbono*
168	Ball bearing (inboard), *Balineras de bolas (interior)*	Steel, *Acero*
112	Ball bearing (outboard), *Balineras de bolas (exterior)*	
382	Retaining ring, *Anillo de sujeción*	
370B	Hex head cap screw (adapter to bearing frame), *Tornillo de cabeza hexagonal (adaptador para armazón de balineras)*	
370C	Hex head cap screw (bearing frame to cover), *Tornillo de cabeza hexagonal (armazón de balineras para cubierta)*	
333A	Lip seal, *Sello cubierto*	BUNA-N
193	*Grease fitting, *Accesorio de grasa*	Steel, *Acero*
123	V-ring deflector, *Deflector anillo 'V'*	BUNA-N

* M-Group only

Specifications
Especificaciones

Capacities to:
1100 GPM (250 m^3/hr) at
3500 RPM 775 GPM (177 m^3/hr)
at 1750 RPM

Heads to:
525 feet THD (158 m) at
3500 RPM
130 feet THD (40 m) at
1750 RPM

Maximum working pressures to: 230 PSI (15 bars)

Maximum temperatures to:
250°F (121°C)

All wetted components of AISI: Type 316L stainless steel material.

Rotation: Clockwise when viewed from motor end.

Enclosed impeller and replaceable wear ring:
for high efficiency and maximum wear life.

Motor (close coupled):
NEMA standard JM shaft open drip-proof, totally enclosed and explosion-proof enclosures, 60 Hz, 1750 or 3500 RPM.
Single phase ODP (115/230 V)
1750 RPM, 1 – 5 HP.
Three phase ODP. TEFC/Exp. proof (208 – 230/460 V).
3500 RPM, 2 – 100 HP
1750 RPM, 1 – 25 HP

NOTE: Overload protection must be provided. Contactor with overload for single phase or starter with heaters for three phase ordered separately.

Motor (frame mounted):
NEMA standard T-frame open drip-proof, totally enclosed and explosion-proof (three phase only) enclosures 60 Hz, 1750 or 3500 RPM.
Single phase (115/230 V)
1750 RPM, 1 – 5 HP
Three phase (208 – 230/460 V)
3500 RPM, 3 – 125 HP
1750 RPM, 1 – 25 HP

NOTE: Overload protection must be provided. Contactor with overload for single phase or starter with heaters for three phase ordered separately.
Optional: Rigid carbon steel bedplate, sheet metal coupling guard designed to OSHA specifications and T.B. WOODS type "SC" spacer couplings.

Capacidades:
1100 GPM (105 m^3/hr) a
3500 RPM 775 GPM (177 m^3/hr) a
1750 RPM

Cargas:
525 pies THD (158 m) a 3500 RPM
130 pies THD (40 m) a 1750 RPM

Presión de trabajo máxima:
230 PSI (15 baras)

Temperatura máxima:
250°F (121°C)

Todos los componentes mojados de AISI: *Material de acero inoxidable tipo 316L.*

Rotación: *En dirección de las agujas del reloj visto desde el extremo final del motor.*

Impulsor encerrado y anillo de desgaste reemplazable:
para alta eficiencia y máxima durabilidad.

Motor (acople cerrado): *Eje a prueba de goteo JM estándar NEMA, totalmente encerrado y recintos a prueba de explosión, 60 Hz, 1750 ó 3500 RPM.*
Unifásicos ODP (115/230 V)
1750 RPM, 1 – 5 HP
Trifásicos ODP. TEFC/a prueba de explosión (208 – 230/460 V).
3500 RPM, 2 – 100 HP
1750 RPM, 1 – 25 HP

NOTA: *Se debe de proporcionar protección térmica contra sobrecarga. Contactor con protección térmica contra sobrecarga para unifásicos o arrancadores con calentadores para trifásicos se piden por separado.*

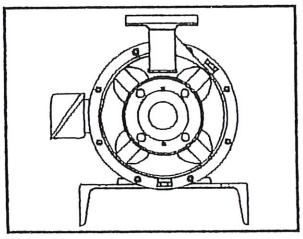
Motor (armazón montado):
Armazón abierto T a prueba de goteo estándar NEMA, totalmente encerrado y recintos a prueba de explosión (trifásicos solamente) 60 Hz, 1750 ó 3500 RPM.
Unifásicos (115/230 V)
1750 RPM, 1 – 5 HP. Trifásicos (208 – 230/460 V)
3500 RPM, 3 – 125 HP
1750 RPM, 1 – 25 HP

NOTA: *Se debe de proporcionar protección térmica contra sobrecarga. Contactor con protección térmica contra sobrecarga para unifásicos o arrancadores con calentadores para trifásicos se piden por separado.*
Opcional: *Fundación rígida de acero al carbono, guarda acople de metal laminado diseñado según las especificaciones OSHA y acoples del espaciador T.B. WOODS tipo "SC".*

SERIES:	SSH-F
REFERENCE:	P-402, P-403
SIZE:	3 X 4-8
PUMP MODEL	23SH
MOTOR FRAME	326TS/T

G&L Pumps

Submittal



Series: SSH-F

Size: 3 x 4-8

Description: Frame Mounted, Stainless Steel, End Suction Pump

Job or Customer: City of Fair Oaks Ranch

Engineer: HDR Engineering, Inc.

Contractor: Payton Construction, Inc.

Reference: P-402 & 403

Representative: Peerless Equipment Ltd.

Order Number: 166-03 Date: 2-24-05

Submitted By: FGB Date: 2-24-05

Approved By: _____ Date: _____

Pump Design Data:

Quantity: 2 Tag: P-402 & 403

Capacity (GPM): 650 Head (ft.): 170'

Liquids: Potable Water

Temperature: Amb. Sp. Gr.: 1.0

Maximum Working Pressure: 230 PSIG

Maximum Working Temperature: 250ŸF Standard

Maximum Suction Pressure: 100 PSIG

Motor Design Data:

HP: 50 RPM: 3500

Frame: 326TS Enclosure: TEFC

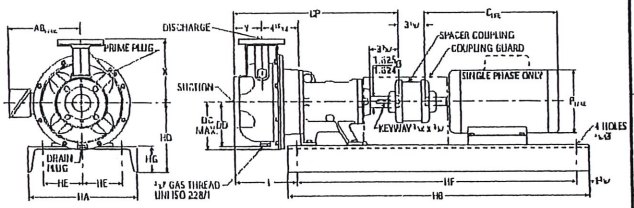
Volts: 208-230/460 Hertz: 60 phase: 3

Suction Size: 4" Type: 150 lb. ANSI Flange

Discharge Size: 3" Type: 150 lb. ANSI Flange

Mechanical Seal Options

Rotary	Stationary	Elastomers	Metal	Duty
Carbon	Silicon Carbide	Viton	316 SS	Glycol, Mild Chem., Mild Abrasive
		EPR		Mild Caustic, Boiler Feed, Ozone
Silicon Carbide		Viton		Abrasives, Chemicals, Carbon Free



Materials of Construction:

Casing: 316L

Impeller: 316L

Wear Ring: 316L

Shaft: Dry Carbon Steel

Sleeve: 316L

Adapter: Cast Iron

O-Rings: Viton/EPR

Dimensions

HP	RPM	FRM	CP	DC	DD	X	Y	L	AB	C_{REF}	HA	HB	HD	HE	HF	HG	P	Max. Wt.
5	1750	184T	24	6⅞	6⅝	9 15/16	5	11⅛	5⅞	18½	13	42	10¼	5¼	38½	4	7⅞	342
7.5	1750	213T	24	6⅞	6⅝	9 15/16	5	11⅛	7⅜	18	13	42	10¼	5¼	38½	4	9⅝	363
10	1750	215T	24	6⅞	6⅝	9 15/16	5	11⅛	7⅜	19⅛	13	42	10¼	5¼	38½	4	9⅝	383
15	3500	215T	24	6⅞	6⅝	9 15/16	5	11⅛	7⅜	19⅛	13	42	10¼	5¼	38½	4	9⅝	383
20	3500	254T	24	6⅞	6⅝	9 15/16	5	11⅛	9½	21⅝	13	42	10¼	5¼	38½	4	13	513
25	3500	256T	24	6⅞	6⅝	9 15/16	5	11⅛	9½	23⅜	13	42	10¼	5¼	38½	4	13	511
30	3500	284T	24	6⅞	6⅝	9 15/16	5	11⅛	12⅝	24⅞	15	44	10½	5¾	40½	3½	15	529
40	3500	286T	24	6⅞	6⅝	9 15/16	5	11⅛	12⅝	26⅝	15	44	10½	5¾	40½	3½	15	559
50	3500	324T	24	6⅞	6⅝	9 15/16	5	11⅛	14⅛	28¾	18	48	12	7¼	44½	4	17⅜	911
60	3500	326T	24	6⅞	6⅝	9 15/16	5	11⅛	14⅛	30¼	18	48	12	7¼	44½	4	17⅜	953
75	3500	364T	24	6⅞	6⅝	9 15/16	5	11⅛	15⅛	31⅝	18	48	13	7¼	44½	4	18⅞	1153

Goulds Pumps

ITT Industries

© 2004 Goulds Pumps

Effective January, 2004
SUBSSHF3x4-8

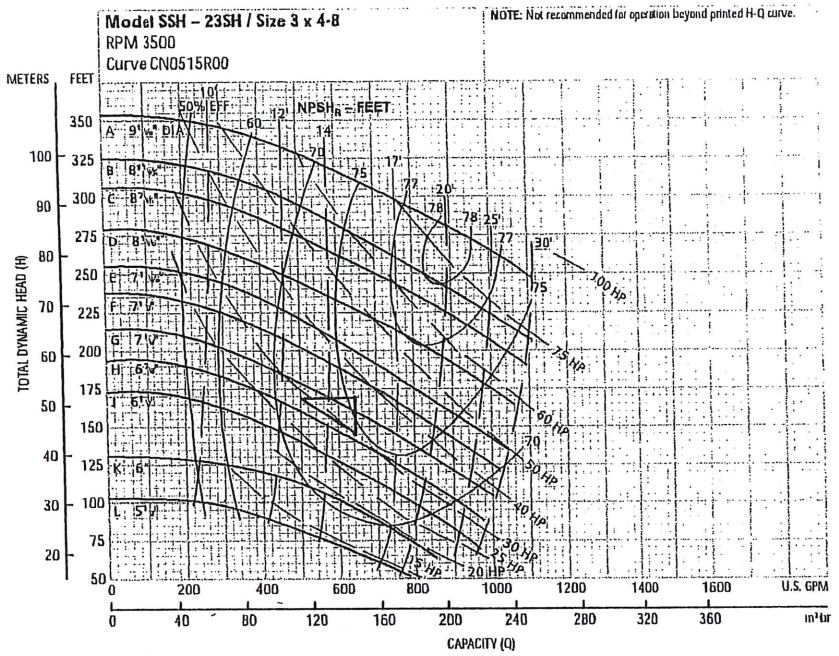
G&L Pumps

Series SSH-F

Size 3 x 4-8

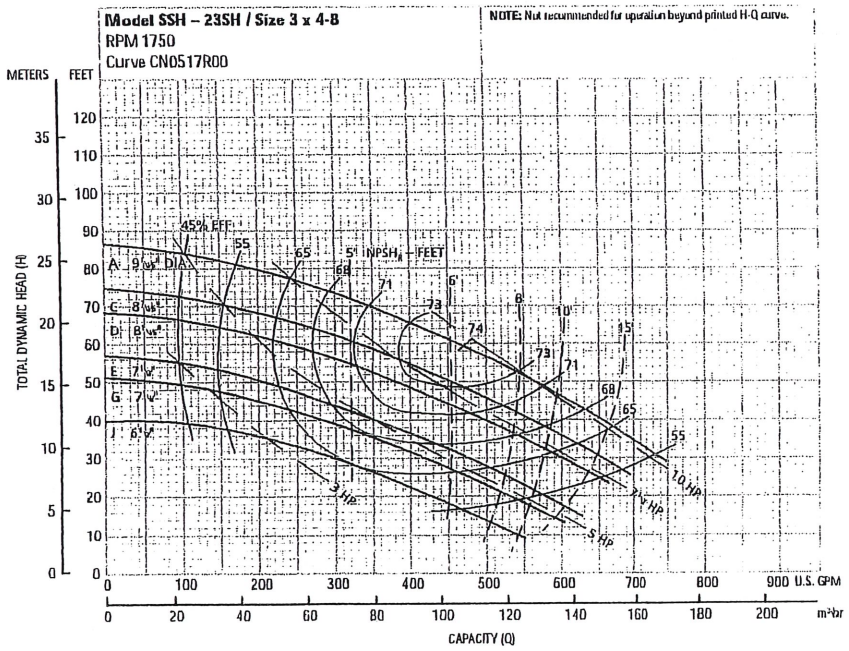
Pump Performance Curves

3500 RPM



Customer City of Fair Oaks Ranch	Service 650 GPM	Certified for: Duty PointEff
Pump P-402 & 403	170 TDH 75 EFF%	By: FGB
	Impeller Dia. 7.50"	Date: 2-24-05

1750 RPM



Goulds Pumps

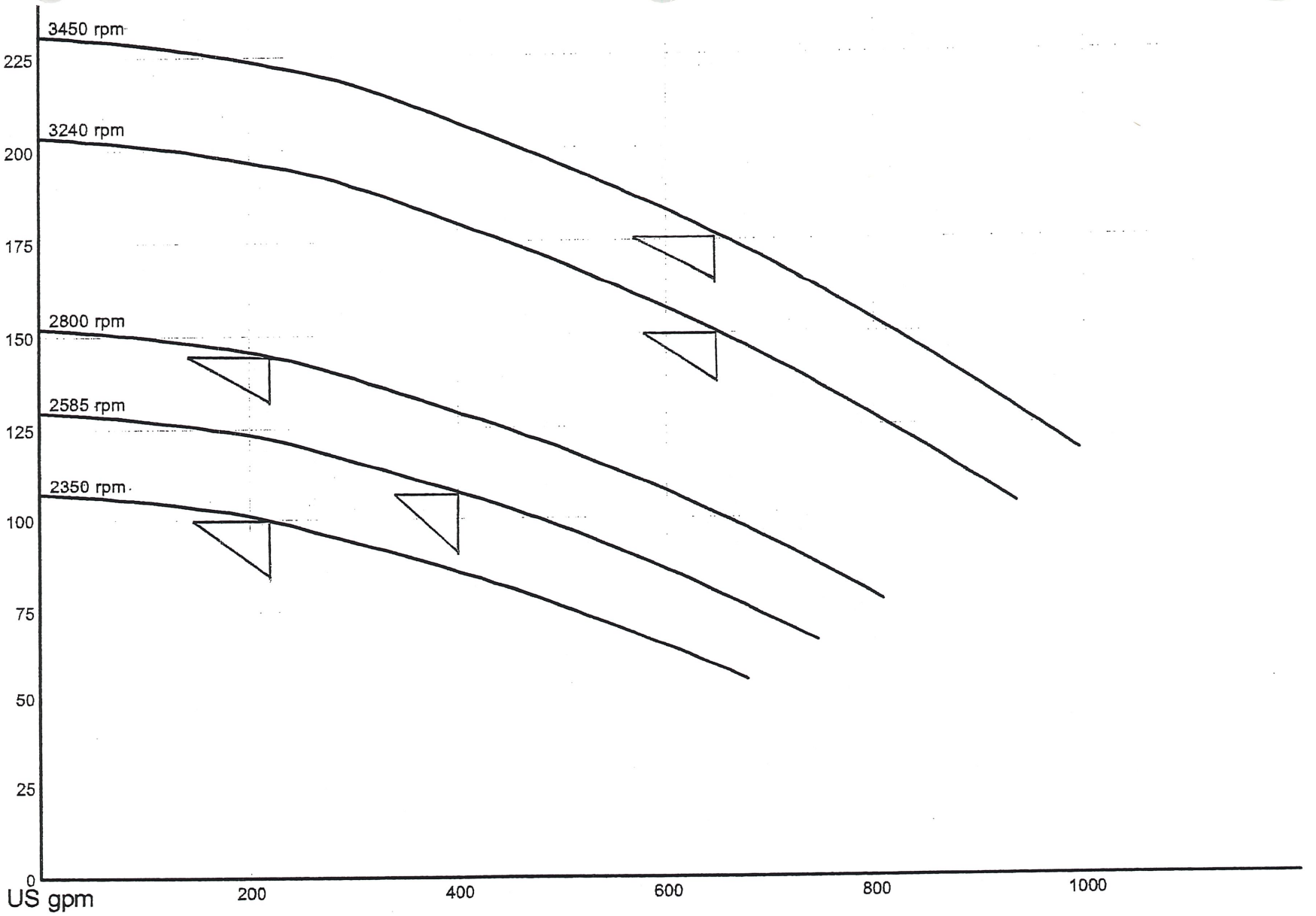
ITT Industries

Goulds Pumps, and the ITT Engineered Blocks Symbol are registered trademarks and tradenames of ITT Industries.

www.goulds.com

PRINTED IN U.S.A.

SPECIFICATIONS ARE SUBJECT TO CHANGE WITHOUT NOTICE.



Company: Peerless Equipment Ltd.
Name: Frank G. Butler
02/23/05

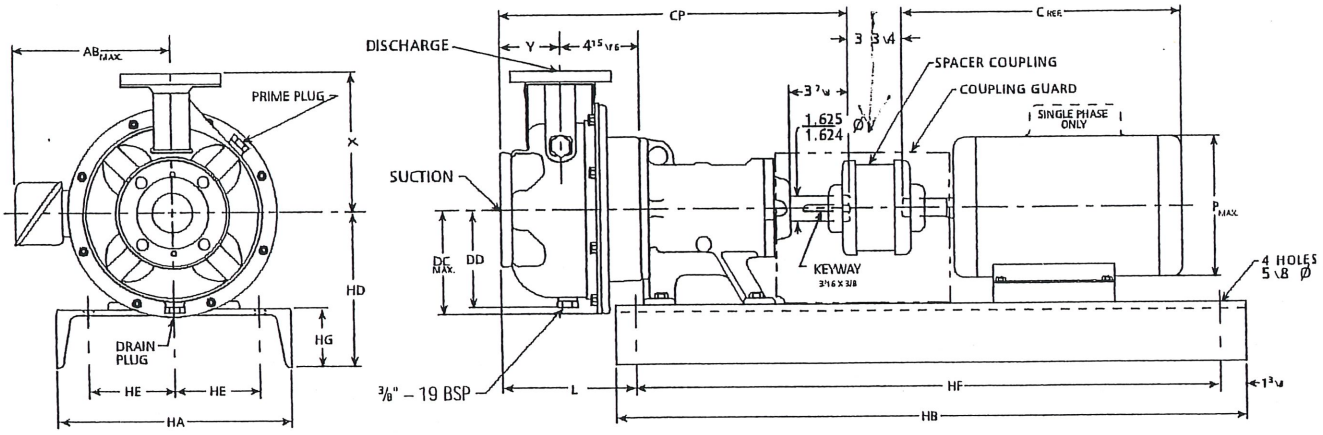
GOULDS
Catalog: Goulds GL.60, vers 2
CC_ENDSUCT_C - 3600

Size: 23SH-2
Speed: 2350 - 3450 rpm
Dia: 7.5 in
Curve No.: GP SSH/SSH-F

GOULDS PUMPS

Channel Steel Bedplate, Clockwise Rotation Viewed from Drive End;
Fundación de Acero, Rotación en Dirección de las Agujas del Reloj Visto desde el Extremo del Motor

- PROVIDE SSHA APPROVED GUARDS FOR EXPOSED MOVING PARTS



Dimensions and Weights – Determined by Pump,
Dimensiones y Pesos – Determinados por la Bomba

Pump	Pump Size, *Tamaño de la Bomba*	Suction*, *Succión**	Discharge*, *Descarga**	CP	DC Max., *DC Máx.*	DD	L	X	Y	Wt. (lbs.), *Peso (libras)*
24SH	1½ x 2 ½-10	2½	1½	23	6⅞	6⅝	10⅛	8 15/16	4	125
25SH	2 x 2½-10		2							125
22SH	2½ x 3-8	3	2½		6⅛	5⅛				125
27SH	2½ x 3-10							9 15/16		134
23SH	3 x 4-8	4	3	24	6⅞	6⅝	11⅛		5	136
28SH	3 x 4-10				7⅝	7⅜		11⅛		148

* For use with ANSI class 150 mating flanges.
* *Para usar con bridas que casan ANSI clase 150.*

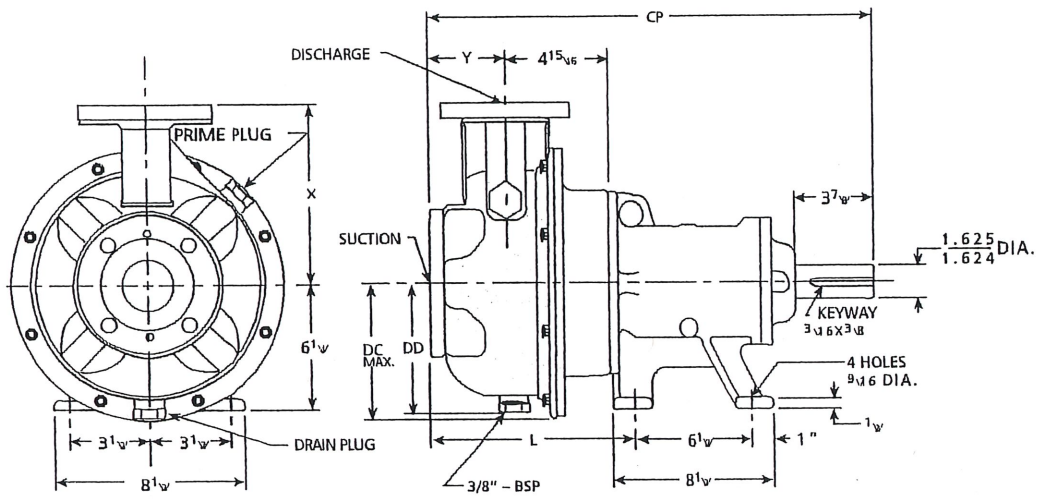
NOTE:
1. Pumps will be shipped with top vertical discharge as standard. For other orientations, remove casing bolts, rotate discharge to desired position and tighten ⅜ – 16 bolts to 12 ft./lbs.
2. ALL dimensions in inches.
3. Not for construction purposes.

NOTA:
1. *Las bombas se transportarán con la descarga vertical superior como estándar. Para otras orientaciones, retirar los tornillos de la carcasa, rotar la descarga a la posición deseada, y apretar ⅜ – 16 tornillos a 12 pies/libras.*
2. *TODAS las dimensiones en pulgadas.*
3. *No para propósitos de construcción.*

Available Motor and Bedplate Dimensions and Weights,
Pesos y Dimensiones Disponibles de la Fundación y del Motor

Motor Frame, *Armazón del Motor*	HP @ 3500 RPM		HP @ 1750 RPM – T-Frame Only				AB Max., *AB Máx.*	C Ref.	P Max., *P Máx.*	Wt. Max., *Peso Máx.*	Bedplate Data, *Datos de la Fundación*						
	Three Phase, *Trifásicos*		Single Phase, *Monofásicos*		Three Phase, *Trifásicos*						HA	HB	HD	HE	HF	HG	Wt. (lbs.), *Peso (libras)*
	ODP	TEFC	ODP	TEFC	ODP	TEFC											
184T			3 or 5	3	5	5	5⅛	18⅛	7⅛	95	13	42	10¼	5¼	38½	4	111
213T					7½	7½	7⅜	18	9⅝	116							
215T	15				10	10		19⅛		136							
254T	20	15			15	15	9½	21⅝	13	266							
256T	25	20			20	20		23⅜		264							
284TS/T	30	25			25	25	12⅝	24⅛	15	392	15	44	10½	5¾	40½	3½	124
286TS/T	40	30						26⅝		422							
324TS/T	50	40					14⅛	28¾	17⅜	592	18	48	12	7¼	44½	4	183
326TS/T	60	50						30¼		634							
364TS/T	75	60					15⅛	31⅝	18⅛	834			13				
365TS/T	100	75						32⅝		1000							
405TS/T		100					18	36⅞	20⅝	1060	22	56	14	7¼	52½	4	214

Dimensions and weights vary with manufacturers. Dimensions in inches and weights in lbs.
Dimensiones y pesos varían con los fabricantes. Dimensiones en pulgadas y pesos en libras.



Dimensions and Weights – Bare Pump Only,
Dimensiones y Pesos – Solamente Bomba

Pump	Pump Size, *Tamaño de la Bomba*	Suction*, *Succión**	Discharge*, *Descarga**	CP	DC Max., *DC Máx.*	DD	L	X	Y	Wt. (lbs.), *Peso (libras)*
24SH	1½ x 2 ½-10	2½	1½	23	6⅛	6⅝	10¼	8 15/16	4	125
26SH	2 x 2½-10		2							125
22SH	2½ x 3-8	3	2½		6⅛	5⅛				125
27SH	2½ x 3-10				6⅛	6⅝		9 15/16		134
23SH	3 x 4-8	4	3	24			11¼		5	136
28SH	3 x 4-10				7⅝	7⅜		11⅛		148

* For use with ANSI class 150 mating flanges.
* *Para usar con bridas que casan ANSI clase 150.*

NOTES:
1. Pumps will be shipped with top vertical discharge as standard. For other orientations, remove casing bolts, rotate discharge to desired position, replace and tighten ⅜–16 bolts to 12 ft./lbs.
2. Motor dimensions may vary with motor manufacturer.
3. Not for construction purposes.

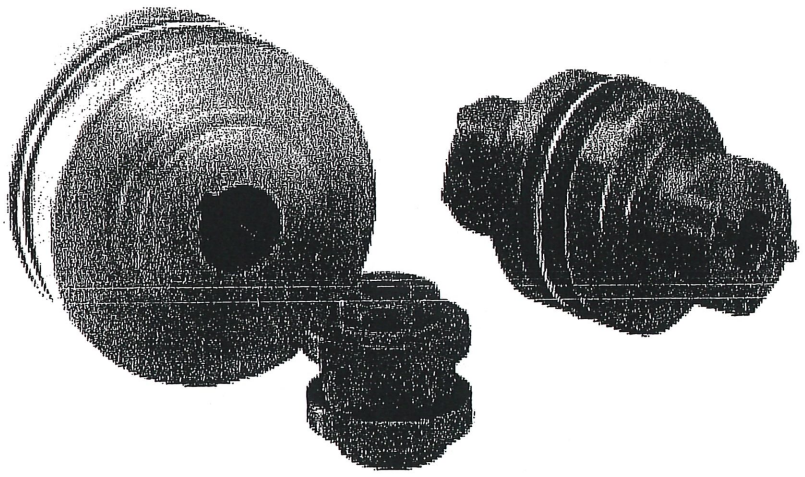
NOTAS:
1. *Las bombas se transportarán con la descarga vertical superior como estándar. Para otras orientaciones, retirar los tornillos de la carcasa, rotar la descarga a la posición deseada, y apretar ⅜ – 16 tornillos a 12 pies/libras.*
2. *TODAS las dimensiones en pulgadas.*
3. *No para propósitos de construcción.*

TB Wood's

SECTION
F1

SURE-FLEX® ELASTOMERIC COUPLINGS

- **Need No Lubrication, No Maintenance**
- **Quick, Easy Installation**
- **Clean, Quiet Performance**

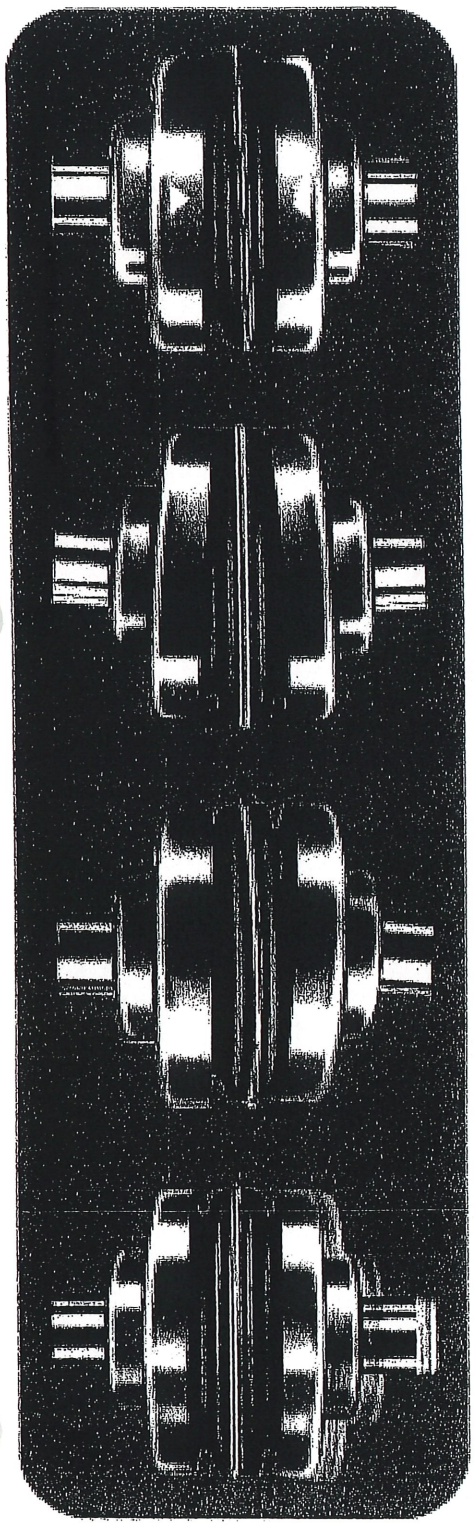


TB WOOD'S INCORPORATED ■ Chambersburg, Pennsylvania 17201
T.B. WOOD'S CANADA LTD. ■ Stratford, Ontario N5A 6V6

SURE-FLEX CAPABILITIES

TB Wood's

4-WAY FLEXING ACTION
absorbs all types of
shock, vibration and misalignment



TORSIONAL

Sure-Flex coupling sleeves have an exceptional ability to absorb torsional shock and dampen torsional vibrations. The EPDM and Neoprene sleeves wind-up approximately 15° torsionally at their rated torque. Hytrel sleeves will wind-up about 7°.

ANGULAR

The unique design of the Sure-Flex coupling's teeth allows for the absorption of angular misalignment without wear. Refer to page F1—18 for actual allowable misalignment limits. These limits allow for the alignment of the coupling using only a scale and calipers.

PARALLEL

Parallel misalignment is absorbed without wear or appreciable energy losses. The lateral flexibility of the coupling sleeve minimizes radial bearing loads normally associated with parallel misalignment. This feature also allows for easier installation by the use of components bored for slip fits without fretting corrosion occurring at the shaft. Refer to page F1—18 for parallel misalignment limits. Only a straight-edge and feeler gage are required to obtain these limits.

AXIAL

Sure-Flex couplings may be used in applications with limited axial shaft movements. The axial compressibility of the EPDM and Neoprene sleeves allows for shaft end-float without the absolute transfer of thrust loads.

SURE-FLEX COUPLING SELECTION

TB Wood's

EPDM or NEOPRENE SLEEVES

860 RPM MOTORS						1160 RPM MOTORS						1750 RPM MOTORS						3500 RPM MOTORS					
HP	Service Factors					HP	Service Factors					HP	Service Factors					HP	Service Factors				
	1.0	1.25	1.5	2.0	2.5		1.0	1.25	1.5	2.0	2.5		1.0	1.25	1.5	2.0	2.5		1.0	1.25	1.5	2.0	2.5
1/2	3	3	3	4	4	1/2	3	3	3	3	4	1/2	3	3	3	3	3	1/2	...	...	...	...	...
3/4	3	4	4	4	5	3/4	3	3	4	4	4	3/4	3	3	3	3	4	3/4	3	3	3	3	3
1	4	4	4	5	5	1	3	4	4	4	5	1	3	3	3	4	4	1	3	3	3	3	3
1 1/2	4	5	5	5	6	1 1/2	4	4	5	5	5	1 1/2	3	4	4	4	5	1 1/2	3	3	3	3	4
2	5	5	5	6	6	2	4	5	5	5	6	2	4	4	4	5	5	2	3	3	3	4	4
3	5	6	6	6	7	3	5	5	6	6	6	3	4	5	5	5	6	3	3	4	4	4	5
5	6	6	7	7	8	5	6	6	6	7	7	5	5	5	6	6	6	5	4	4	5	5	5
7 1/2	7	7	8	8	9	7 1/2	6	7	7	8	8	7 1/2	6	6	6	7	7	7 1/2	5	5	5	6	6
10	7	8	8	9	9	10	7	7	8	8	9	10	6	6	7	7	8	10	5	5	6	6	6
15	8	9	9	10	10	15	8	8	9	9	10	15	7	7	8	8	9	15	6	6	6	7	7
20	9	9	10	10	11	20	8	9	9	10	10	20	7	8	8	9	9	20	6	6	7	7	8
25	9	10	10	11	11	25	9	9	10	10	11	25	8	8	9	9	10	25	6	7	7	8	8
30	10	10	11	11	12	30	9	10	10	11	11	30	8	9	9	10	10	30	7	7	8	8	9
40	10	11	11	12	12	40	10	10	11	11	12	40	9	9	10	10	11	40	7	8	8	9	9
50	11	11	12	12	13	50	10	11	11	12	12	50	9	10	10	11	11	50	8	8	9	9	10
60	11	12	12	13	13	60	11	11	12	12	13	60	10	10	11	11	12	60	8	9	9	10	10
75	12	12	13	13	14	75	11	12	12	13	13	75	10	11	11	12	12	75	9	9	10	10	11
100	12	13	13	14	14	100	12	12	13	13	14	100	11	11	12	12	13	100	9	10	10	11	11
125	13	13	14	14	...	125	12	13	13	14	14	125	11	12	12	13	13	125	10	10	11	11	...
150	13	14	14	16	16	150	13	13	14	14	16	150	12	12	13	13	14	150	10	11	11	...	...
200	14	14	16	16	16	200	13	14	14	16	16	200	12	13	13	14	14	200	11	11	...	...	...
250	14	16	16	16	16	250	14	14	16	16	16	250	13	13	14	14	...	250	11	...	...	...	...
300	16	16	16	16	...	300	14	16	16	16	16	300	13	14	14	...	...	300	...	...	...	...	...
350	16	16	16	...	...	350	16	16	16	16	16	350	14	14	...	...	...	350	...	...	...	...	...
400	16	16	16	...	...	400	16	16	16	16	...	400	14	14	...	...	...	400	...	...	...	...	...
450	16	16	...	...	...	450	16	16	...	...	...	450	14	...	...	...	...	450	...	...	...	...	...
500	16	16	...	...	...	500	16	16	...	...	...	500	14	...	...	...	...	500	...	...	...	...	...
600	16	...	...	...	...	600	16	...	...	...	...	600	...	...	...	...	...	600	...	...	...	...	...
700	...	...	...	...	...	700	...	...	...	...	...	700	...	...	...	...	...	700	...	...	...	...	...
800	...	...	...	...	...	800	...	...	...	...	...	800	...	...	...	...	...	800	...	...	...	...	...

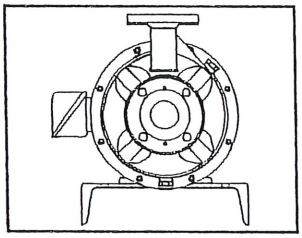
HYTREL or URETHANE SLEEVES

860 RPM MOTORS						1160 RPM MOTORS						1750 RPM MOTORS						3500 RPM MOTORS					
HP	Service Factors					HP	Service Factors					HP	Service Factors					HP	Service Factors				
	1.0	1.25	1.5	2.0	2.5		1.0	1.25	1.5	2.0	2.5		1.0	1.25	1.5	2.0	2.5		1.0	1.25	1.5	2.0	2.5
7 1/2	6	6	6	6	6	7 1/2	...	...	...	...	...	7 1/2	...	...	...	...	...	7 1/2	...	...	...	...	...
10	6	6	6	6	6	10	6	6	6	6	6	10	...	...	...	...	...	10	...	...	...	...	...
15	6	6	6	7	7	15	6	6	6	6	7	15	6	6	6	6	6	15	...	...	...	...	...
20	6	6	7	7	8	20	6	6	6	7	7	20	6	6	6	6	6	20	...	...	...	...	...
25	6	7	7	8	8	25	6	6	7	7	8	25	6	6	6	6	7	25	...	...	...	...	...
30	7	7	8	8	9	30	6	7	7	8	8	30	6	6	6	7	7	30	6	6	6	6	6
40	7	8	8	9	9	40	7	7	8	8	9	40	6	6	7	7	8	40	6	6	6	6	6
50	8	8	9	9	10	50	7	8	8	9	9	50	6	7	7	8	8	50	6	6	6	6	7
60	8	9	9	10	10	60	8	8	9	9	10	60	7	7	8	8	9	60	6	6	6	7	7
75	9	9	10	10	11	75	8	9	9	10	10	75	7	8	8	9	9	75	6	6	7	7	8
100	9	10	10	11	11	100	9	9	10	10	11	100	8	8	9	9	10	100	6	7	7	8	8
125	10	10	11	11	12	125	9	10	10	11	11	125	8	9	9	10	10	125	7	7	8	8	9
150	10	11	11	12	12	150	10	10	11	11	12	150	9	9	10	10	11	150	7	8	8	9	9
200	11	11	12	12	13	200	10	11	11	12	12	200	9	10	10	11	11	200	8	8	9	9	10
250	11	12	12	13	13	250	11	11	12	12	13	250	10	10	11	11	12	250	8	9	9	10	10
300	12	12	13	13	14	300	11	12	12	13	13	300	10	11	11	12	12	300	9	9	10	10	11
350	12	12	13	14	14	350	12	12	12	13	14	350	11	11	12	12	12	350	9	10	10	11	11
400	12	13	13	14	14	400	12	12	13	13	14	400	11	11	12	12	13	400	9	10	10	11	11
500	13	13	14	14	...	500	12	13	13	14	14	500	11	12	12	13	13	500	10	10	11	11	...
600	13	14	14	...	...	600	13	13	13	14	...	600	12	12	13	13	14	600	10	11	11	...	...
700	14	14	...	...	...	700	13	13	14	14	...	700	12	12	13	14	14	700	11	11	...	...	...
800	14	14	...	...	...	800	13	14	14	...	...	800	12	13	13	14	14	800	11	11	...	...	...
900	14	...	...	...	...	900	14	14	14	...	...	900	13	13	14	14	...	900	11	...	...	...	...
1000	...	...	...	...	...	1000	14	14	...	...	...	1000	13	13	14	14	...	1000	11	...	...	...	...

SERIES:	SSH-F
REFERENCE:	P-404, P-405
SIZE:	2 ½ X 3-8
PUMP MODEL	22SH
MOTOR FRAME	286TS/T

G&L Pumps

Submittal



Series: SSH-F

Size: 2½ x 3-8

Description: Frame Mounted, Stainless Steel, End Suction Pump

Job or Customer: City of Fair Oaks Ranch
Engineer: HDR Engineering, Inc.
Contractor: Payton Construction, Inc.
Reference: P-404 & 405

Representative: Peerless Equipment Ltd.
Order Number: 166-03 Date: 2-24-05
Submitted By: FGB Date: 2-24-05
Approved By: _____ Date: _____

Pump Design Data:

Quantity: 2 Tag: P-404 & 405
Capacity (GPM): 320 Head (ft.): 195'
Liquids: Potable Water
Temperature: Amb Sp. Gr.: 1.0

Maximum Working Pressure: 230 PSIG
Maximum Working Temperature: 250°F Standard
Maximum Suction Pressure: 100 PSIG

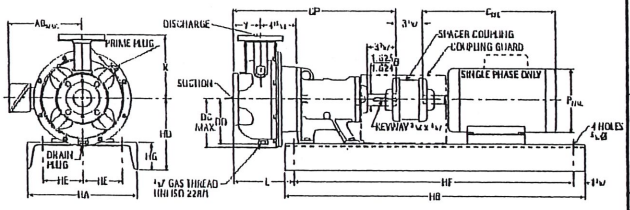
Motor Design Data:

HP: 30 RPM: 3500
Frame: 286TS Enclosure: TEFC
Volts: 208-230/460 Hertz: 60 phase: 3

Suction Size: 3" Type: 150 lb. ANSI Flange
Discharge Size: 2½" Type: 150 lb. ANSI Flange

Mechanical Seal Options

Rotary	Stationary	Elastomers	Metal	Duty
Carbon	Silicon Carbide	Viton	316 SS	Glycol, Mild Chem., Mild Abrasive
		EPR		Mild Caustic, Boiler Feed, Ozone
Silicon Carbide		Viton		Abrasives, Chemicals, Carbon Free



Materials of Construction: Casing: 316L
Impeller: 316L Wear Ring: 316L
Shaft: Dry Carbon Steel Sleeve: 316L
Adapter: Cast Iron O-Rings: Viton/EPR

Dimensions

HP	RPM	FRM	CP	DC	DD	X	Y	L	AB	C_{REF}	HA	HB	HD	HE	HF	HG	P	Max. Wt.
3	1750	184T	23	6⅛	5⅞	8 15/16	4	10⅛	5⅞	18⅛	13	42	10¼	5¼	38½	4	7⅞	331
5	1750	184T	23	6⅛	5⅞	8 15/16	4	10⅛	5⅞	18⅛	13	42	10¼	5¼	38½	4	7⅞	331
7.5	1750	213T	23	6⅛	5⅞	8 15/16	4	10⅛	7⅜	18	13	42	10¼	5¼	38½	4	9⅝	352
20	3500	254T	23	6⅛	5⅞	8 15/16	4	10⅛	9½	21⅝	13	42	10¼	5¼	38½	4	13	502
25	3500	256T	23	6⅛	5⅞	8 15/16	4	10⅛	9½	22⅜	13	42	10¼	5¼	38½	4	13	500
30	3500	284T	23	6⅛	5⅞	8 15/16	4	10⅛	12⅝	24⅞	15	44	10½	5¾	40½	3½	15	641
40	3500	286T	23	6⅛	5⅞	8 15/16	4	10⅛	12⅝	26⅝	15	44	10½	5¾	40½	3½	15	671
50	3500	324T	23	6⅛	5⅞	8 15/16	4	10⅛	14⅛	28¾	18	48	12	7¼	44½	4	17⅜	900
60	3500	326T	23	6⅛	5⅞	8 15/16	4	10⅛	14⅛	30¼	18	48	12	7¼	44½	4	17⅜	942

Goulds Pumps

ITT Industries

© 2004 Goulds Pumps
Effective January, 2004
SUBSSHF2.5x3-8

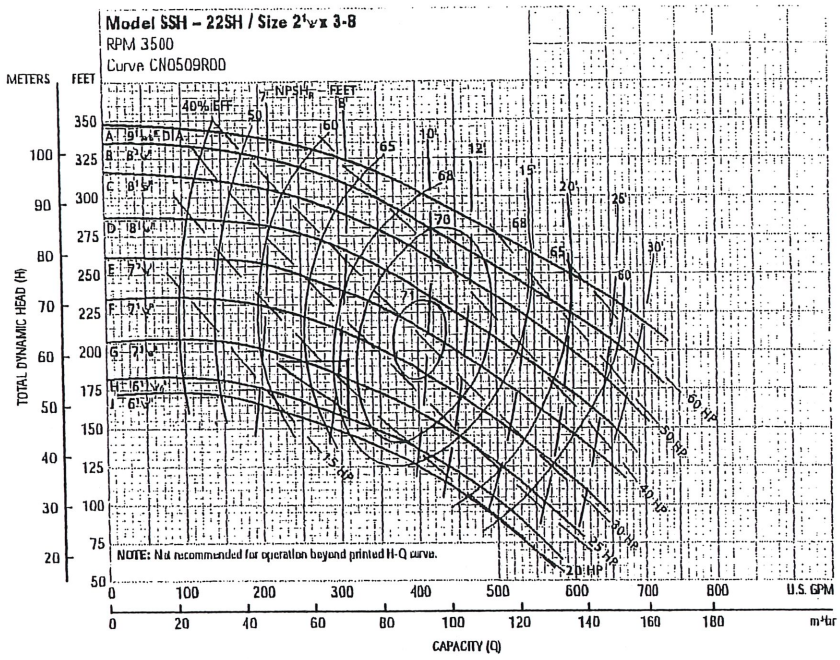
G&L Pumps

Series SSH-F

Size 2½ x 3-8

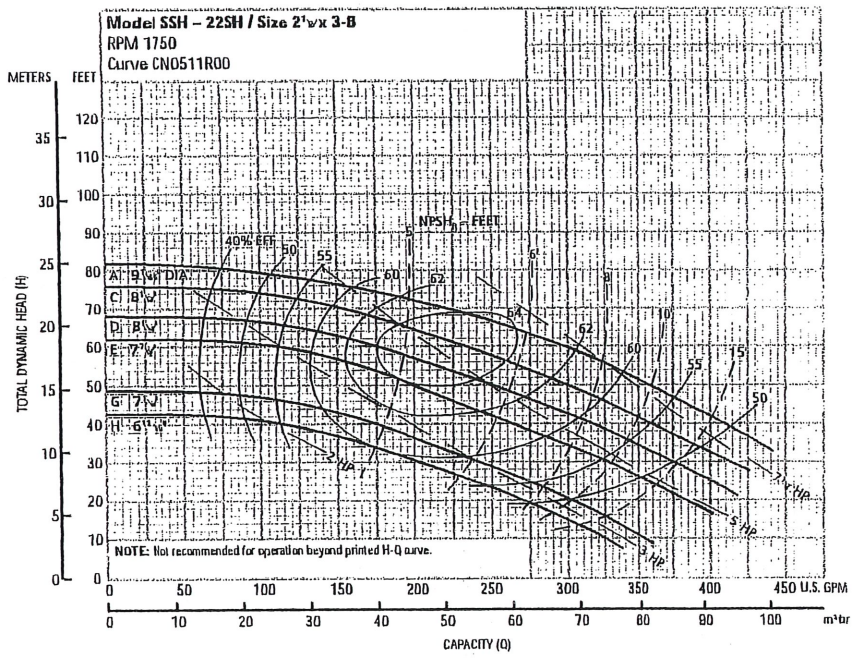
Pump Performance Curves

3500 RPM



Customer City of Fair Oaks Ranch	Service 320 GPM	Certified for: Duty Pt Eff
Pump P - 404 & 405	195' TDH 69 EFF%	By: FGB
	Impeller Dia. 7.50"	Date: 02-24-05

1750 RPM



Goulds Pumps

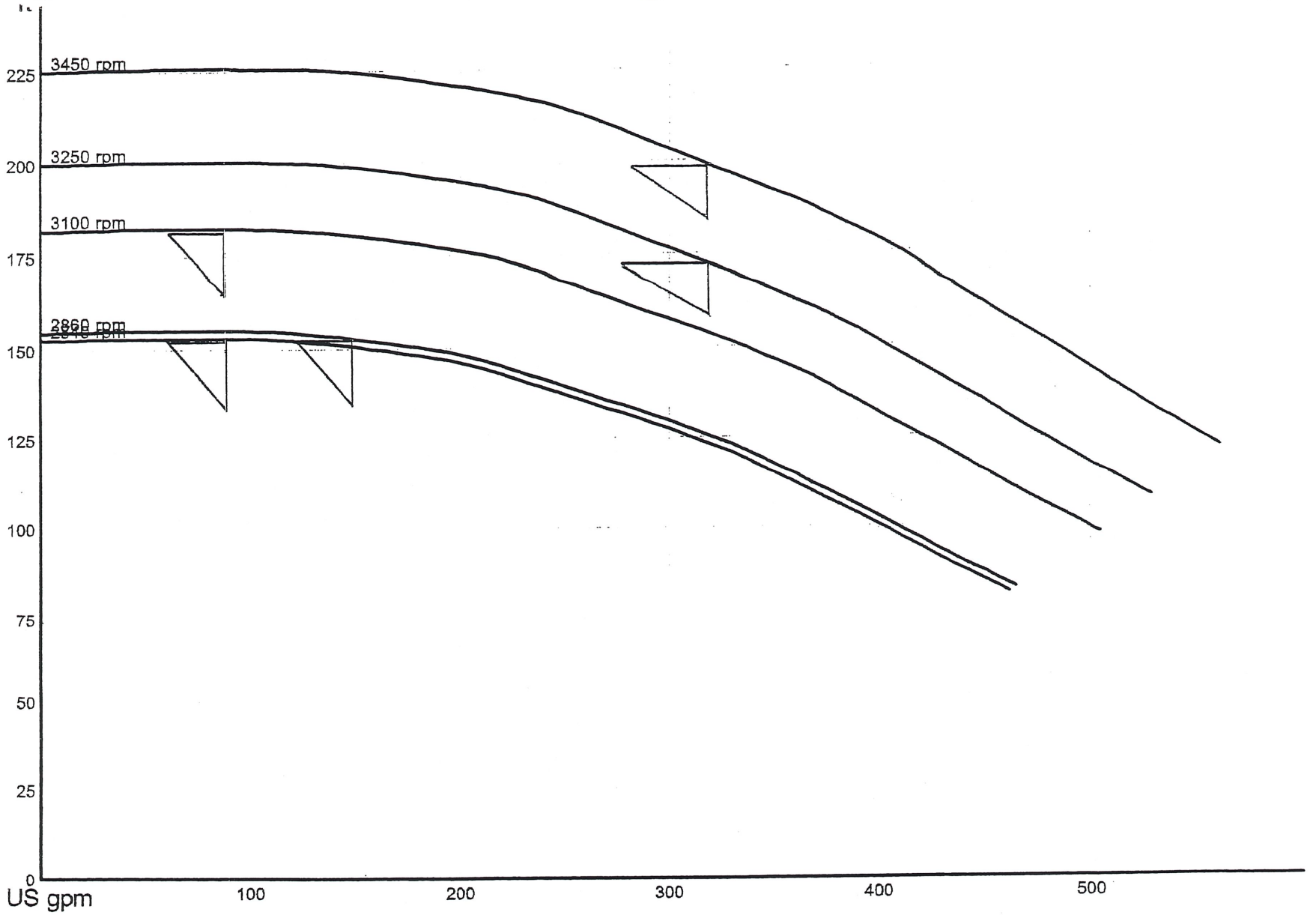
Goulds Pumps, and the ITT Engineered Blocks Symbol are registered trademarks and tradenames of ITT Industries.

www.goulds.com

ITT Industries

PRINTED IN U.S.A.

SPECIFICATIONS ARE SUBJECT TO CHANGE WITHOUT NOTICE.



Company: Peerless Equipment Ltd.
Name: Frank G. Butler
02/23/05

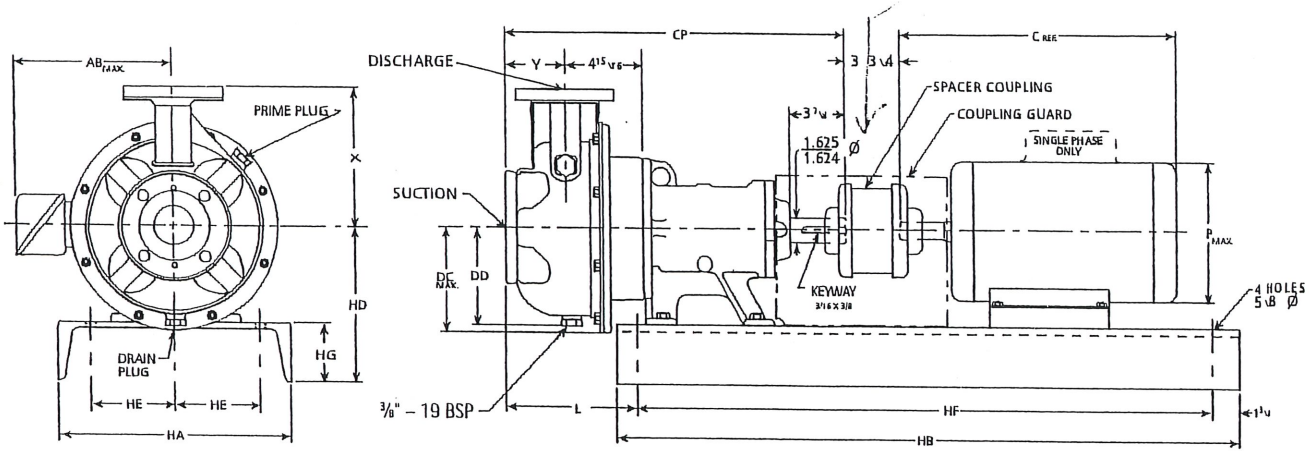
GOULDS
Catalog: Goulds GL.60, vers 2
CC_ENDSUCT_C - 3600

Size: 22SH
Speed: 2840 - 3450 rpm
Dia: 7.5 in
Curve No.: GP SSH/SSH-F

GOULDS PUMPS

Channel Steel Bedplate, Clockwise Rotation Viewed from Drive End;
Fundación de Acero, Rotación en Dirección de las Agujas del Reloj Visto desde el Extremo del Motor

PROVIDE 3mm APPROVED GUARD FOR EXPOSED MOVING PARTS



Dimensions and Weights – Determined by Pump,
Dimensiones y Pesos – Determinados por la Bomba

Pump	Pump Size, *Tamaño de la Bomba*	Suction*, *Succión**	Discharge*, *Descarga**	CP	DC Max., *DC Máx.*	DD	L	X	Y	Wt. (lbs.), *Peso (libras)*
24SH	1½ x 2 ½-10	2½	1½	23	6⅛	6⅝	10⅛	8 15/16	4	125
25SH	2 x 2½-10		2							125
22SH	2½ x 3-8	3	2½		6⅛	5⅛				125
27SH	2½ x 3-10									134
23SH	3 x 4-8	4	3	24	6⅛	6⅝	11⅛	9 1/16	5	136
28SH	3 x 4-10				7⅝	7⅜		11⅛		148

* For use with ANSI class 150 mating flanges.
* *Para usar con bridas que casan ANSI clase 150.*

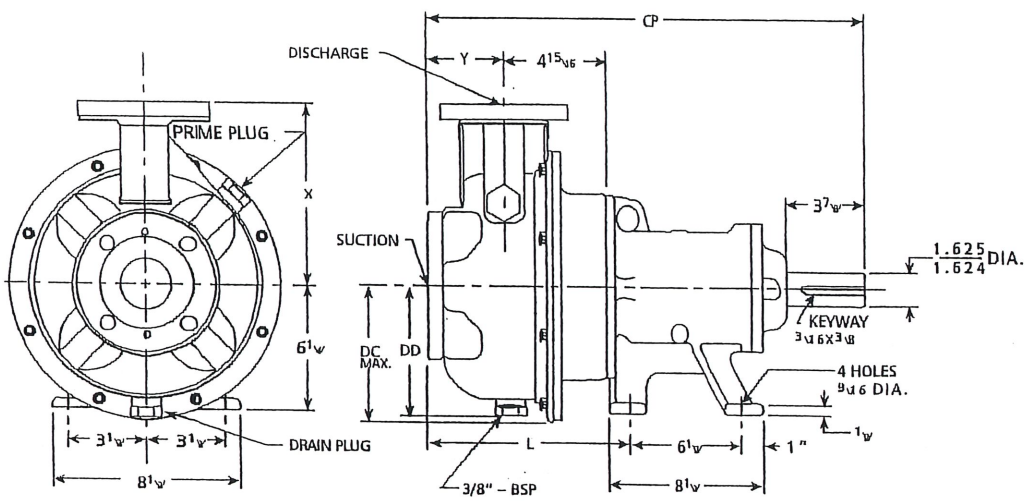
NOTE:
1. Pumps will be shipped with top vertical discharge as standard. For other orientations, remove casing bolts, rotate discharge to desired position and tighten ⅜ – 16 bolts to 12 ft./lbs.
2. ALL dimensions in inches.
3. Not for construction purposes.

NOTA:
1. *Las bombas se transportarán con la descarga vertical superior como estándar. Para otras orientaciones, retirar los tornillos de la carcasa, rotar la descarga a la posición deseada, y apretar ⅜ – 16 tornillos a 12 pies/libras.*
2. *TODAS las dimensiones en pulgadas.*
3. *No para propósitos de construcción.*

Available Motor and Bedplate Dimensions and Weights,
Pesos y Dimensiones Disponibles de la Fundación y del Motor

Motor Frame, *Armazón del Motor*	HP @ 3500 RPM		HP @ 1750 RPM – T-Frame Only				AB Max., *AB Máx.*	C Ref.	P Max., *P Máx.*	Wt. Max., *Peso Máx.*	Bedplate Data, *Datos de la Fundación*						
	Three Phase, *Trifásicos*		Single Phase, *Monofásicos*		Three Phase, *Trifásicos*						HA	HB	HD	HE	HF	HG	Wt. (lbs.), *Peso (libras)*
	ODP	TEFC	ODP	TEFC	ODP	TEFC											
184T			3 or 5	3	5	5	5⅛	18⅛	7⅛	95	13	42	10¼	5¼	38½	4	111
213T					7½	7½	7⅜	18	9⅝	116							
215T	15				10	10		19⅛		136							
254T	20	15			15	15	9½	21⅝	13	266							
256T	25	20			20	20		23⅜		264							
284TS/T	30	25			25	25	12⅝	24⅛	15	392	15	44	10½	5¾	40½	3½	124
286TS/T	40	30						26⅝		422							
324TS/T	50	40					14⅞	28¾	17⅜	592	18	48	12	7¼	44½	4	183
326TS/T	60	50						30¼		634							
364TS/T	75	60					15⅛	31⅝	18⅛	834			13				
365TS/T	100	75						32⅝		1000							
405TS/T		100					18	36⅞	20⅝	1060	22	56	14	7¼	52½	4	214

Dimensions and weights vary with manufacturers. Dimensions in inches and weights in lbs.
Dimensiones y pesos varían con los fabricantes. Dimensiones en pulgadas y pesos en libras.



Dimensions and Weights – Bare Pump Only,
Dimensiones y Pesos – Solamente Bomba

Pump	Pump Size, *Tamaño de la Bomba*	Suction*, *Succión**	Discharge*, *Descarga**	CP	DC Max., *DC Máx.*	DD	L	X	Y	Wt. (lbs.), *Peso (libras)*
24SH	1½ x 2 ½-10	2½	1½	23	6⅛	6⅜	10¼	8 15/16	4	125
25SH	2 x 2½-10		2							125
22SH	2½ x 3-8	3	2½		6⅛	5⅛				125
27SH	2½ x 3-10				6⅛	6⅜		9 15/16		134
23SH	3 x 4-8	4	3	24			11¼		5	136
28SH	3 x 4-10				7⅛	7⅜		11⅛		148

* For use with ANSI class 150 mating flanges.
* *Para usar con bridas que casan ANSI clase 150.*

NOTES:
1. Pumps will be shipped with top vertical discharge as standard. For other orientations, remove casing bolts, rotate discharge to desired position, replace and tighten ⅜–16 bolts to 12 ft./lbs.
2. Motor dimensions may vary with motor manufacturer.
3. Not for construction purposes.

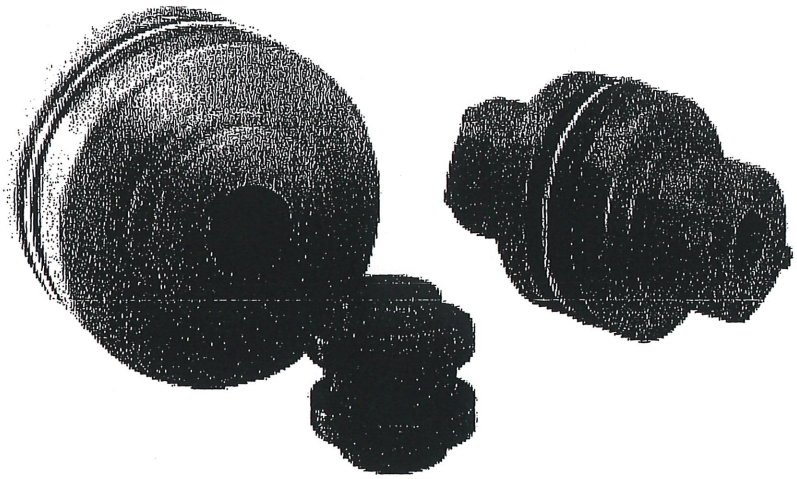
NOTAS:
1. *Las bombas se transportarán con la descarga vertical superior como estándar. Para otras orientaciones, retirar los tornillos de la carcasa, rotar la descarga a la posición deseada, y apretar ⅜ – 16 tornillos a 12 pies/libras.*
2. *TODAS las dimensiones en pulgadas.*
3. *No para propósitos de construcción.*

TB Wood's

SECTION
F1

SURE-FLEX® ELASTOMERIC COUPLINGS

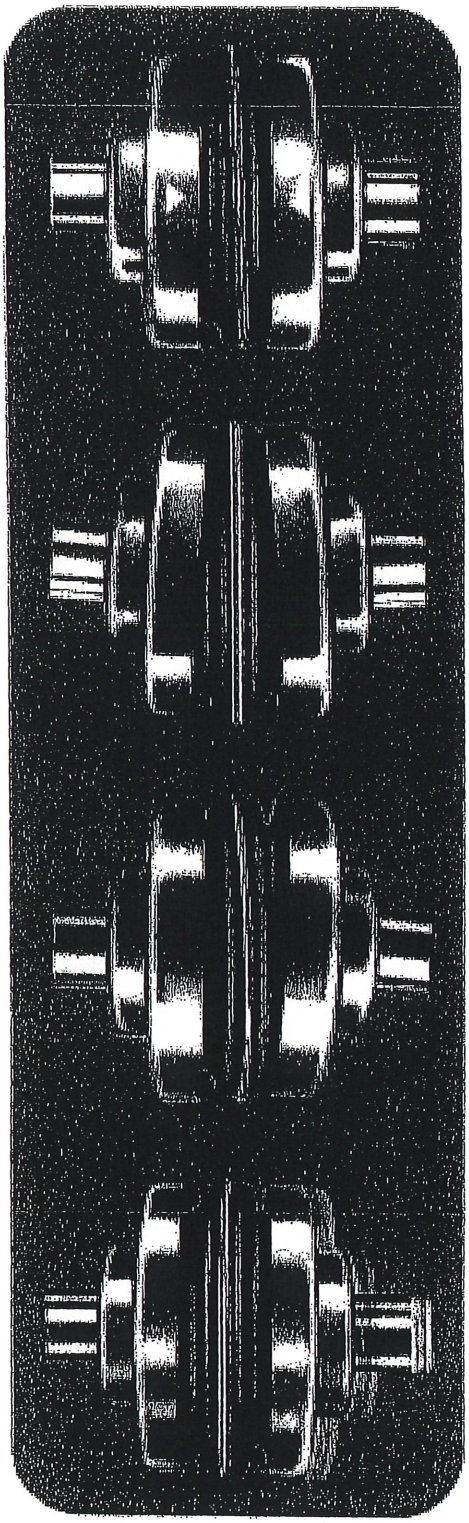
- **Need No Lubrication, No Maintenance**
- **Quick, Easy Installation**
- **Clean, Quiet Performance**



TB WOOD'S INCORPORATED ■ Chambersburg, Pennsylvania 17201
T.B. WOOD'S CANADA LTD. ■ Stratford, Ontario N5A 6V6

SURE-FLEX CAPABILITIES

4-WAY FLEXING ACTION
absorbs all types of shock, vibration and misalignment



TORSIONAL

Sure-Flex coupling sleeves have an exceptional ability to absorb torsional shock and dampen torsional vibrations. The EPDM and Neoprene sleeves wind-up approximately 15° torsionally at their rated torque. Hytrel sleeves will wind-up about 7°.

ANGULAR

The unique design of the Sure-Flex coupling's teeth allows for the absorption of angular misalignment without wear. Refer to page F1—18 for actual allowable misalignment limits. These limits allow for the alignment of the coupling using only a scale and calipers.

PARALLEL

Parallel misalignment is absorbed without wear or appreciable energy losses. The lateral flexibility of the coupling sleeve minimizes radial bearing loads normally associated with parallel misalignment. This feature also allows for easier installation by the use of components bored for slip fits without fretting corrosion occurring at the shaft. Refer to page F1—18 for parallel misalignment limits. Only a straight-edge and feeler gage are required to obtain these limits.

AXIAL

Sure-Flex couplings may be used in applications with limited axial shaft movements. The axial compressibility of the EPDM and Neoprene sleeves allows for shaft end-float without the absolute transfer of thrust loads.

SURE-FLEX COUPLING SELECTION

TB Wood's

EPDM or NEOPRENE SLEEVES

860 RPM MOTORS						1160 RPM MOTORS						1750 RPM MOTORS						3500 RPM MOTORS					
HP	Service Factors					HP	Service Factors					HP	Service Factors					HP	Service Factors				
	1.0	1.25	1.5	2.0	2.5		1.0	1.25	1.5	2.0	2.5		1.0	1.25	1.5	2.0	2.5		1.0	1.25	1.5	2.0	2.5
1/2	3	3	3	4	4	1/2	3	3	3	3	4	1/2	3	3	3	3	3	1/2	...	...	...	...	...
3/4	3	4	4	4	5	3/4	3	3	4	4	4	3/4	3	3	3	3	4	3/4	3	3	3	3	3
1	4	4	4	5	5	1	3	4	4	4	5	1	3	3	3	4	4	1	3	3	3	3	3
1 1/2	4	5	5	5	6	1 1/2	4	4	5	5	5	1 1/2	3	4	4	4	5	1 1/2	3	3	3	3	4
2	5	5	5	6	6	2	4	5	5	5	6	2	4	4	4	5	5	2	3	3	3	4	4
3	5	6	6	6	7	3	5	5	6	6	6	3	4	5	5	5	6	3	3	4	4	4	5
5	6	6	7	7	8	5	6	6	6	7	7	5	5	5	6	6	6	5	4	4	5	5	5
7 1/2	7	7	8	8	9	7 1/2	6	7	7	8	8	7 1/2	6	6	6	7	7	7 1/2	5	5	5	6	6
10	7	8	8	9	9	10	7	7	8	8	9	10	6	6	7	7	8	10	5	5	6	6	6
15	8	9	9	10	10	15	8	8	9	9	10	15	7	7	8	8	9	15	6	6	6	7	7
20	9	9	10	10	11	20	8	9	9	10	10	20	7	8	8	9	9	20	6	6	7	7	8
25	9	10	10	11	11	25	9	9	10	10	11	25	8	8	9	9	10	25	6	7	7	8	8
30	10	10	11	11	12	30	9	10	10	11	11	30	8	9	9	10	10	30	7	7	8	8	9
40	10	11	11	12	12	40	10	10	11	11	12	40	9	9	10	10	11	40	7	8	8	9	9
50	11	11	12	12	13	50	10	11	11	12	12	50	9	10	10	11	11	50	8	8	9	9	10
60	11	12	12	13	13	60	11	11	12	12	13	60	10	10	11	11	12	60	8	9	9	10	10
75	12	12	13	13	14	75	11	12	12	13	13	75	10	11	11	12	12	75	9	9	10	10	11
100	12	13	13	14	14	100	12	12	13	13	14	100	11	11	12	12	13	100	9	10	10	11	11
125	13	13	14	14	...	125	12	13	13	14	14	125	11	12	12	13	13	125	10	10	11	11	...
150	13	14	14	16	16	150	13	13	14	14	16	150	12	12	13	13	14	150	10	11	11	...	...
200	14	14	16	16	16	200	13	14	14	16	16	200	12	13	13	14	14	200	11	11	...	...	...
250	14	16	16	16	16	250	14	14	16	16	16	250	13	13	14	14	...	250	11	...	...	...	...
300	16	16	16	16	...	300	14	16	16	16	16	300	13	14	14	...	...	300	...	...	...	...	...
350	16	16	16	...	...	350	16	16	16	16	16	350	14	14	...	...	...	350	...	...	...	...	...
400	16	16	16	...	...	400	16	16	16	16	...	400	14	14	...	...	...	400	...	...	...	...	...
450	16	16	...	...	...	450	16	16	...	...	...	450	14	...	...	...	...	450	...	...	...	...	...
500	16	16	...	...	...	500	16	16	...	...	...	500	14	...	...	...	...	500	...	...	...	...	...
600	16	...	...	...	...	600	16	...	...	...	...	600	...	...	...	...	...	600	...	...	...	...	...
700	...	...	...	...	...	700	...	...	...	...	...	700	...	...	...	...	...	700	...	...	...	...	...
800	...	...	...	...	...	800	...	...	...	...	...	800	...	...	...	...	...	800	...	...	...	...	...

HYTREL or URETHANE SLEEVES

860 RPM MOTORS						1160 RPM MOTORS						1750 RPM MOTORS						3500 RPM MOTORS					
HP	Service Factors					HP	Service Factors					HP	Service Factors					HP	Service Factors				
	1.0	1.25	1.5	2.0	2.5		1.0	1.25	1.5	2.0	2.5		1.0	1.25	1.5	2.0	2.5		1.0	1.25	1.5	2.0	2.5
7 1/2	6	6	6	6	6	7 1/2	...	...	...	...	...	7 1/2	...	...	...	...	...	7 1/2	...	...	...	...	...
10	6	6	6	6	6	10	6	6	6	6	6	10	...	...	...	...	...	10	...	...	...	...	...
15	6	6	6	7	7	15	6	6	6	6	7	15	6	6	6	6	6	15	...	...	...	...	...
20	6	6	7	7	8	20	6	6	6	7	7	20	6	6	6	6	6	20	...	...	...	...	...
25	6	7	7	8	8	25	6	6	7	7	8	25	6	6	6	6	7	25	...	...	...	...	...
30	7	7	8	8	9	30	6	7	7	8	8	30	6	6	6	7	7	30	6	6	6	6	6
40	7	8	8	9	9	40	7	7	8	8	9	40	6	6	7	7	8	40	6	6	6	6	6
50	8	8	9	9	10	50	7	8	8	9	9	50	6	7	7	8	8	50	6	6	6	6	7
60	8	9	9	10	10	60	8	8	9	9	10	60	7	7	8	8	9	60	6	6	6	7	7
75	9	9	10	10	11	75	8	9	9	10	10	75	7	8	8	9	9	75	6	6	7	7	8
100	9	10	10	11	11	100	9	9	10	10	11	100	8	8	9	9	10	100	6	7	7	8	8
125	10	10	11	11	12	125	9	10	10	11	11	125	8	9	9	10	10	125	7	7	8	8	9
150	10	11	11	12	12	150	10	10	11	11	12	150	9	9	10	10	11	150	7	8	8	9	9
200	11	11	12	12	13	200	10	11	11	12	12	200	9	10	10	11	11	200	8	8	9	9	10
250	11	12	12	13	13	250	11	11	12	12	13	250	10	10	11	11	12	250	8	9	9	10	10
300	12	12	13	13	14	300	11	12	12	13	13	300	10	11	11	12	12	300	9	9	10	10	11
350	12	12	13	14	14	350	12	12	12	13	14	350	11	11	12	12	12	350	9	10	10	11	11
400	12	13	13	14	14	400	12	12	13	13	14	400	11	11	12	12	13	400	9	10	10	11	11
500	13	13	14	14	...	500	12	13	13	14	14	500	11	12	12	13	13	500	10	10	11	11	...
600	13	14	14	...	...	600	13	13	13	14	...	600	12	12	13	13	14	600	10	11	11	...	...
700	14	14	...	...	...	700	13	13	14	14	...	700	12	12	13	14	14	700	11	11	...	...	...
800	14	14	...	...	...	800	13	14	14	...	...	800	12	13	13	14	14	800	11	11	...	...	...
900	14	...	...	...	...	900	14	14	14	...	...	900	13	13	14	14	...	900	11	...	...	...	...
1000	...	...	...	...	...	1000	14	14	...	...	...	1000	13	13	14	14	...	1000	11	...	...	...	...

APPENDIX E: FAA FORM 7460 RESULTS

Mail Processing Center
Federal Aviation Administration
Southwest Regional Office
Obstruction Evaluation Group
10101 Hillwood Parkway
Fort Worth, TX 76177

Aeronautical Study No.
2019-ASW-9453-OE

Issued Date: 08/09/2019

Adrian Garcia
City of Fair Oaks Ranch
7286 Dietz Elkhorn
Fair Oaks Ranch, TX 78015

**** DETERMINATION OF NO HAZARD TO AIR NAVIGATION ****

The Federal Aviation Administration has conducted an aeronautical study under the provisions of 49 U.S.C., Section 44718 and if applicable Title 14 of the Code of Federal Regulations, part 77, concerning:

Structure:	Water Tank City of Fair Oaks Ranch EST - Site A
Location:	Fair Oaks Ranch, TX
Latitude:	29-46-28.70N NAD 83
Longitude:	98-37-36.20W
Heights:	1395 feet site elevation (SE)
	150 feet above ground level (AGL)
	1545 feet above mean sea level (AMSL)

This aeronautical study revealed that the structure does not exceed obstruction standards and would not be a hazard to air navigation provided the following condition(s), if any, is(are) met:

Based on this evaluation, marking and lighting are not necessary for aviation safety. However, if marking/ lighting are accomplished on a voluntary basis, we recommend it be installed in accordance with FAA Advisory circular 70/7460-1 L Change 2.

This determination expires on 02/09/2021 unless:

(a) the construction is started (not necessarily completed) and FAA Form 7460-2, Notice of Actual Construction or Alteration, is received by this office.
(b) extended, revised, or terminated by the issuing office.
(c) the construction is subject to the licensing authority of the Federal Communications Commission (FCC) and an application for a construction permit has been filed, as required by the FCC, within 6 months of the date of this determination. In such case, the determination expires on the date prescribed by the FCC for completion of construction, or the date the FCC denies the application.

NOTE: REQUEST FOR EXTENSION OF THE EFFECTIVE PERIOD OF THIS DETERMINATION MUST BE E-FILED AT LEAST 15 DAYS PRIOR TO THE EXPIRATION DATE. AFTER RE-EVALUATION OF CURRENT OPERATIONS IN THE AREA OF THE STRUCTURE TO DETERMINE THAT NO SIGNIFICANT AERONAUTICAL CHANGES HAVE OCCURRED, YOUR DETERMINATION MAY BE ELIGIBLE FOR ONE EXTENSION OF THE EFFECTIVE PERIOD.

This determination is based, in part, on the foregoing description which includes specific coordinates, heights, frequency(ies) and power. Any changes in coordinates, heights, and frequencies or use of greater power, except those frequencies specified in the Colo Void Clause Coalition; Antenna System Co-Location; Voluntary Best Practices, effective 21 Nov 2007, will void this determination. Any future construction or alteration, including increase to heights, power, or the addition of other transmitters, requires separate notice to the FAA.This determination includes all previously filed frequencies and power for this structure.

If construction or alteration is dismantled or destroyed, you must submit notice to the FAA within 5 days after the construction or alteration is dismantled or destroyed.

This determination does include temporary construction equipment such as cranes, derricks, etc., which may be used during actual construction of the structure. However, this equipment shall not exceed the overall heights as indicated above. Equipment which has a height greater than the studied structure requires separate notice to the FAA.

This determination concerns the effect of this structure on the safe and efficient use of navigable airspace by aircraft and does not relieve the sponsor of compliance responsibilities relating to any law, ordinance, or regulation of any Federal, State, or local government body.

If we can be of further assistance, please contact our office at (817) 222-5929, or chris.shoulders@faa.gov. On any future correspondence concerning this matter, please refer to Aeronautical Study Number 2019-ASW-9453-OE.

Signature Control No: 411088038-413937693 (DNE)
Chris Shoulders
Specialist

Attachment(s)
Map(s)

Sectional Map for ASN 2019-ASW-9453-OE

Mail Processing Center
Federal Aviation Administration
Southwest Regional Office
Obstruction Evaluation Group
10101 Hillwood Parkway
Fort Worth, TX 76177

Aeronautical Study No.
2019-ASW-9454-OE

Issued Date: 08/09/2019

Adrian Garcia
City of Fair Oaks Ranch
7286 Dietz Elkhorn
Fair Oaks Ranch, TX 78015

**** DETERMINATION OF NO HAZARD TO AIR NAVIGATION ****

The Federal Aviation Administration has conducted an aeronautical study under the provisions of 49 U.S.C., Section 44718 and if applicable Title 14 of the Code of Federal Regulations, part 77, concerning:

Structure:	Water Tank City of Fair Oaks Ranch EST - Site B
Location:	Fair Oaks Ranch, TX
Latitude:	29-46-14.40N NAD 83
Longitude:	98-36-51.00W
Heights:	1360 feet site elevation (SE)
	185 feet above ground level (AGL)
	1545 feet above mean sea level (AMSL)

This aeronautical study revealed that the structure does not exceed obstruction standards and would not be a hazard to air navigation provided the following condition(s), if any, is(are) met:

Based on this evaluation, marking and lighting are not necessary for aviation safety. However, if marking/ lighting are accomplished on a voluntary basis, we recommend it be installed in accordance with FAA Advisory circular 70/7460-1 L Change 2.

This determination expires on 02/09/2021 unless:

(a) the construction is started (not necessarily completed) and FAA Form 7460-2, Notice of Actual Construction or Alteration, is received by this office.
(b) extended, revised, or terminated by the issuing office.
(c) the construction is subject to the licensing authority of the Federal Communications Commission (FCC) and an application for a construction permit has been filed, as required by the FCC, within 6 months of the date of this determination. In such case, the determination expires on the date prescribed by the FCC for completion of construction, or the date the FCC denies the application.

NOTE: REQUEST FOR EXTENSION OF THE EFFECTIVE PERIOD OF THIS DETERMINATION MUST BE E-FILED AT LEAST 15 DAYS PRIOR TO THE EXPIRATION DATE. AFTER RE-EVALUATION OF CURRENT OPERATIONS IN THE AREA OF THE STRUCTURE TO DETERMINE THAT NO SIGNIFICANT AERONAUTICAL CHANGES HAVE OCCURRED, YOUR DETERMINATION MAY BE ELIGIBLE FOR ONE EXTENSION OF THE EFFECTIVE PERIOD.

This determination is based, in part, on the foregoing description which includes specific coordinates, heights, frequency(ies) and power. Any changes in coordinates, heights, and frequencies or use of greater power, except those frequencies specified in the Colo Void Clause Coalition; Antenna System Co-Location; Voluntary Best Practices, effective 21 Nov 2007, will void this determination. Any future construction or alteration, including increase to heights, power, or the addition of other transmitters, requires separate notice to the FAA.This determination includes all previously filed frequencies and power for this structure.

If construction or alteration is dismantled or destroyed, you must submit notice to the FAA within 5 days after the construction or alteration is dismantled or destroyed.

This determination does include temporary construction equipment such as cranes, derricks, etc., which may be used during actual construction of the structure. However, this equipment shall not exceed the overall heights as indicated above. Equipment which has a height greater than the studied structure requires separate notice to the FAA.

This determination concerns the effect of this structure on the safe and efficient use of navigable airspace by aircraft and does not relieve the sponsor of compliance responsibilities relating to any law, ordinance, or regulation of any Federal, State, or local government body.

If we can be of further assistance, please contact our office at (817) 222-5929, or chris.shoulders@faa.gov. On any future correspondence concerning this matter, please refer to Aeronautical Study Number 2019-ASW-9454-OE.

Signature Control No: 411088062-413937695 (DNE)
Chris Shoulders
Specialist

Attachment(s)
Map(s)

Sectional Map for ASN 2019-ASW-9454-OE

SITE C

Mail Processing Center
Federal Aviation Administration
Southwest Regional Office
Obstruction Evaluation Group
10101 Hillwood Parkway
Fort Worth, TX 76177

Aeronautical Study No.
2019-ASW-9455-OE

Issued Date: 08/09/2019

Adrian Garcia
City of Fair Oaks Ranch
7286 Dietz Elkhorn
Fair Oaks Ranch, TX 78015

**** DETERMINATION OF NO HAZARD TO AIR NAVIGATION ****

The Federal Aviation Administration has conducted an aeronautical study under the provisions of 49 U.S.C., Section 44718 and if applicable Title 14 of the Code of Federal Regulations, part 77, concerning:

Structure:	Water Tank City of Fair Oaks Ranch EST - Site C
Location:	Fair Oaks Ranch, TX
Latitude:	29-46-50.60N NAD 83
Longitude:	98-37-15.60W
Heights:	1435 feet site elevation (SE) 110 feet above ground level (AGL) 1545 feet above mean sea level (AMSL)

This aeronautical study revealed that the structure does not exceed obstruction standards and would not be a hazard to air navigation provided the following condition(s), if any, is(are) met:

Based on this evaluation, marking and lighting are not necessary for aviation safety. However, if marking/ lighting are accomplished on a voluntary basis, we recommend it be installed in accordance with FAA Advisory circular 70/7460-1 L Change 2.

This determination expires on 02/09/2021 unless:

(a) the construction is started (not necessarily completed) and FAA Form 7460-2, Notice of Actual Construction or Alteration, is received by this office.
(b) extended, revised, or terminated by the issuing office.
(c) the construction is subject to the licensing authority of the Federal Communications Commission (FCC) and an application for a construction permit has been filed, as required by the FCC, within 6 months of the date of this determination. In such case, the determination expires on the date prescribed by the FCC for completion of construction, or the date the FCC denies the application.

NOTE: REQUEST FOR EXTENSION OF THE EFFECTIVE PERIOD OF THIS DETERMINATION MUST BE E-FILED AT LEAST 15 DAYS PRIOR TO THE EXPIRATION DATE. AFTER RE-EVALUATION OF CURRENT OPERATIONS IN THE AREA OF THE STRUCTURE TO DETERMINE THAT NO SIGNIFICANT AERONAUTICAL CHANGES HAVE OCCURRED, YOUR DETERMINATION MAY BE ELIGIBLE FOR ONE EXTENSION OF THE EFFECTIVE PERIOD.

This determination is based, in part, on the foregoing description which includes specific coordinates, heights, frequency(ies) and power. Any changes in coordinates, heights, and frequencies or use of greater power, except those frequencies specified in the Colo Void Clause Coalition; Antenna System Co-Location; Voluntary Best Practices, effective 21 Nov 2007, will void this determination. Any future construction or alteration, including increase to heights, power, or the addition of other transmitters, requires separate notice to the FAA.This determination includes all previously filed frequencies and power for this structure.

If construction or alteration is dismantled or destroyed, you must submit notice to the FAA within 5 days after the construction or alteration is dismantled or destroyed.

This determination does include temporary construction equipment such as cranes, derricks, etc., which may be used during actual construction of the structure. However, this equipment shall not exceed the overall heights as indicated above. Equipment which has a height greater than the studied structure requires separate notice to the FAA.

This determination concerns the effect of this structure on the safe and efficient use of navigable airspace by aircraft and does not relieve the sponsor of compliance responsibilities relating to any law, ordinance, or regulation of any Federal, State, or local government body.

If we can be of further assistance, please contact our office at (817) 222-5929, or chris.shoulders@faa.gov. On any future correspondence concerning this matter, please refer to Aeronautical Study Number 2019-ASW-9455-OE.

Signature Control No: 411088087-413937694 (DNE)
Chris Shoulders
Specialist

Attachment(s)
Map(s)

Sectional Map for ASN 2019-ASW-9455-OE

SITE D

Mail Processing Center
Federal Aviation Administration
Southwest Regional Office
Obstruction Evaluation Group
10101 Hillwood Parkway
Fort Worth, TX 76177

Aeronautical Study No.
2019-ASW-9452-OE

Issued Date: 08/09/2019

Adrian Garcia
City of Fair Oaks Ranch
7286 Dietz Elkhorn
Fair Oaks Ranch, TX 78015

**** DETERMINATION OF NO HAZARD TO AIR NAVIGATION ****

The Federal Aviation Administration has conducted an aeronautical study under the provisions of 49 U.S.C., Section 44718 and if applicable Title 14 of the Code of Federal Regulations, part 77, concerning:

Structure:	Water Tank City of Fair Oaks Ranch EST - Site D
Location:	Fair Oaks Ranch, TX
Latitude:	29-46-16.40N NAD 83
Longitude:	98-37-31.00W
Heights:	1395 feet site elevation (SE) 150 feet above ground level (AGL) 1545 feet above mean sea level (AMSL)

This aeronautical study revealed that the structure does not exceed obstruction standards and would not be a hazard to air navigation provided the following condition(s), if any, is(are) met:

Based on this evaluation, marking and lighting are not necessary for aviation safety. However, if marking/ lighting are accomplished on a voluntary basis, we recommend it be installed in accordance with FAA Advisory circular 70/7460-1 L Change 2.

This determination expires on 02/09/2021 unless:

(a) the construction is started (not necessarily completed) and FAA Form 7460-2, Notice of Actual Construction or Alteration, is received by this office.
(b) extended, revised, or terminated by the issuing office.
(c) the construction is subject to the licensing authority of the Federal Communications Commission (FCC) and an application for a construction permit has been filed, as required by the FCC, within 6 months of the date of this determination. In such case, the determination expires on the date prescribed by the FCC for completion of construction, or the date the FCC denies the application.

NOTE: REQUEST FOR EXTENSION OF THE EFFECTIVE PERIOD OF THIS DETERMINATION MUST BE E-FILED AT LEAST 15 DAYS PRIOR TO THE EXPIRATION DATE. AFTER RE-EVALUATION OF CURRENT OPERATIONS IN THE AREA OF THE STRUCTURE TO DETERMINE THAT NO SIGNIFICANT AERONAUTICAL CHANGES HAVE OCCURRED, YOUR DETERMINATION MAY BE ELIGIBLE FOR ONE EXTENSION OF THE EFFECTIVE PERIOD.

This determination is based, in part, on the foregoing description which includes specific coordinates, heights, frequency(ies) and power. Any changes in coordinates, heights, and frequencies or use of greater power, except those frequencies specified in the Colo Void Clause Coalition; Antenna System Co-Location; Voluntary Best Practices, effective 21 Nov 2007, will void this determination. Any future construction or alteration, including increase to heights, power, or the addition of other transmitters, requires separate notice to the FAA.This determination includes all previously filed frequencies and power for this structure.

If construction or alteration is dismantled or destroyed, you must submit notice to the FAA within 5 days after the construction or alteration is dismantled or destroyed.

This determination does include temporary construction equipment such as cranes, derricks, etc., which may be used during actual construction of the structure. However, this equipment shall not exceed the overall heights as indicated above. Equipment which has a height greater than the studied structure requires separate notice to the FAA.

This determination concerns the effect of this structure on the safe and efficient use of navigable airspace by aircraft and does not relieve the sponsor of compliance responsibilities relating to any law, ordinance, or regulation of any Federal, State, or local government body.

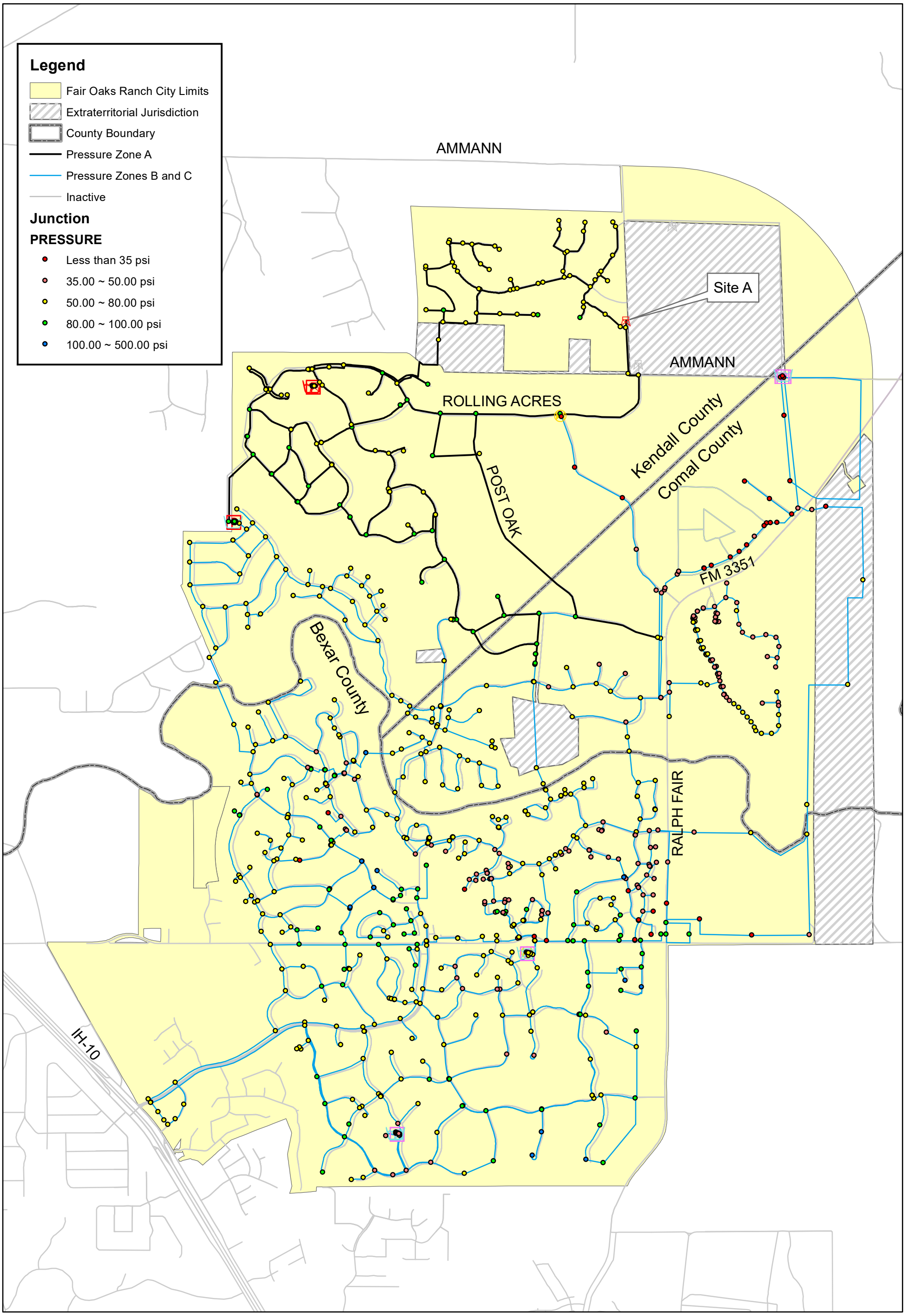
If we can be of further assistance, please contact our office at (817) 222-5929, or chris.shoulders@faa.gov. On any future correspondence concerning this matter, please refer to Aeronautical Study Number 2019-ASW-9452-OE.

Signature Control No: 411088024-413937692 (DNE)
Chris Shoulders
Specialist

Attachment(s)
Map(s)

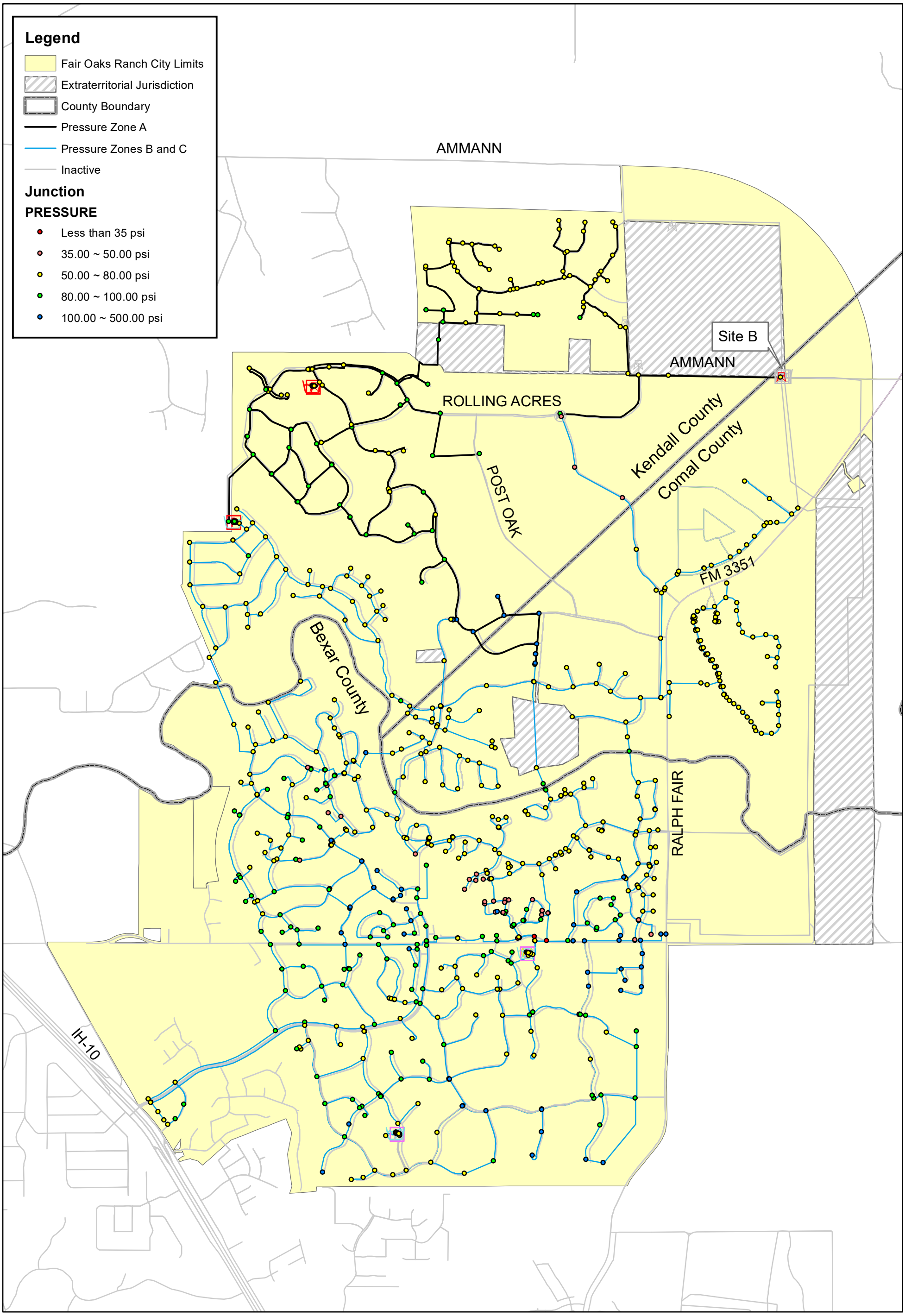
Sectional Map for ASN 2019-ASW-9452-OE

APPENDIX F: HYDRAULIC MODELING DATA



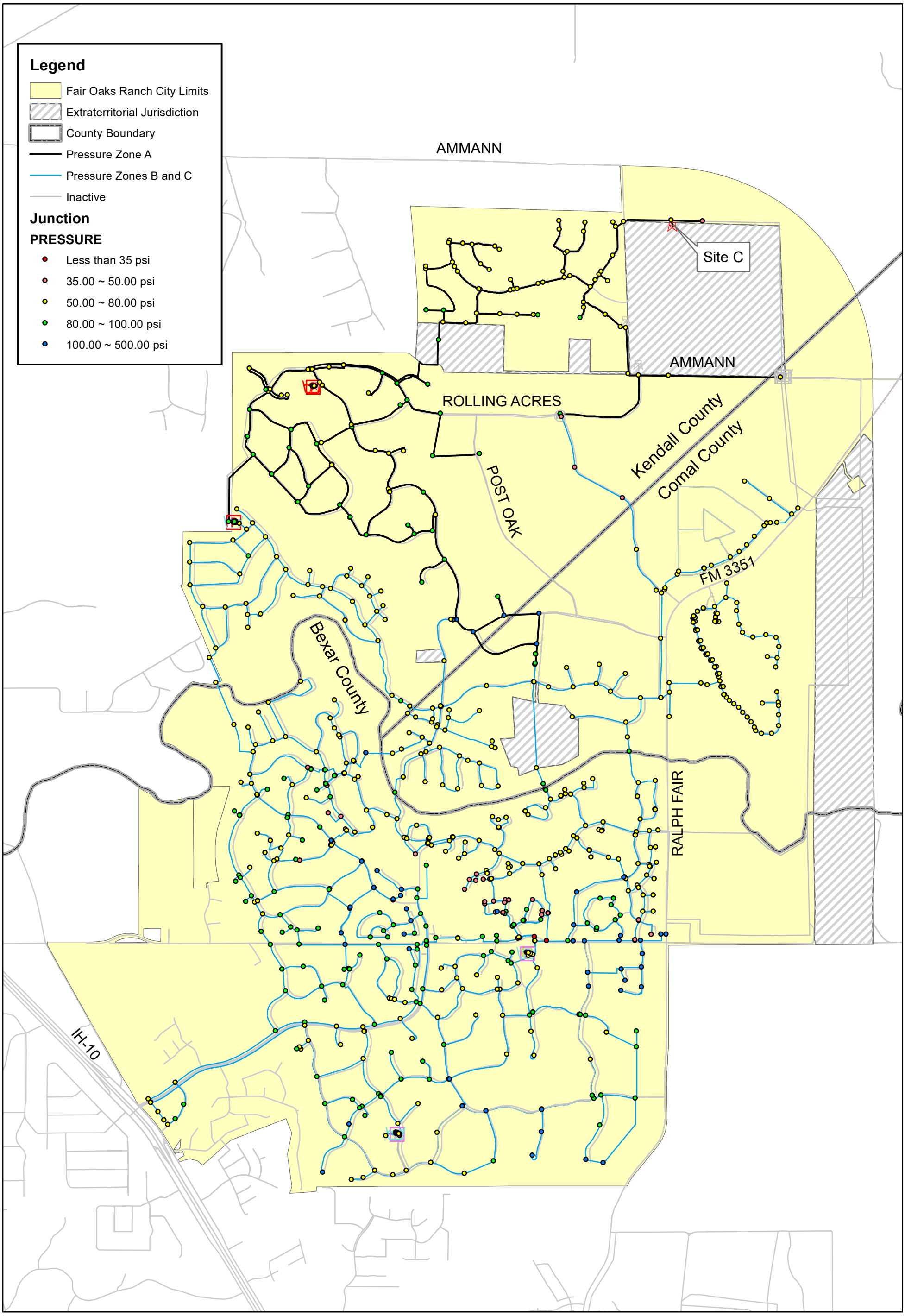
SHEET **EX 1**	DATE: 9/26/2019 DESIGN: KHA DRAWN: KHA CHECKED: KHA KHA NO.: 068686901	2023 Pipe Network Junction Pressures Site A Peak Hour	City of Fair Oaks Ranch Elevated Storage Tank Project	1 inch = 2,250 feet	Kimley»Horn No. / Revision / By / Date

Document Path: K:\SNA_Utilities\068686901\DESIGN\RESEARCH\FOR\Model\To_KimleyHorn\FAO17329_InfoWater_Model.mxd



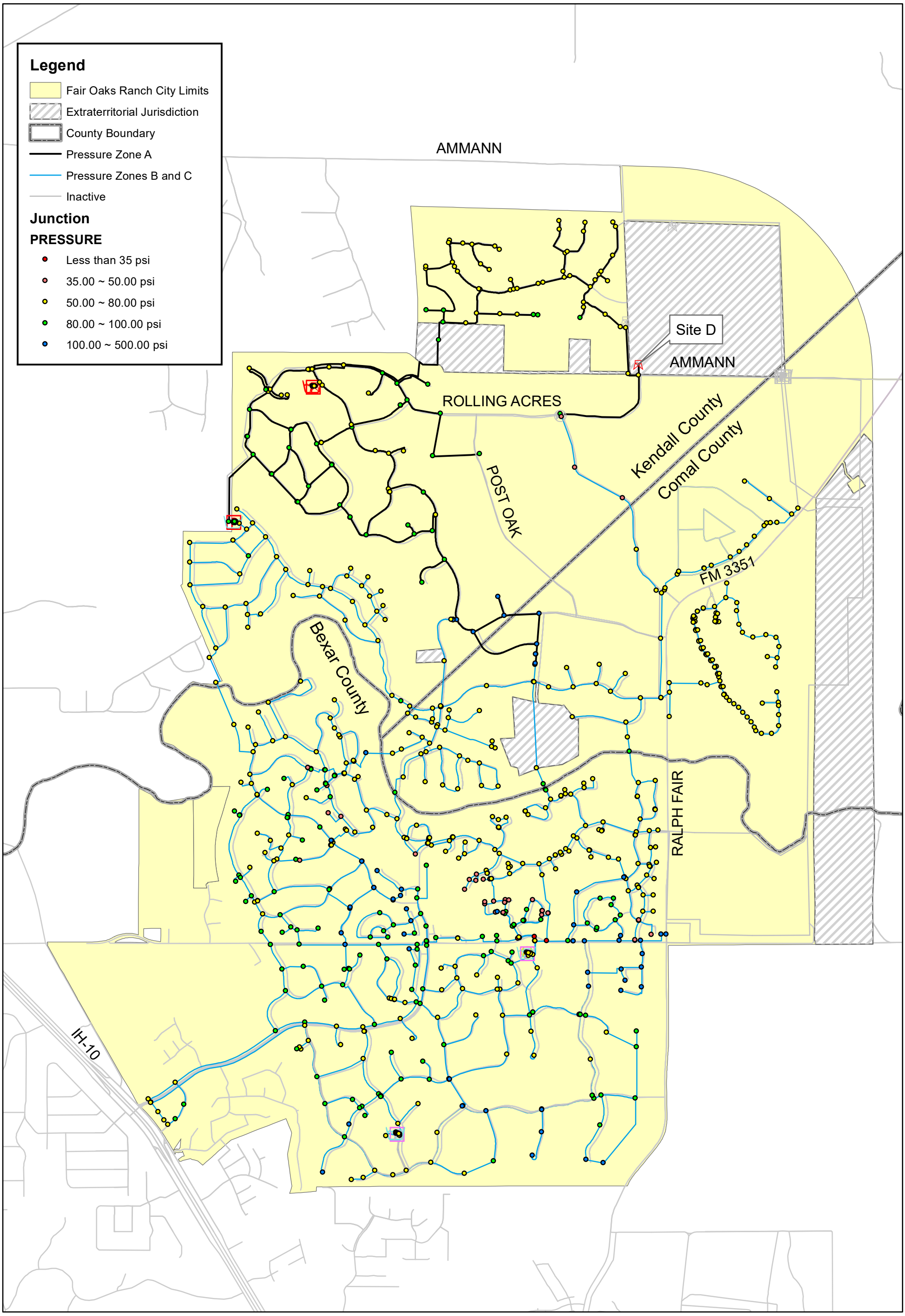
SHEET **EX 2**	DATE: 9/13/2019 DESIGN: KHA DRAWN: KHA CHECKED: KHA KHA NO.: 068686901	2023 Pipe Network Junction Pressures Site B Peak Hour	City of Fair Oaks Ranch Elevated Storage Tank Project	1 inch = 2,250 feet	Kimley»Horn No. Revision By Date

Document Path: K:\SNA_Utilities\068686901\DESIGN\RESEARCH\FOR\Model\To_KimleyHorn\FAO17329_InfoWater_Model.mxd



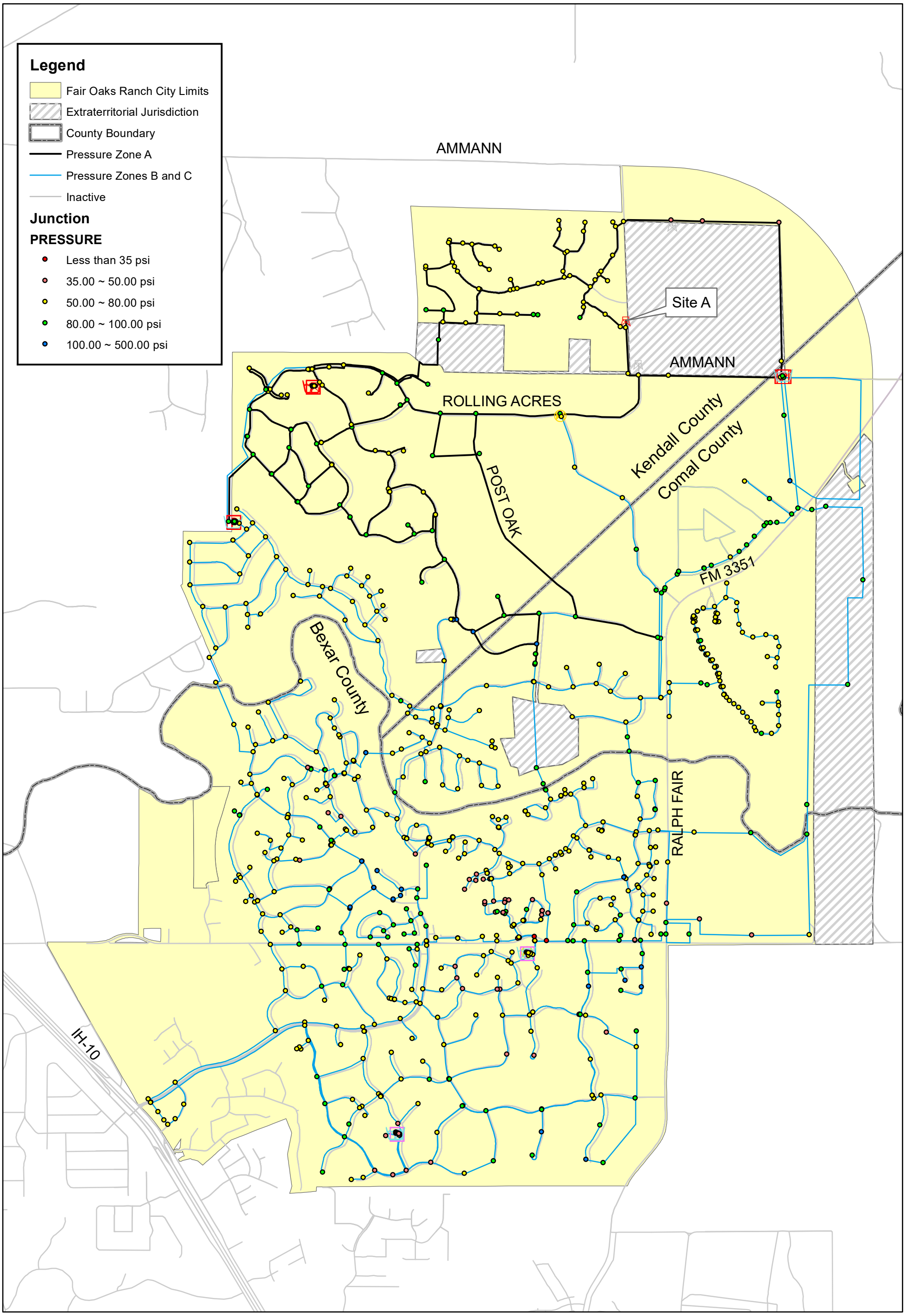
SHEET **EX 3**	DATE: 9/26/2019 DESIGN: KHA DRAWN: KHA CHECKED: KHA KHA NO.: 068686901	2023 Pipe Network Junction Pressures Site C Peak Hour	City of Fair Oaks Ranch Elevated Storage Tank Project	1 inch = 2,250 feet	Kimley»Horn No. / Revision / By / Date

Document Path: K:\SNA_Utilities\068686901\DESIGN\RESEARCH\FOR\Model\To_KimleyHorn\FAO17329_InfoWater_Model.mxd



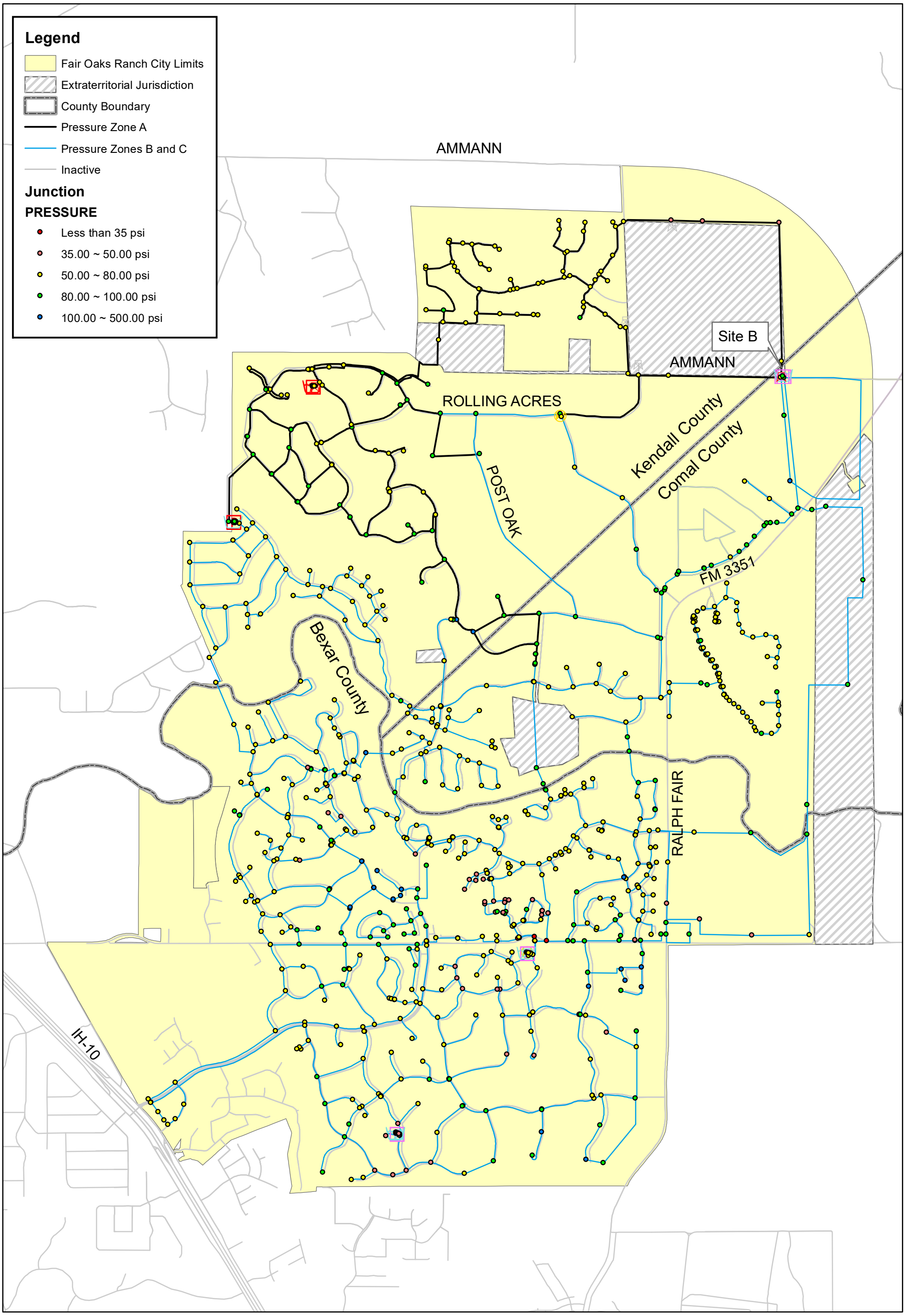
SHEET **EX 4**	DATE: 9/26/2019 DESIGN: KHA DRAWN: KHA CHECKED: KHA KHA NO.: 068686901	2023 Pipe Network Junction Pressures Site D Peak Hour	City of Fair Oaks Ranch Elevated Storage Tank Project	1 inch = 2,250 feet	Kimley»Horn No. / Revision / By / Date

Document Path: K:\SNA_Utilities\068686901\DESIGN\RESEARCH\FOR\Model\To_KimleyHorn\FAO17329_InfoWater_Model.mxd



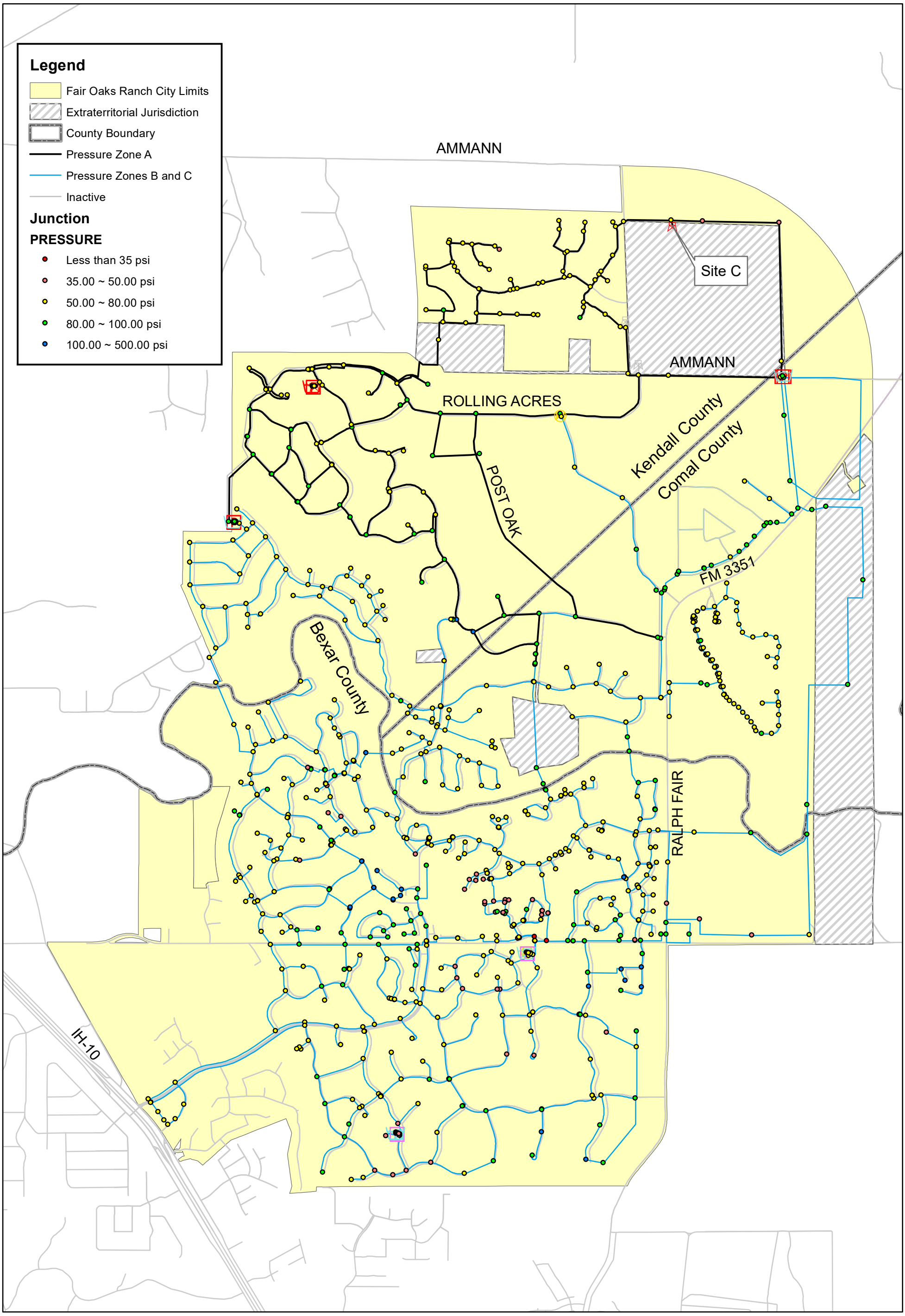
SHEET **EX 5**	DATE: 9/26/2019 DESIGN: KHA DRAWN: KHA CHECKED: KHA KHA NO.: 068686901	2040 Pipe Network Junction Pressures Site A Peak Hour	City of Fair Oaks Ranch Elevated Storage Tank Project	1 inch = 2,250 feet	Kimley»Horn No. / Revision / By / Date

Document Path: K:\SNA_Utilities\068686901\DESIGN\RESEARCH\FOR\Model\To_KimleyHorn\FAO17329_InfoWater_Model.mxd



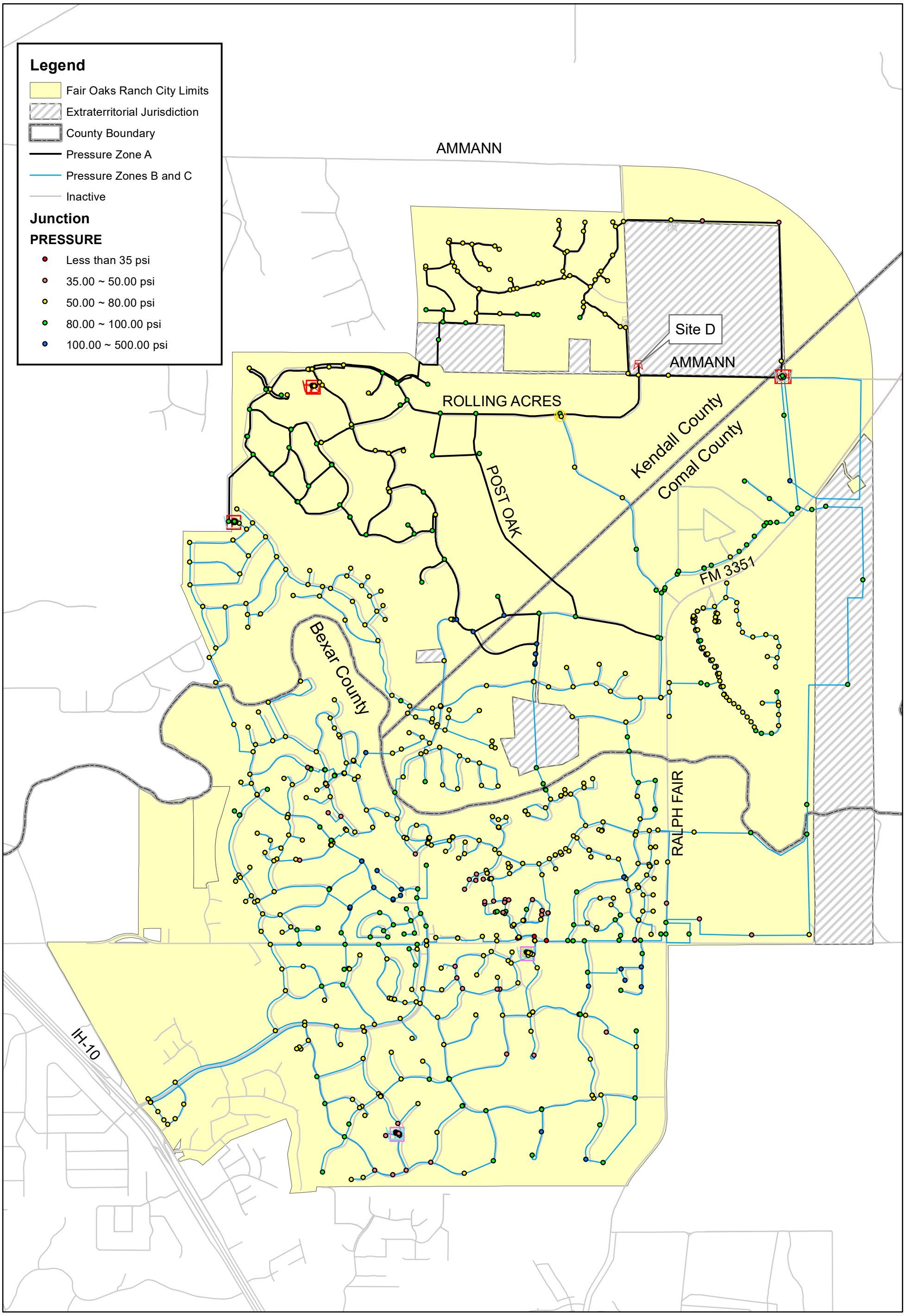
SHEET **EX 6**	DATE: 9/13/2019 DESIGN: KHA DRAWN: KHA CHECKED: KHA KHA NO.: 068686901	2040 Pipe Network Junction Pressures Site B Peak Hour	City of Fair Oaks Ranch Elevated Storage Tank Project	1 inch = 2,250 feet	Kimley»Horn No. / Revision / By / Date

Document Path: K:\SNA_Utilities\068686901\DESIGN\RESEARCH\FOR\Model\To_KimleyHorn\FAO17329_InfoWater_Model.mxd



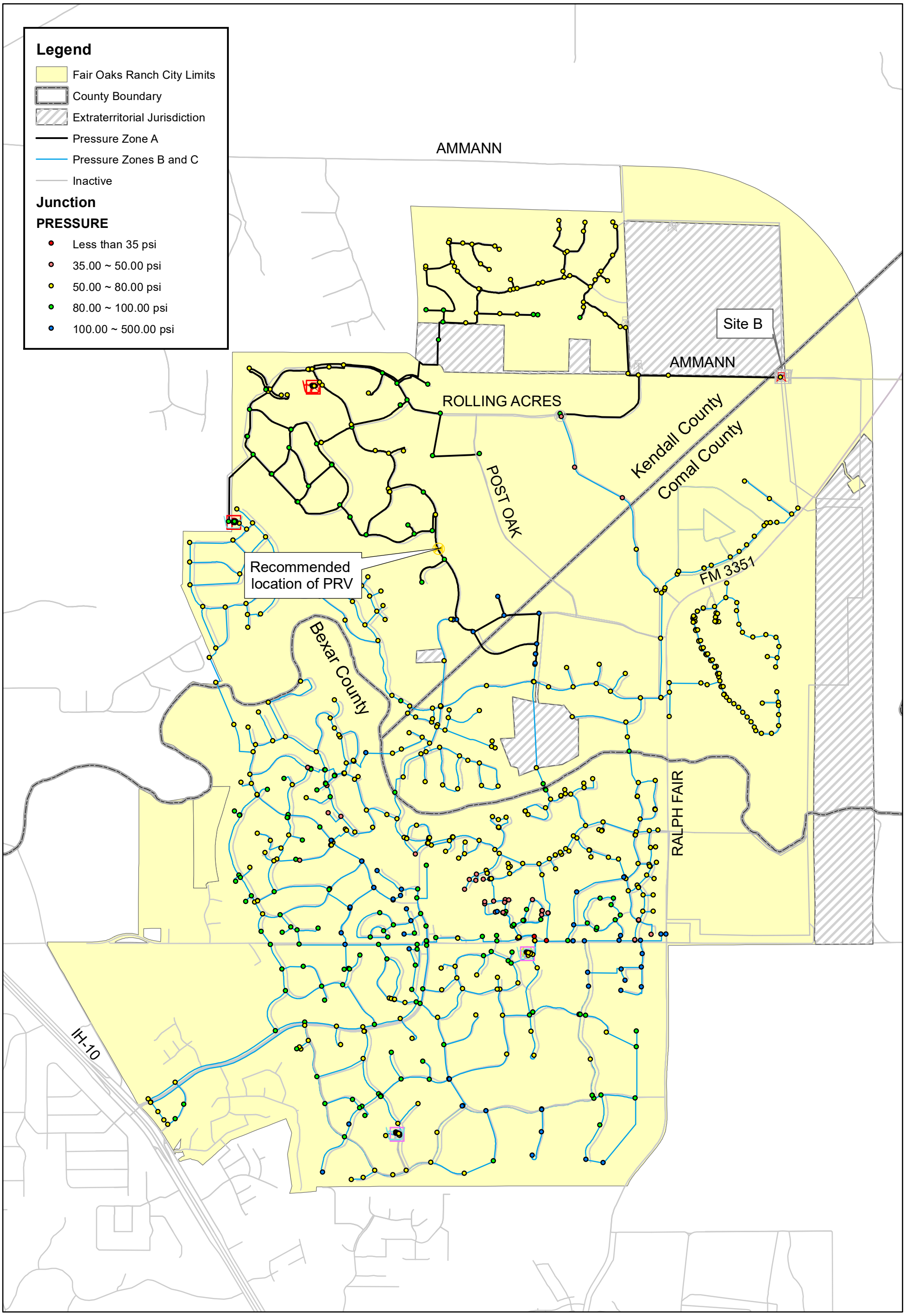
SHEET **EX 7**	DATE: 9/26/2019 DESIGN: KHA DRAWN: KHA CHECKED: KHA KHA NO.: 068686901	2040 Pipe Network Junction Pressures Site C Peak Hour	City of Fair Oaks Ranch Elevated Storage Tank Project	1 inch = 2,250 feet	Kimley»Horn No. Revision By Date

Document Path: K:\SNA_Utilities\068686901\DESIGN\RESEARCH\FOR\Model\To_KimleyHorn\FAO17329_InfoWater_Model.mxd



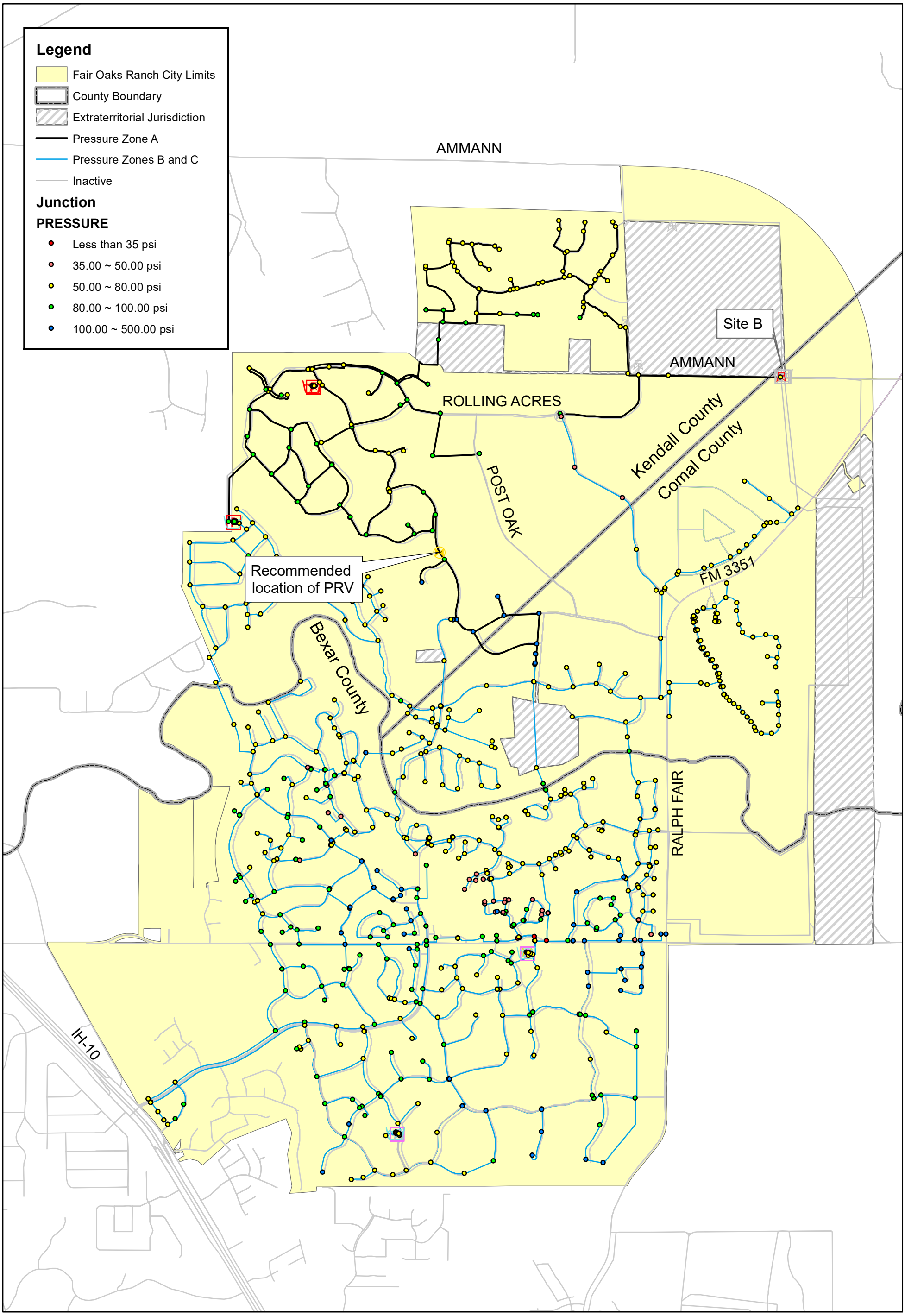
SHEET **EX 8**	DATE: 9/26/2019 DESIGN: KHA DRAWN: KHA CHECKED: KHA KHA NO.: 068686901	2040 Pipe Network Junction Pressures Site D Peak Hour	City of Fair Oaks Ranch Elevated Storage Tank Project	1 inch = 2,250 feet	Kimley»Horn No. Revision By Date

Document Path: K:\SNA_Utilities\068686901\DESIGN\RESEARCH\FOR\Model\To_KimleyHorn\FAO17329_InfoWater_Model.mxd



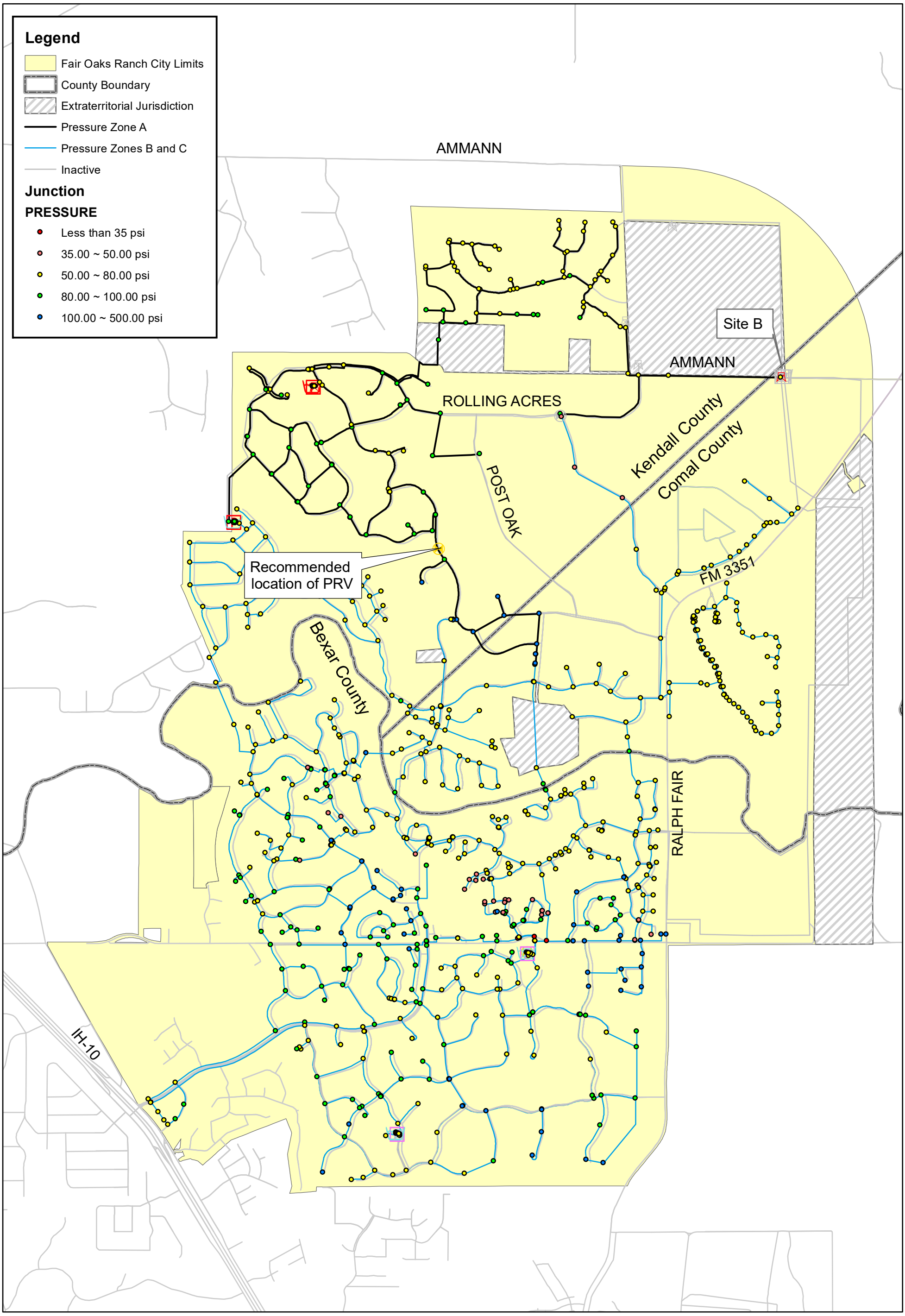
SHEET **EX 9**	DATE: 9/12/2019 DESIGN: KHA DRAWN: KHA CHECKED: KHA KHA NO.: 068686901	2023 Pipe Network Junction Pressures Site B Bottom of Tank Elevation: 1500 feet	City of Fair Oaks Ranch Elevated Storage Tank Project	1 inch = 2,250 feet	Kimley»Horn No. Revision By Date

Document Path: K:\SNA_Utilities\068686901\DESIGN\RESEARCH\FOR\Model\To_KimleyHorn\FAO17329_InfoWater_Model.mxd



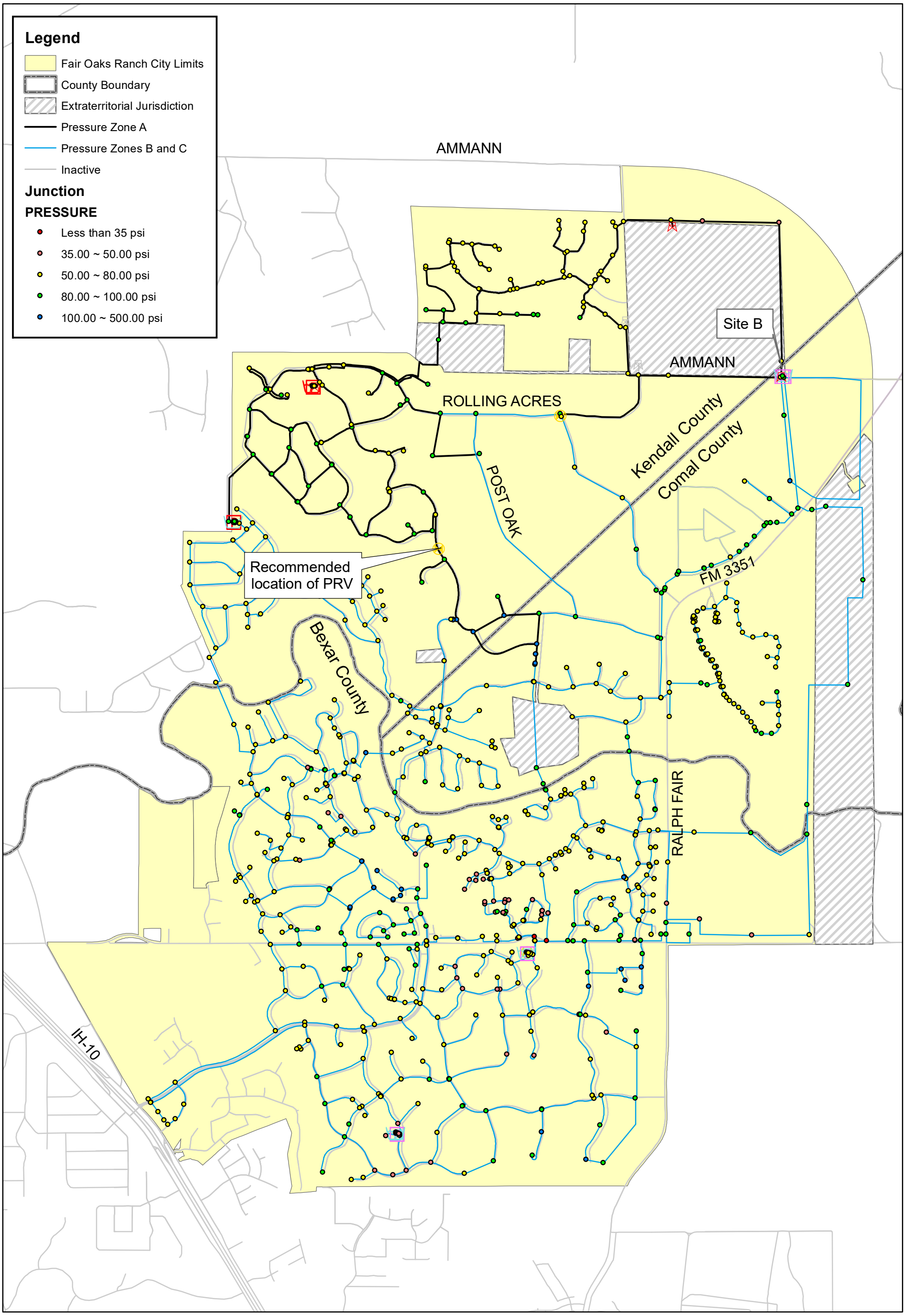
SHEET **EX 10**	DATE: 9/12/2019 DESIGN: KHA DRAWN: KHA CHECKED: KHA KHA NO.: 068686901	2023 Pipe Network Junction Pressures Site B Bottom of Tank Elevation: 1505 feet	City of Fair Oaks Ranch Elevated Storage Tank Project	1 inch = 2,250 feet	Kimley»Horn No. Revision By Date

Document Path: K:\SNA_Utilities\068686901\DESIGN\RESEARCH\FOR\Model\To_KimleyHorn\FAO17329_InfoWater_Model.mxd



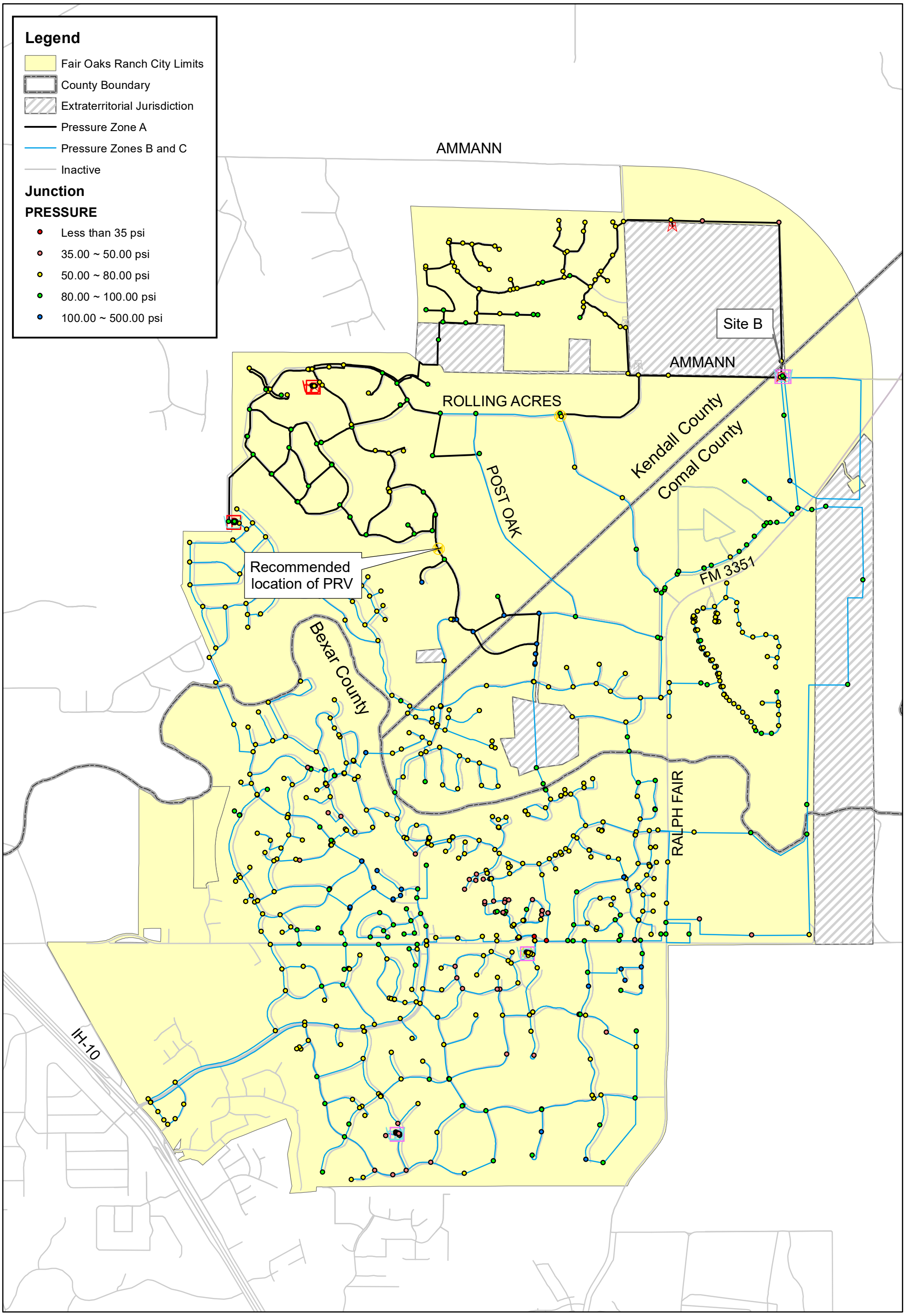
SHEET **EX 11**	DATE: 9/12/2019 DESIGN: KHA DRAWN: KHA CHECKED: KHA KHA NO.: 068686901	2023 Pipe Network Junction Pressures Site B Bottom of Tank Elevation: 1510 feet	City of Fair Oaks Ranch Elevated Storage Tank Project	1 inch = 2,250 feet	Kimley»Horn No. Revision By Date

Document Path: K:\SNA_Utilities\068686901\DESIGN\RESEARCH\FOR\Model\To_KimleyHorn\FAO17329_InfoWater_Model.mxd



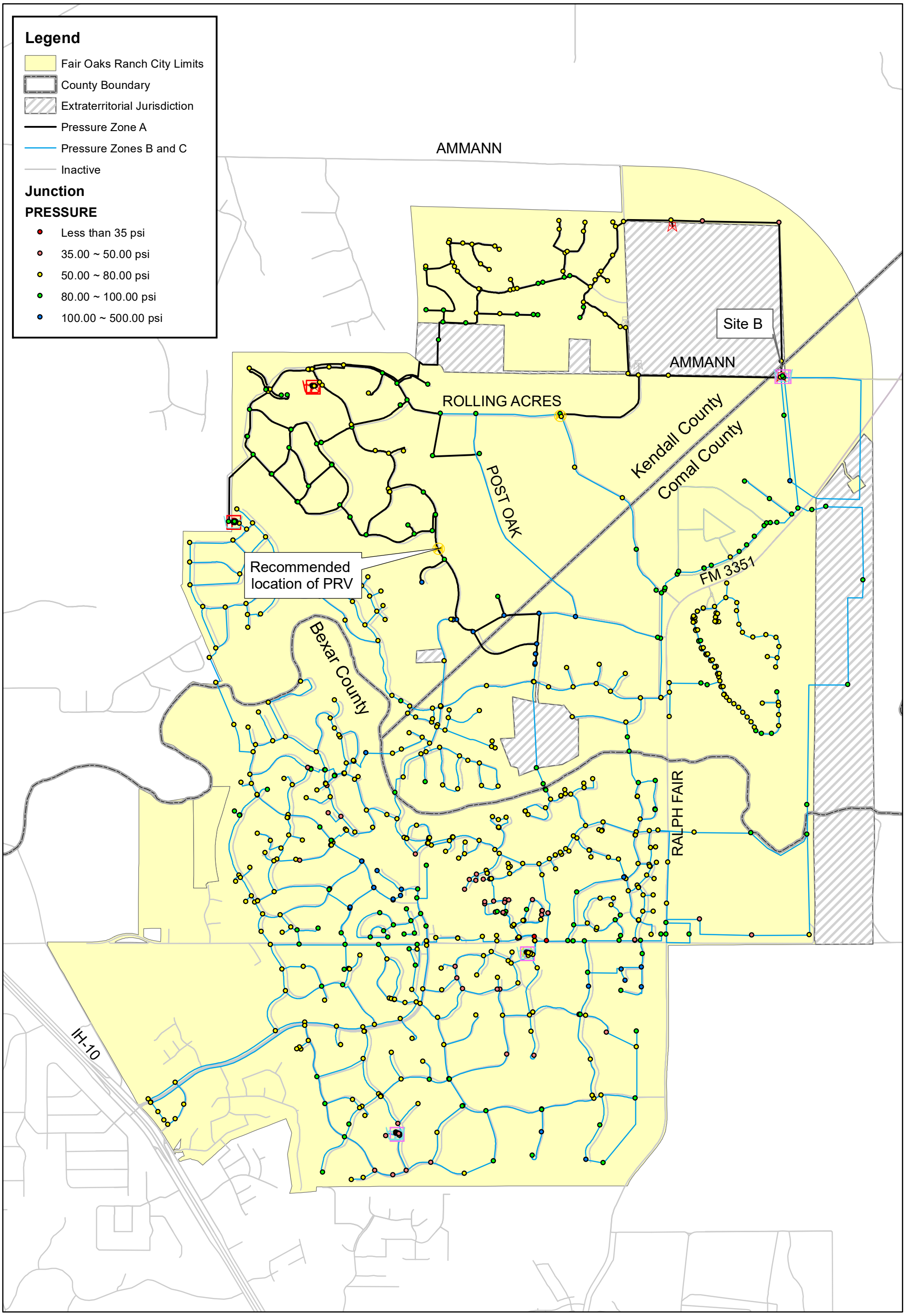
SHEET **EX 12**	DATE: 9/12/2019 DESIGN: KHA DRAWN: KHA CHECKED: KHA KHA NO.: 068686901	2040 Pipe Network Junction Pressures Site B Bottom of Tank Elevation: 1500 feet	City of Fair Oaks Ranch Elevated Storage Tank Project	1 inch = 2,250 feet	Kimley»Horn No. Revision By Date

Document Path: K:\SNA_Utilities\068686901\DESIGN\RESEARCH\FOR\Model\To_KimleyHorn\FAO17329_InfoWater_Model.mxd



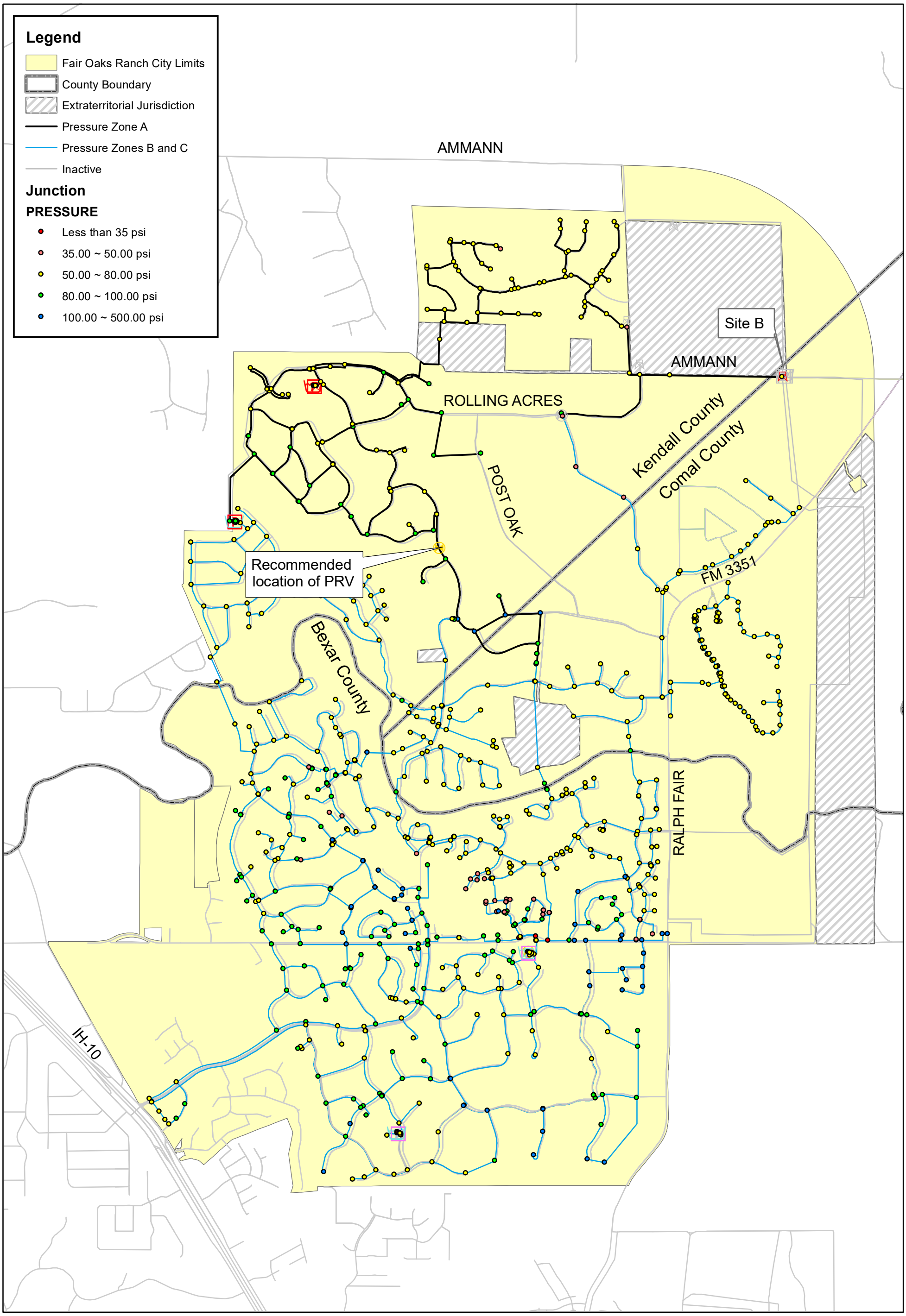
SHEET **EX 13**	DATE: 9/12/2019 DESIGN: KHA DRAWN: KHA CHECKED: KHA KHA NO.: 068686901	2040 Pipe Network Junction Pressures Site B Bottom of Tank Elevation: 1505 feet	City of Fair Oaks Ranch Elevated Storage Tank Project	1 inch = 2,250 feet	Kimley»Horn No. Revision By Date

Document Path: K:\SNA_Utilities\068686901\DESIGN\RESEARCH\FOR\Model\To_KimleyHorn\FAO17329_InfoWater_Model.mxd



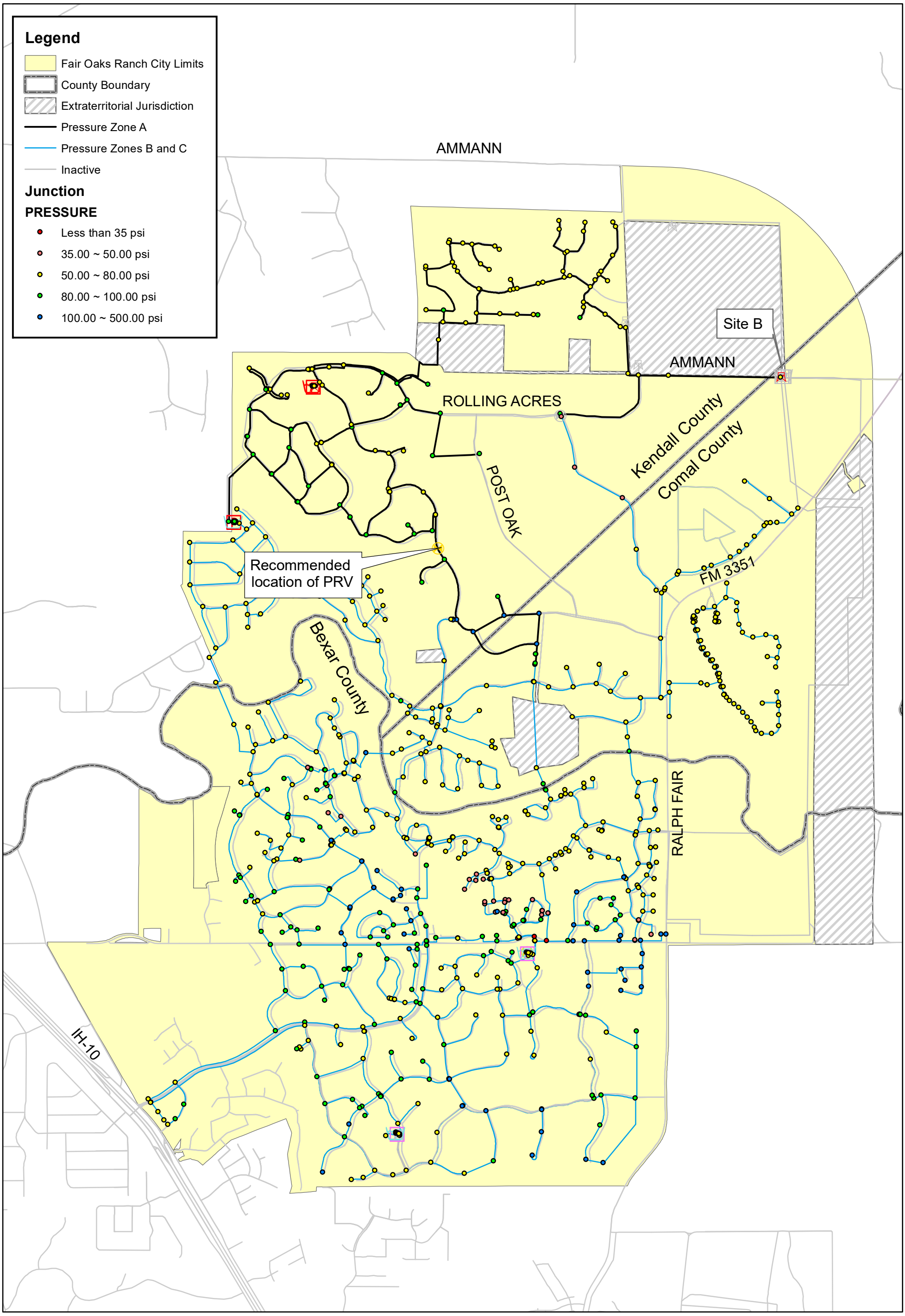
SHEET **EX 14**	DATE: 9/12/2019 DESIGN: KHA DRAWN: KHA CHECKED: KHA KHA NO.: 068686901	2040 Pipe Network Junction Pressures Site B Bottom of Tank Elevation: 1510 feet	City of Fair Oaks Ranch Elevated Storage Tank Project	1 inch = 2,250 feet	Kimley»Horn No. Revision By Date

Document Path: K:\SNA_Utilities\068686901\DESIGN\RESEARCH\FOR\Model\To_KimleyHorn\FAO17329_InfoWater_Model.mxd



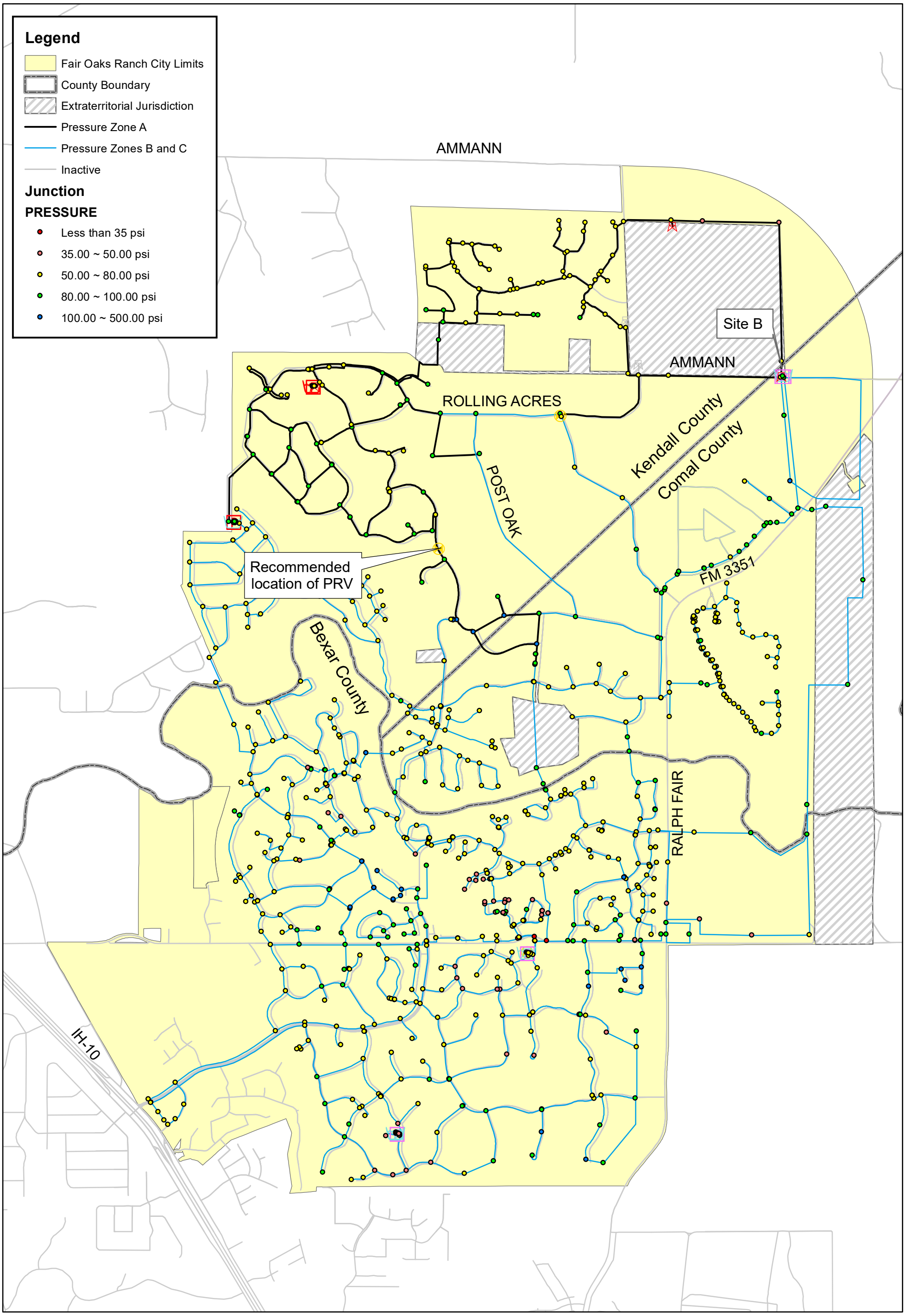
SHEET **EX 15**	DATE: 9/12/2019 DESIGN: KHA DRAWN: KHA CHECKED: KHA KHA NO.: 068686901	2023 Pipe Network Junction Pressures Site B Bottom of Tank Elevation: 1490 feet	City of Fair Oaks Ranch Elevated Storage Tank Project	1 inch = 2,250 feet	Kimley»Horn No. Revision By Date

Document Path: K:\SNA_Utilities\068686901\DESIGN\RESEARCH\FOR\Model\To_KimleyHorn\FAO17329_InfoWater_Model.mxd



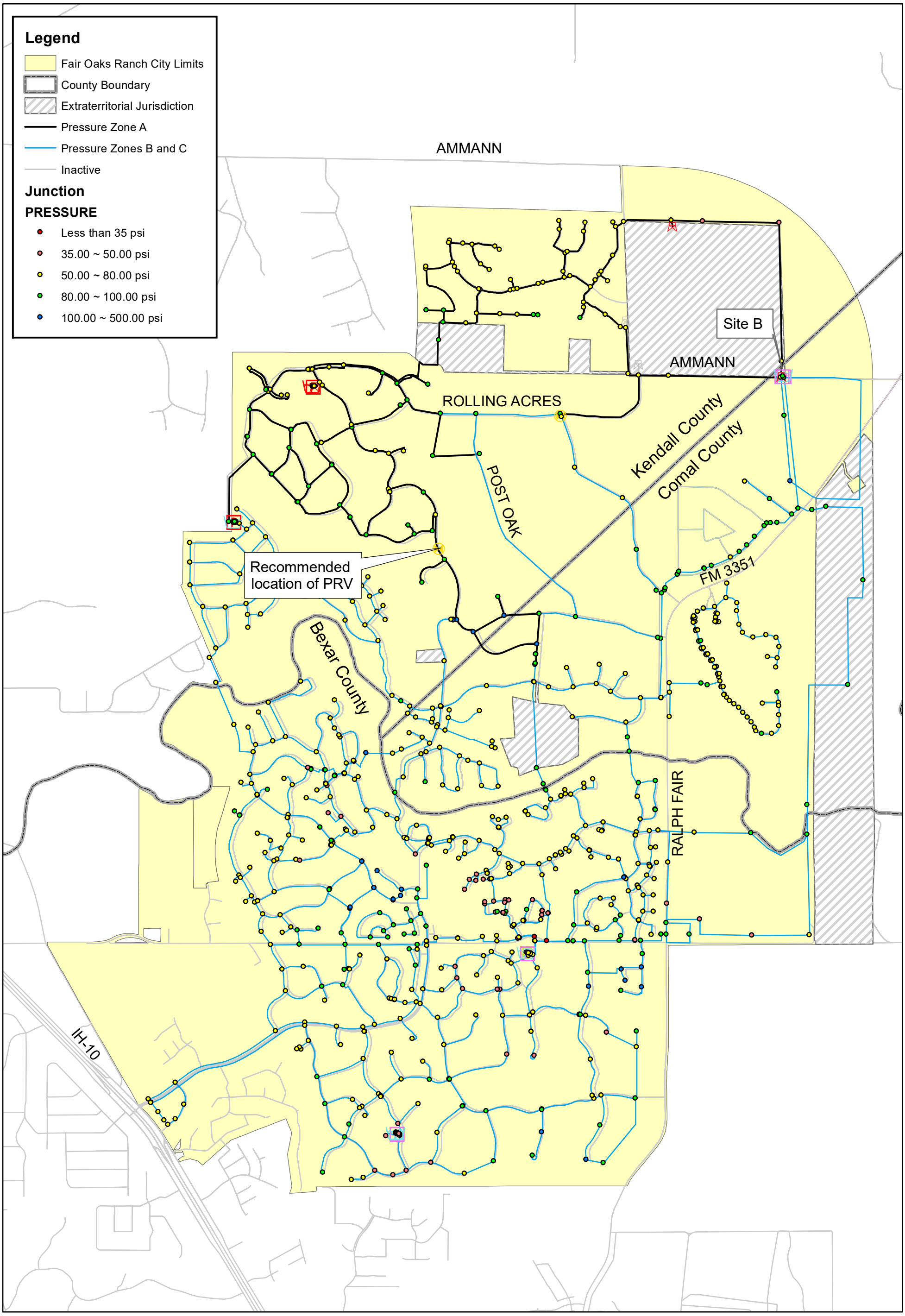
SHEET **EX 16**	DATE: 9/12/2019 DESIGN: KHA DRAWN: KHA CHECKED: KHA KHA NO.: 068686901	2023 Pipe Network Junction Pressures Site B Bottom of Tank Elevation: 1495 feet	City of Fair Oaks Ranch Elevated Storage Tank Project	1 inch = 2,250 feet	Kimley»Horn No. Revision By Date

Document Path: K:\SNA_Utilities\068686901\DESIGN\RESEARCH\FOR\Model\To_KimleyHorn\FAO17329_InfoWater_Model.mxd



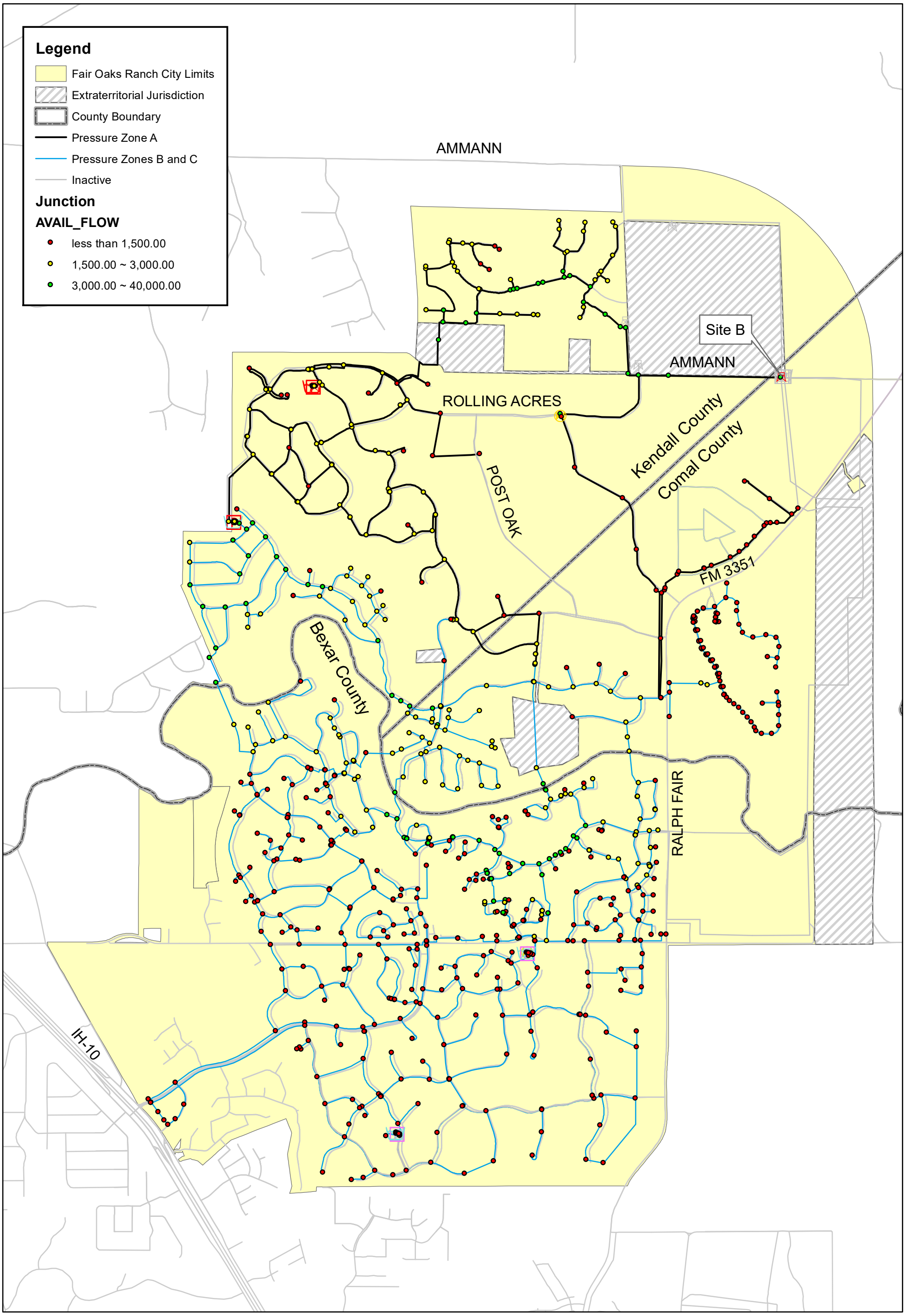
SHEET **EX 17**	DATE: 9/12/2019 DESIGN: KHA DRAWN: KHA CHECKED: KHA KHA NO.: 068686901	2040 Pipe Network Junction Pressures Site B Bottom of Tank Elevation: 1490 feet	City of Fair Oaks Ranch Elevated Storage Tank Project	1 inch = 2,250 feet	Kimley»Horn No. / Revision / By / Date

Document Path: K:\SNA_Utilities\068686901\DESIGN\RESEARCH\FOR\Model\To_KimleyHorn\FAO17329_InfoWater_Model.mxd



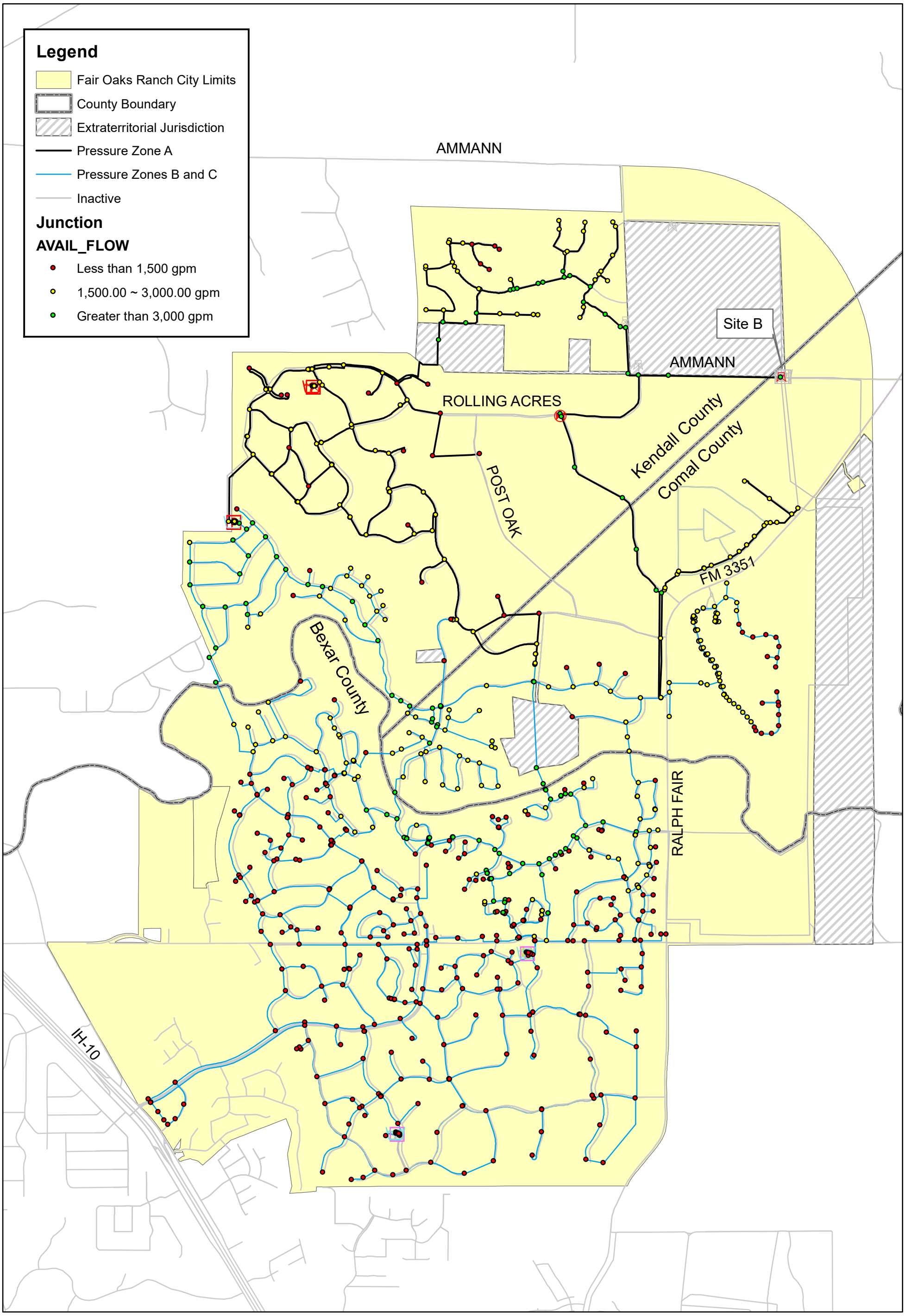
SHEET **EX 18**	DATE: 9/12/2019 DESIGN: KHA DRAWN: KHA CHECKED: KHA KHA NO.: 068686901	2040 Pipe Network Junction Pressures Site B Bottom of Tank Elevation: 1495 feet	City of Fair Oaks Ranch Elevated Storage Tank Project	1 inch = 2,250 feet	Kimley»Horn No. Revision By Date

Document Path: K:\SNA_Utilities\068686901\DESIGN\RESEARCH\FOR\Model\To_KimleyHorn\FAO17329_InfoWater_Model.mxd



SHEET **EX 19**	DATE: 9/26/2019 DESIGN: KHA DRAWN: KHA CHECKED: KHA KHA NO.: 068686901	2023 Pipe Network Available Fire Flow Site B PRV Closed	City of Fair Oaks Ranch Elevated Storage Tank Project	1 inch = 2,250 feet	Kimley»Horn No. / Revision / By / Date

Document Path: K:\SNA_Utilities\068686901\DESIGN\RESEARCH\FOR\Model\To_KimleyHorn\FAO17329_InfoWater_Model.mxd



SHEET **EX 20**	DATE: 9/12/2019 DESIGN: KHA DRAWN: KHA CHECKED: KHA KHA NO.: 068686901	2023 Pipe Network Available Fire Flow Site B PRV Setting = 62	City of Fair Oaks Ranch Elevated Storage Tank Project	1 inch = 2,250 feet	Kimley»Horn No. / Revision / By / Date

Document Path: K:\SNA_Utilities\068686901\DESIGN\RESEARCH\FOR\Model\To_KimleyHorn\FAO17329_InfoWater_Model.mxd

Legend

- Fair Oaks Ranch City Limits
- County Boundary
- Extraterritorial Jurisdiction
- Pressure Zone A
- Pressure Zones B and C
- Inactive

Junction

AVAIL_FLOW

- Less than 1,500 gpm
- 1,500.00 ~ 3,000.00 gpm
- Greater than 3,000 gpm

AMMANN

Site B

AMMANN

ROLLING ACRES

POST OAK

Kendall County

Comal County

FM 3351

Bexar County

RALPH FAIR

IH-10

SHEET **EX 21**	DATE: 9/12/2019 DESIGN: KHA DRAWN: KHA CHECKED: KHA KHA NO.: 068686901	2040 Pipe Network Available Fire Flow Site B PRV Closed	City of Fair Oaks Ranch Elevated Storage Tank Project	1 inch = 2,250 feet	Kimley»Horn No. Revision By Date

Document Path: K:\SNA_Utilities\068686901\DESIGN\RESEARCH\FOR\Model\To_KimleyHorn\FAO17329_InfoWater_Model.mxd

Legend

- Fair Oaks Ranch City Limits
- County Boundary
- Extraterritorial Jurisdiction
- Pressure Zone A
- Pressure Zones B and C
- Inactive

Junction

AVAIL_FLOW

- Less than 1,500 gpm
- 1,500.00 ~ 3,000.00 gpm
- Greater than 3,000 gpm

AMMANN

Site B

AMMANN

ROLLING ACRES

POST OAK

Kendall County

Comal County

FM 3351

Bexar County

RALPH FAIR

IH-10

SHEET **EX 22**	DATE: 9/12/2019 DESIGN: KHA DRAWN: KHA CHECKED: KHA KHA NO.: 068686901	2040 Pipe Network Available Fire Flow Site B PRV Setting = 62	City of Fair Oaks Ranch Elevated Storage Tank Project	1 inch = 2,250 feet	Kimley»Horn No. Revision By Date

Document Path: K:\SNA_Utilities\068686901\DESIGN\RESEARCH\FOR\Model\To_KimleyHorn\FAO17329_InfoWater_Model.mxd

Zone A 2023 Junction Pressures at Bottom of Domestic Storage - Site A

ID	Demand (gpm)	Elevation (ft)	Head (ft)	Pressure (psi)
1704	0	1,374.26	1,397.99	10.28
1710	0	1,373.99	1,397.97	10.39
1706	0	1,373.88	1,397.99	10.45
1708	0	1,373.51	1,397.99	10.61
J122	0.00	1,430.00	1,516.18	37.34
J28	0.00	1,427.87	1,516.15	38.25
1476	12.48	1,395.49	1,517.86	53.03
1816	61.3	1,394.50	1,517.97	53.5
J124	0	1,394.50	1,517.99	53.51
1814	0	1,391.17	1,517.97	54.94
1474	13.04	1,390.00	1,517.87	55.4
1498	4.53	1,382.46	1,517.97	58.71
1812	13.97	1,380.00	1,517.97	59.78
1470	4.4	1,376.53	1,517.88	61.25
1468	8.92	1,375.18	1,517.88	61.83
1204	1.82	1,377.46	1,520.36	61.92
878	6.86	1,377.11	1,520.30	62.05
1466	5.76	1,374.44	1,517.89	62.16
1472	4.49	1,374.25	1,517.88	62.23
1260	0	1,376.56	1,520.96	62.57
1714	0	1,376.39	1,520.99	62.65
1712	0	1,376.22	1,521.01	62.74
1434	0.55	1,371.80	1,519.70	64.08
1462	17.24	1,369.96	1,517.92	64.11
882	1.17	1,371.34	1,519.70	64.28
1460	0.95	1,368.81	1,517.92	64.61
884	9.22	1,370.00	1,519.31	64.7
1504	22.33	1,368.53	1,517.87	64.71
1464	4.89	1,368.41	1,517.92	64.78
610	1.76	1,368.94	1,519.45	65.22
1496	8.81	1,365.96	1,517.96	65.86
900	0.4	1,367.38	1,519.68	65.99
1356	5.04	1,367.27	1,519.68	66.04
870	2.59	1,366.82	1,519.46	66.14
1452	6.66	1,365.32	1,518.00	66.16
898	0.27	1,366.94	1,519.68	66.18
408	4.6	1,366.42	1,519.24	66.21
1442	3.93	1,363.09	1,518.05	67.15
1444	4.75	1,362.57	1,518.05	67.37
1522	5.25	1,361.89	1,517.91	67.6
940	4.03	1,362.55	1,519.05	67.81
880	2.89	1,362.50	1,519.61	68.08
942	2.73	1,361.81	1,519.05	68.13
1446	6.54	1,359.51	1,518.01	68.68
1510	4.78	1,358.89	1,517.85	68.88

Junction Pressures

< 35 psi

35-50 psi

50-80 psi

80-100 psi

> 100 psi

Zone A 2023 Junction Pressures at Bottom of Domestic Storage - Site A

ID	Demand (gpm)	Elevation (ft)	Head (ft)	Pressure (psi)
1508	31.43	1,358.50	1,517.86	69.05
68	6.35	1,360.00	1,519.57	69.14
1454	7.62	1,358.53	1,518.10	69.14
1802	3.69	1,357.95	1,518.00	69.35
1458	1.9	1,356.87	1,518.01	69.82
702	7.79	1,357.85	1,519.06	69.85
1500	1.96	1,355.65	1,517.91	70.31
1450	0.75	1,355.64	1,518.00	70.35
1502	1.45	1,355.07	1,517.89	70.55
1478	3.24	1,354.74	1,518.00	70.74
1524	9.63	1,354.07	1,517.90	70.99
1448	3.52	1,354.15	1,518.01	71
1526	9.73	1,353.94	1,517.90	71.04
1520	6.6	1,353.42	1,517.91	71.27
1506	3.86	1,352.90	1,517.88	71.49
1512	3.75	1,352.48	1,517.85	71.66
1490	4.68	1,350.25	1,517.95	72.66
1488	3.85	1,349.40	1,517.95	73.03
1440	6.13	1,348.72	1,518.12	73.4
714	5.87	1,349.85	1,519.54	73.53
1514	3.45	1,347.49	1,517.94	73.86
872	10.21	1,348.43	1,519.35	74.06
1516	6	1,345.95	1,517.91	74.51
1798	6.73	1,345.89	1,518.05	74.6
1518	4.96	1,345.28	1,517.91	74.8
1492	2.53	1,345.22	1,517.95	74.84
406	8.21	1,345.40	1,519.06	75.25
1792	6.21	1,344.32	1,518.05	75.28
1480	6.41	1,344.14	1,517.98	75.32
876	6.1	1,343.52	1,518.54	75.84
1484	3.68	1,342.46	1,517.95	76.04
598	7.96	1,341.50	1,517.78	76.39
920	4.78	1,340.00	1,519.18	77.64
922	2.52	1,340.00	1,519.18	77.64
1482	6.63	1,338.32	1,517.97	77.84
1486	4.11	1,337.49	1,517.95	78.19
948	1.47	1,337.36	1,518.91	78.67
1456	6.52	1,335.76	1,518.10	79.01
730	1.75	1,336.34	1,518.91	79.1
950	5.31	1,336.24	1,518.91	79.15
1438	5.4	1,334.11	1,518.19	79.76
1262	3.25	1,334.83	1,519.44	79.99
1800	2.32	1,331.79	1,518.28	80.81
930	5.28	1,331.87	1,519.03	81.09
604	3.29	1,331.67	1,519.03	81.18

Zone A 2023 Junction Pressures at Bottom of Domestic Storage - Site A

ID	Demand (gpm)	Elevation (ft)	Head (ft)	Pressure (psi)
934	4.34	1,331.62	1,519.03	81.2
1528	4.38	1,330.39	1,518.09	81.33
1436	3.51	1,330.00	1,518.44	81.65
1796	6.72	1,329.31	1,518.23	81.86
1338	9.95	1,330.00	1,518.96	81.88
602	5.09	1,329.66	1,519.14	82.1
874	1.61	1,329.63	1,519.45	82.25
902	0.04	1,329.21	1,519.45	82.43
904	1.98	1,328.81	1,519.45	82.61
1530	9.65	1,327.36	1,518.09	82.64
612	10.45	1,327.24	1,519.37	83.25
470	5.32	1,326.72	1,519.41	83.49
284	8.32	1,326.11	1,518.81	83.5
1494	10.73	1,325.22	1,517.94	83.51
732	5.17	1,325.91	1,519.13	83.72
1794	7.55	1,325.01	1,518.24	83.73
912	0.1	1,325.73	1,519.13	83.8
914	2.06	1,325.63	1,519.13	83.84
910	3.56	1,325.53	1,519.13	83.89
66	5.64	1,324.64	1,519.54	84.45
1090	0	1,322.47	1,519.37	85.32
286	9.28	1,318.03	1,518.91	87.04
932	12.91	1,316.98	1,518.97	87.52
908	4.35	1,315.73	1,519.22	88.17
906	4.12	1,315.58	1,519.22	88.24
868	5.74	1,314.40	1,518.91	88.61
618	9.72	1,312.84	1,519.12	89.38
734	18.99	1,312.32	1,518.94	89.53
506	6.28	1,310.00	1,519.01	90.56
936	10.91	1,310.00	1,519.01	90.56
938	3.26	1,310.00	1,519.01	90.56
1804	0	1,308.89	1,517.97	90.59
620	5.45	1,310.00	1,519.09	90.6
916	2.09	1,310.00	1,519.09	90.6
918	4.27	1,310.00	1,519.09	90.6
742	0	1,310.00	1,519.12	90.61
1230	0	1,310.00	1,519.12	90.61
1232	0	1,310.00	1,519.12	90.61
1354	0	1,310.00	1,519.12	90.61
1766	0	1,310.00	1,519.12	90.61
926	3.36	1,310.00	1,519.41	90.74
726	8.6	1,309.50	1,519.07	90.8
946	4.71	1,309.18	1,518.95	90.89
944	11.35	1,308.69	1,518.95	91.1
666	10.03	1,308.46	1,518.94	91.2

Zone A 2023 Junction Pressures at Bottom of Domestic Storage - Site A

ID	Demand (gpm)	Elevation (ft)	Head (ft)	Pressure (psi)
472	7.21	1,308.52	1,519.42	91.39
928	2.74	1,304.96	1,519.42	92.93
924	4.11	1,304.54	1,519.42	93.11
1092	6.65	1,302.32	1,519.37	94.05
504	9.62	1,301.51	1,519.01	94.24
1094	7.88	1,299.96	1,519.38	95.07
678	11.62	1,296.40	1,518.87	96.4
680	16.48	1,291.48	1,518.57	98.4
540	7.98	1,284.92	1,518.52	101.22
958	1.41	1,285.00	1,518.84	101.32
960	5.33	1,285.00	1,518.84	101.32
1760	0.47	1,285.00	1,518.84	101.32
952	0.58	1,281.68	1,518.85	102.77
956	0.64	1,281.23	1,518.85	102.96
724	5.89	1,280.00	1,518.84	103.49
560	4.11	1,277.96	1,518.85	104.38
558	11.3	1,276.35	1,518.85	105.07
542	7.66	1,272.65	1,518.69	106.61
1762	8.77	1,270.00	1,518.70	107.76

Zone A 2023 Junction Pressures at Bottom of Domestic Storage - Site B

ID	Demand (gpm)	Elevation (ft)	Head (ft)	Pressure (psi)
1,704.00	0.00	1,374.26	1,397.99	10.28
1,710.00	0.00	1,373.99	1,397.97	10.39
1,706.00	0.00	1,373.88	1,397.99	10.45
1,708.00	0.00	1,373.51	1,397.99	10.61
J122	0.00	1,430.00	1,514.58	36.65
J28	0.00	1,427.87	1,514.55	37.56
1,476.00	12.48	1,395.49	1,517.23	52.75
1,816.00	61.30	1,394.50	1,517.32	53.22
1,814.00	0.00	1,391.17	1,517.38	54.69
1,474.00	13.04	1,390.00	1,517.23	55.13
1,498.00	4.53	1,382.46	1,517.32	58.43
1,812.00	13.97	1,380.00	1,517.40	59.53
1,470.00	4.40	1,376.53	1,517.24	60.97
1,468.00	8.92	1,375.18	1,517.24	61.55
1,204.00	1.82	1,377.46	1,519.78	61.67
878.00	6.86	1,377.11	1,519.72	61.79
1,466.00	5.76	1,374.44	1,517.26	61.88
1,472.00	4.49	1,374.25	1,517.24	61.96
1,260.00	0.00	1,376.56	1,520.38	62.32
1,714.00	0.00	1,376.39	1,520.41	62.41
1,712.00	0.00	1,376.22	1,520.44	62.49
1,434.00	0.55	1,371.80	1,519.11	63.83
1,462.00	17.24	1,369.96	1,517.28	63.84
882.00	1.17	1,371.34	1,519.11	64.03
1,460.00	0.95	1,368.81	1,517.29	64.34
1,504.00	22.33	1,368.53	1,517.22	64.43
884.00	9.22	1,370.00	1,518.73	64.44
1,464.00	4.89	1,368.41	1,517.29	64.51
610.00	1.76	1,368.94	1,518.86	64.96
1,496.00	8.81	1,365.96	1,517.31	65.58
900.00	0.40	1,367.38	1,519.09	65.74
1,356.00	5.04	1,367.27	1,519.09	65.78
1,452.00	6.66	1,365.32	1,517.36	65.88
870.00	2.59	1,366.82	1,518.88	65.89
898.00	0.27	1,366.94	1,519.09	65.93
408.00	4.60	1,366.42	1,518.65	65.96
1,442.00	3.93	1,363.09	1,517.42	66.87
1,444.00	4.75	1,362.57	1,517.41	67.09
1,522.00	5.25	1,361.89	1,517.26	67.32
940.00	4.03	1,362.55	1,518.46	67.56
880.00	2.89	1,362.50	1,519.02	67.82
942.00	2.73	1,361.81	1,518.46	67.88
1,446.00	6.54	1,359.51	1,517.38	68.40
1,510.00	4.78	1,358.89	1,517.21	68.60

Junction Pressures

< 35 psi

35-50 psi

50-80 psi

80-100 psi

> 100 psi

Zone A 2023 Junction Pressures at Bottom of Domestic Storage - Site B

ID	Demand (gpm)	Elevation (ft)	Head (ft)	Pressure (psi)
1,508.00	31.43	1,358.50	1,517.21	68.77
1,454.00	7.62	1,358.53	1,517.47	68.87
68.00	6.35	1,360.00	1,518.99	68.89
1,802.00	3.69	1,357.95	1,517.37	69.08
1,458.00	1.90	1,356.87	1,517.37	69.54
702.00	7.79	1,357.85	1,518.47	69.60
1,500.00	1.96	1,355.65	1,517.27	70.03
1,450.00	0.75	1,355.64	1,517.36	70.08
1,502.00	1.45	1,355.07	1,517.24	70.27
1,478.00	3.24	1,354.74	1,517.36	70.46
1,524.00	9.63	1,354.07	1,517.26	70.71
1,448.00	3.52	1,354.15	1,517.37	70.72
1,526.00	9.73	1,353.94	1,517.25	70.76
1,520.00	6.60	1,353.42	1,517.26	70.99
1,506.00	3.86	1,352.90	1,517.24	71.21
1,512.00	3.75	1,352.48	1,517.21	71.38
1,490.00	4.68	1,350.25	1,517.30	72.38
1,488.00	3.85	1,349.40	1,517.30	72.75
1,440.00	6.13	1,348.72	1,517.48	73.12
714.00	5.87	1,349.85	1,518.95	73.27
1,514.00	3.45	1,347.49	1,517.30	73.58
872.00	10.21	1,348.43	1,518.76	73.80
1,516.00	6.00	1,345.95	1,517.27	74.23
1,798.00	6.73	1,345.89	1,517.42	74.32
1,518.00	4.96	1,345.28	1,517.27	74.52
1,492.00	2.53	1,345.22	1,517.30	74.56
406.00	8.21	1,345.40	1,518.48	74.99
1,792.00	6.21	1,344.32	1,517.42	75.00
1,480.00	6.41	1,344.14	1,517.33	75.05
876.00	6.10	1,343.52	1,517.95	75.58
1,484.00	3.68	1,342.46	1,517.31	75.76
598.00	7.96	1,341.50	1,517.20	76.13
920.00	4.78	1,340.00	1,518.59	77.38
922.00	2.52	1,340.00	1,518.59	77.38
1,482.00	6.63	1,338.32	1,517.33	77.56
1,486.00	4.11	1,337.49	1,517.30	77.91
948.00	1.47	1,337.36	1,518.32	78.41
1,456.00	6.52	1,335.76	1,517.46	78.73
730.00	1.75	1,336.34	1,518.32	78.85
950.00	5.31	1,336.24	1,518.32	78.90
1,438.00	5.40	1,334.11	1,517.56	79.49
1,262.00	3.25	1,334.83	1,518.85	79.74
1,800.00	2.32	1,331.79	1,517.65	80.54
930.00	5.28	1,331.87	1,518.44	80.84

Zone A 2023 Junction Pressures at Bottom of Domestic Storage - Site B

ID	Demand (gpm)	Elevation (ft)	Head (ft)	Pressure (psi)
604.00	3.29	1,331.67	1,518.44	80.93
934.00	4.34	1,331.62	1,518.44	80.95
1,528.00	4.38	1,330.39	1,517.46	81.06
1,436.00	3.51	1,330.00	1,517.81	81.38
1,796.00	6.72	1,329.31	1,517.60	81.59
1,338.00	9.95	1,330.00	1,518.38	81.62
602.00	5.09	1,329.66	1,518.56	81.85
874.00	1.61	1,329.63	1,518.86	82.00
902.00	0.04	1,329.21	1,518.86	82.18
904.00	1.98	1,328.81	1,518.86	82.35
1,530.00	9.65	1,327.36	1,517.46	82.37
612.00	10.45	1,327.24	1,518.78	82.99
1,494.00	10.73	1,325.22	1,517.29	83.23
284.00	8.32	1,326.11	1,518.22	83.24
470.00	5.32	1,326.72	1,518.82	83.24
1,794.00	7.55	1,325.01	1,517.61	83.45
732.00	5.17	1,325.91	1,518.54	83.47
912.00	0.10	1,325.73	1,518.54	83.55
914.00	2.06	1,325.63	1,518.54	83.59
910.00	3.56	1,325.53	1,518.54	83.63
66.00	5.64	1,324.64	1,518.95	84.20
1,090.00	0.00	1,322.47	1,518.78	85.06
286.00	9.28	1,318.03	1,518.32	86.79
932.00	12.91	1,316.98	1,518.38	87.27
908.00	4.35	1,315.73	1,518.63	87.92
906.00	4.12	1,315.58	1,518.63	87.98
868.00	5.74	1,314.40	1,518.32	88.36
618.00	9.72	1,312.84	1,518.53	89.13
734.00	18.99	1,312.32	1,518.35	89.27
506.00	6.28	1,310.00	1,518.42	90.31
936.00	10.91	1,310.00	1,518.42	90.31
938.00	3.26	1,310.00	1,518.42	90.31
620.00	5.45	1,310.00	1,518.50	90.34
916.00	2.09	1,310.00	1,518.50	90.34
918.00	4.27	1,310.00	1,518.50	90.34
1,804.00	0.00	1,308.89	1,517.40	90.35
742.00	0.00	1,310.00	1,518.53	90.36
1,230.00	0.00	1,310.00	1,518.53	90.36
1,232.00	0.00	1,310.00	1,518.53	90.36
1,354.00	0.00	1,310.00	1,518.53	90.36
1,766.00	0.00	1,310.00	1,518.53	90.36
926.00	3.36	1,310.00	1,518.82	90.48
726.00	8.60	1,309.50	1,518.48	90.55
946.00	4.71	1,309.18	1,518.36	90.64

Zone A 2023 Junction Pressures at Bottom of Domestic Storage - Site B

ID	Demand (gpm)	Elevation (ft)	Head (ft)	Pressure (psi)
944.00	11.35	1,308.69	1,518.36	90.85
666.00	10.03	1,308.46	1,518.36	90.95
472.00	7.21	1,308.52	1,518.84	91.13
928.00	2.74	1,304.96	1,518.84	92.67
924.00	4.11	1,304.54	1,518.84	92.86
1,092.00	6.65	1,302.32	1,518.78	93.79
504.00	9.62	1,301.51	1,518.42	93.99
1,094.00	7.88	1,299.96	1,518.79	94.82
678.00	11.62	1,296.40	1,518.29	96.14
680.00	16.48	1,291.48	1,517.99	98.14
540.00	7.98	1,284.92	1,517.94	100.97
958.00	1.41	1,285.00	1,518.25	101.07
960.00	5.33	1,285.00	1,518.25	101.07
1,760.00	0.47	1,285.00	1,518.25	101.07
952.00	0.58	1,281.68	1,518.27	102.51
956.00	0.64	1,281.23	1,518.27	102.71
724.00	5.89	1,280.00	1,518.25	103.24
560.00	4.11	1,277.96	1,518.27	104.13
558.00	11.30	1,276.35	1,518.26	104.82
542.00	7.66	1,272.65	1,518.10	106.35
1,762.00	8.77	1,270.00	1,518.12	107.51

Zone A 2023 Junction Pressures at Bottom of Domestic Storage - Site C

ID	Demand (gpm)	Elevation (ft)	Head (ft)	Pressure (psi)
1,704.00	0.00	1,374.26	1,397.99	10.28
1,710.00	0.00	1,373.99	1,397.97	10.39
1,706.00	0.00	1,373.88	1,397.99	10.45
1,708.00	0.00	1,373.51	1,397.99	10.61
J122	0.00	1,430.00	1,517.88	38.08
J28	0.00	1,427.87	1,517.65	38.9
1,476.00	12.48	1,395.49	1,517.06	52.68
1,816.00	61.30	1,394.50	1,517.07	53.11
1,814.00	0.00	1,391.17	1,517.06	54.55
1,474.00	13.04	1,390.00	1,517.06	55.05
1,498.00	4.53	1,382.46	1,517.07	58.32
1,812.00	13.97	1,380.00	1,517.06	59.39
1,470.00	4.40	1,376.53	1,517.07	60.9
1,468.00	8.92	1,375.18	1,517.07	61.48
1,204.00	1.82	1,377.46	1,519.62	61.6
878.00	6.86	1,377.11	1,519.56	61.73
1,466.00	5.76	1,374.44	1,517.09	61.81
1,472.00	4.49	1,374.25	1,517.07	61.88
1,260.00	0.00	1,376.56	1,520.23	62.25
1,714.00	0.00	1,376.39	1,520.26	62.34
1,712.00	0.00	1,376.22	1,520.28	62.42
1,434.00	0.55	1,371.80	1,518.95	63.76
1,462.00	17.24	1,369.96	1,517.11	63.76
882.00	1.17	1,371.34	1,518.95	63.96
1,460.00	0.95	1,368.81	1,517.11	64.26
884.00	9.22	1,370.00	1,518.57	64.38
1,504.00	22.33	1,368.53	1,517.16	64.4
1,464.00	4.89	1,368.41	1,517.11	64.43
610.00	1.76	1,368.94	1,518.70	64.89
1,496.00	8.81	1,365.96	1,517.08	65.48
900.00	0.40	1,367.38	1,518.93	65.67
1,356.00	5.04	1,367.27	1,518.93	65.71
1,452.00	6.66	1,365.32	1,517.19	65.81
870.00	2.59	1,366.82	1,518.72	65.82
898.00	0.27	1,366.94	1,518.93	65.86
408.00	4.60	1,366.42	1,518.49	65.89
J30	24.79	1,365.14	1,517.72	66.12
1,442.00	3.93	1,363.09	1,517.24	66.79
1,444.00	4.75	1,362.57	1,517.24	67.02
1,522.00	5.25	1,361.89	1,517.09	67.25
940.00	4.03	1,362.55	1,518.31	67.49
880.00	2.89	1,362.50	1,518.86	67.75
942.00	2.73	1,361.81	1,518.31	67.81
1,446.00	6.54	1,359.51	1,517.20	68.33
1,454.00	7.62	1,358.53	1,517.30	68.79

Junction Pressures

< 35 psi

35-50 psi

50-80 psi

80-100 psi

> 100 psi

Zone A 2023 Junction Pressures at Bottom of Domestic Storage - Site C

ID	Demand (gpm)	Elevation (ft)	Head (ft)	Pressure (psi)
1,510.00	4.78	1,358.89	1,517.71	68.81
68.00	6.35	1,360.00	1,518.83	68.82
1,508.00	31.43	1,358.50	1,517.35	68.83
1,802.00	3.69	1,357.95	1,517.20	69
1,458.00	1.90	1,356.87	1,517.20	69.47
702.00	7.79	1,357.85	1,518.32	69.53
1,500.00	1.96	1,355.65	1,517.15	69.98
1,450.00	0.75	1,355.64	1,517.19	70
1,502.00	1.45	1,355.07	1,517.18	70.24
1,478.00	3.24	1,354.74	1,517.18	70.39
1,524.00	9.63	1,354.07	1,517.08	70.63
1,448.00	3.52	1,354.15	1,517.19	70.65
1,526.00	9.73	1,353.94	1,517.08	70.69
1,520.00	6.60	1,353.42	1,517.09	70.92
1,506.00	3.86	1,352.90	1,517.20	71.19
1,512.00	3.75	1,352.48	1,517.71	71.59
1,490.00	4.68	1,350.25	1,517.10	72.3
1,488.00	3.85	1,349.40	1,517.12	72.68
1,440.00	6.13	1,348.72	1,517.31	73.05
714.00	5.87	1,349.85	1,518.79	73.2
1,514.00	3.45	1,347.49	1,517.12	73.5
872.00	10.21	1,348.43	1,518.60	73.74
1,516.00	6.00	1,345.95	1,517.09	74.15
1,798.00	6.73	1,345.89	1,517.24	74.25
1,518.00	4.96	1,345.28	1,517.09	74.45
1,492.00	2.53	1,345.22	1,517.10	74.47
406.00	8.21	1,345.40	1,518.32	74.93
1,792.00	6.21	1,344.32	1,517.25	74.93
1,480.00	6.41	1,344.14	1,517.16	74.97
876.00	6.10	1,343.52	1,517.79	75.51
1,484.00	3.68	1,342.46	1,517.13	75.69
598.00	7.96	1,341.50	1,517.04	76.06
920.00	4.78	1,340.00	1,518.43	77.32
922.00	2.52	1,340.00	1,518.43	77.32
1,482.00	6.63	1,338.32	1,517.15	77.49
1,486.00	4.11	1,337.49	1,517.13	77.84
948.00	1.47	1,337.36	1,518.17	78.34
1,456.00	6.52	1,335.76	1,517.29	78.66
730.00	1.75	1,336.34	1,518.16	78.78
950.00	5.31	1,336.24	1,518.17	78.83
1,438.00	5.40	1,334.11	1,517.39	79.42
1,262.00	3.25	1,334.83	1,518.69	79.67
1,800.00	2.32	1,331.79	1,517.48	80.46
930.00	5.28	1,331.87	1,518.28	80.77
604.00	3.29	1,331.67	1,518.28	80.86

Zone A 2023 Junction Pressures at Bottom of Domestic Storage - Site C

ID	Demand (gpm)	Elevation (ft)	Head (ft)	Pressure (psi)
934.00	4.34	1,331.62	1,518.28	80.88
1,528.00	4.38	1,330.39	1,517.29	80.98
1,436.00	3.51	1,330.00	1,517.65	81.31
1,796.00	6.72	1,329.31	1,517.43	81.52
1,338.00	9.95	1,330.00	1,518.22	81.56
602.00	5.09	1,329.66	1,518.40	81.78
874.00	1.61	1,329.63	1,518.70	81.93
902.00	0.04	1,329.21	1,518.70	82.11
904.00	1.98	1,328.81	1,518.70	82.28
1,530.00	9.65	1,327.36	1,517.28	82.29
612.00	10.45	1,327.24	1,518.62	82.92
1,494.00	10.73	1,325.22	1,517.09	83.14
284.00	8.32	1,326.11	1,518.07	83.17
470.00	5.32	1,326.72	1,518.66	83.17
1,794.00	7.55	1,325.01	1,517.43	83.38
732.00	5.17	1,325.91	1,518.38	83.4
912.00	0.10	1,325.73	1,518.38	83.48
914.00	2.06	1,325.63	1,518.38	83.52
910.00	3.56	1,325.53	1,518.38	83.56
66.00	5.64	1,324.64	1,518.80	84.13
1,090.00	0.00	1,322.47	1,518.62	84.99
286.00	9.28	1,318.03	1,518.17	86.72
932.00	12.91	1,316.98	1,518.22	87.2
908.00	4.35	1,315.73	1,518.47	87.85
906.00	4.12	1,315.58	1,518.47	87.91
868.00	5.74	1,314.40	1,518.16	88.29
618.00	9.72	1,312.84	1,518.37	89.06
734.00	18.99	1,312.32	1,518.19	89.2
1,804.00	0.00	1,308.89	1,517.06	90.2
506.00	6.28	1,310.00	1,518.26	90.24
936.00	10.91	1,310.00	1,518.26	90.24
938.00	3.26	1,310.00	1,518.26	90.24
916.00	2.09	1,310.00	1,518.34	90.27
918.00	4.27	1,310.00	1,518.34	90.27
620.00	5.45	1,310.00	1,518.34	90.28
742.00	0.00	1,310.00	1,518.37	90.29
1,230.00	0.00	1,310.00	1,518.37	90.29
1,232.00	0.00	1,310.00	1,518.37	90.29
1,354.00	0.00	1,310.00	1,518.37	90.29
1,766.00	0.00	1,310.00	1,518.37	90.29
926.00	3.36	1,310.00	1,518.66	90.41
726.00	8.60	1,309.50	1,518.32	90.48
946.00	4.71	1,309.18	1,518.20	90.57
944.00	11.35	1,308.69	1,518.20	90.78
666.00	10.03	1,308.46	1,518.20	90.88

Zone A 2023 Junction Pressures at Bottom of Domestic Storage - Site C

ID	Demand (gpm)	Elevation (ft)	Head (ft)	Pressure (psi)
472.00	7.21	1,308.52	1,518.68	91.06
928.00	2.74	1,304.96	1,518.68	92.6
924.00	4.11	1,304.54	1,518.68	92.79
1,092.00	6.65	1,302.32	1,518.62	93.72
504.00	9.62	1,301.51	1,518.26	93.92
1,094.00	7.88	1,299.96	1,518.63	94.75
678.00	11.62	1,296.40	1,518.13	96.08
680.00	16.48	1,291.48	1,517.83	98.08
540.00	7.98	1,284.92	1,517.78	100.9
958.00	1.41	1,285.00	1,518.10	101
960.00	5.33	1,285.00	1,518.10	101
1,760.00	0.47	1,285.00	1,518.10	101
952.00	0.58	1,281.68	1,518.11	102.45
956.00	0.64	1,281.23	1,518.11	102.64
724.00	5.89	1,280.00	1,518.10	103.17
560.00	4.11	1,277.96	1,518.11	104.06
558.00	11.30	1,276.35	1,518.10	104.75
542.00	7.66	1,272.65	1,517.95	106.29
1,762.00	8.77	1,270.00	1,517.96	107.44

Zone A 2023 Junction Pressures at Bottom of Domestic Storage - Site D

ID	Demand (gpm)	Elevation (ft)	Head (ft)	Pressure (psi)
1704	0	1,374.26	1,397.99	10.28
1710	0	1,373.99	1,397.97	10.39
1706	0	1,373.88	1,397.99	10.45
1708	0	1,373.51	1,397.99	10.61
J122	0	1,430.00	1,515.93	37.23
J28	0	1,427.87	1,515.91	38.15
1476	12.48	1,395.49	1,517.80	53.00
1816	61.3	1,394.50	1,517.90	53.47
1814	0	1,391.17	1,517.97	54.94
1474	13.04	1,390.00	1,517.80	55.38
1498	4.53	1,382.46	1,517.90	58.69
1812	13.97	1,380.00	1,517.99	59.79
1470	4.4	1,376.53	1,517.81	61.22
1468	8.92	1,375.18	1,517.82	61.80
1204	1.82	1,377.46	1,520.30	61.89
878	6.86	1,377.11	1,520.24	62.02
1466	5.76	1,374.44	1,517.83	62.13
1472	4.49	1,374.25	1,517.81	62.21
1260	0	1,376.56	1,520.90	62.54
1714	0	1,376.39	1,520.93	62.63
1712	0	1,376.22	1,520.95	62.71
1434	0.55	1,371.80	1,519.64	64.06
1462	17.24	1,369.96	1,517.86	64.08
882	1.17	1,371.34	1,519.64	64.26
1460	0.95	1,368.81	1,517.86	64.58
884	9.22	1,370.00	1,519.25	64.67
1504	22.33	1,368.53	1,517.81	64.68
1464	4.89	1,368.41	1,517.86	64.75
610	1.76	1,368.94	1,519.40	65.19
1496	8.81	1,365.96	1,517.89	65.83
900	0.4	1,367.38	1,519.62	65.97
1356	5.04	1,367.27	1,519.62	66.01
870	2.59	1,366.82	1,519.41	66.12
1452	6.66	1,365.32	1,517.94	66.13
898	0.27	1,366.94	1,519.62	66.16
408	4.6	1,366.42	1,519.18	66.19
1442	3.93	1,363.09	1,517.99	67.12
1444	4.75	1,362.57	1,517.99	67.34
1522	5.25	1,361.89	1,517.84	67.57
940	4.03	1,362.55	1,518.99	67.79
880	2.89	1,362.50	1,519.55	68.05
942	2.73	1,361.81	1,518.99	68.11
1446	6.54	1,359.51	1,517.95	68.65
1510	4.78	1,358.89	1,517.79	68.85

Junction Pressures

< 35 psi

35-50 psi

50-80 psi

80-100 psi

> 100 psi

Zone A 2023 Junction Pressures at Bottom of Domestic Storage - Site D

ID	Demand (gpm)	Elevation (ft)	Head (ft)	Pressure (psi)
1508	31.43	1,358.50	1,517.79	69.02
68	6.35	1,360.00	1,519.51	69.12
1454	7.62	1,358.53	1,518.04	69.12
1802	3.69	1,357.95	1,517.94	69.32
1458	1.9	1,356.87	1,517.95	69.79
702	7.79	1,357.85	1,519.00	69.83
1500	1.96	1,355.65	1,517.85	70.28
1450	0.75	1,355.64	1,517.94	70.33
1502	1.45	1,355.07	1,517.83	70.52
1478	3.24	1,354.74	1,517.94	70.71
1524	9.63	1,354.07	1,517.84	70.96
1448	3.52	1,354.15	1,517.95	70.97
1526	9.73	1,353.94	1,517.84	71.02
1520	6.6	1,353.42	1,517.84	71.24
1506	3.86	1,352.90	1,517.82	71.46
1512	3.75	1,352.48	1,517.79	71.63
1490	4.68	1,350.25	1,517.89	72.63
1488	3.85	1,349.40	1,517.88	73.00
1440	6.13	1,348.72	1,518.06	73.37
714	5.87	1,349.85	1,519.48	73.50
1514	3.45	1,347.49	1,517.88	73.83
872	10.21	1,348.43	1,519.29	74.03
1516	6	1,345.95	1,517.85	74.48
1798	6.73	1,345.89	1,517.99	74.57
1518	4.96	1,345.28	1,517.85	74.77
1492	2.53	1,345.22	1,517.88	74.81
406	8.21	1,345.40	1,519.00	75.22
1792	6.21	1,344.32	1,517.99	75.25
1480	6.41	1,344.14	1,517.91	75.30
876	6.1	1,343.52	1,518.48	75.81
1484	3.68	1,342.46	1,517.89	76.01
598	7.96	1,341.50	1,517.73	76.36
920	4.78	1,340.00	1,519.12	77.61
922	2.52	1,340.00	1,519.12	77.61
1482	6.63	1,338.32	1,517.91	77.82
1486	4.11	1,337.49	1,517.89	78.17
948	1.47	1,337.36	1,518.85	78.64
1456	6.52	1,335.76	1,518.03	78.98
730	1.75	1,336.34	1,518.85	79.08
950	5.31	1,336.24	1,518.85	79.12
1438	5.4	1,334.11	1,518.13	79.74
1262	3.25	1,334.83	1,519.38	79.97
1800	2.32	1,331.79	1,518.22	80.78
930	5.28	1,331.87	1,518.97	81.07

Zone A 2023 Junction Pressures at Bottom of Domestic Storage - Site D

ID	Demand (gpm)	Elevation (ft)	Head (ft)	Pressure (psi)
604	3.29	1,331.67	1,518.97	81.16
934	4.34	1,331.62	1,518.97	81.18
1528	4.38	1,330.39	1,518.03	81.30
1436	3.51	1,330.00	1,518.38	81.62
1796	6.72	1,329.31	1,518.17	81.84
1338	9.95	1,330.00	1,518.91	81.85
602	5.09	1,329.66	1,519.08	82.08
874	1.61	1,329.63	1,519.39	82.23
902	0.04	1,329.21	1,519.39	82.41
904	1.98	1,328.81	1,519.39	82.58
1530	9.65	1,327.36	1,518.03	82.62
612	10.45	1,327.24	1,519.31	83.22
284	8.32	1,326.11	1,518.75	83.47
470	5.32	1,326.72	1,519.35	83.47
1494	10.73	1,325.22	1,517.88	83.48
732	5.17	1,325.91	1,519.07	83.70
1794	7.55	1,325.01	1,518.17	83.70
912	0.1	1,325.73	1,519.07	83.78
914	2.06	1,325.63	1,519.07	83.82
910	3.56	1,325.53	1,519.07	83.86
66	5.64	1,324.64	1,519.48	84.43
1090	0	1,322.47	1,519.31	85.29
286	9.28	1,318.03	1,518.85	87.02
932	12.91	1,316.98	1,518.91	87.50
908	4.35	1,315.73	1,519.16	88.15
906	4.12	1,315.58	1,519.16	88.21
868	5.74	1,314.40	1,518.85	88.59
618	9.72	1,312.84	1,519.06	89.36
734	18.99	1,312.32	1,518.88	89.50
506	6.28	1,310.00	1,518.95	90.54
936	10.91	1,310.00	1,518.95	90.54
938	3.26	1,310.00	1,518.95	90.54
620	5.45	1,310.00	1,519.03	90.57
916	2.09	1,310.00	1,519.03	90.57
918	4.27	1,310.00	1,519.03	90.57
742	0	1,310.00	1,519.06	90.59
1230	0	1,310.00	1,519.06	90.59
1232	0	1,310.00	1,519.06	90.59
1354	0	1,310.00	1,519.06	90.59
1766	0	1,310.00	1,519.06	90.59
1804	0	1,308.89	1,517.99	90.60
926	3.36	1,310.00	1,519.35	90.71
726	8.6	1,309.50	1,519.01	90.78
946	4.71	1,309.18	1,518.89	90.87

Zone A 2023 Junction Pressures at Bottom of Domestic Storage - Site D

ID	Demand (gpm)	Elevation (ft)	Head (ft)	Pressure (psi)
944	11.35	1,308.69	1,518.89	91.08
666	10.03	1,308.46	1,518.88	91.17
472	7.21	1,308.52	1,519.36	91.36
928	2.74	1,304.96	1,519.37	92.90
924	4.11	1,304.54	1,519.37	93.08
1092	6.65	1,302.32	1,519.31	94.02
504	9.62	1,301.51	1,518.95	94.22
1094	7.88	1,299.96	1,519.32	95.05
678	11.62	1,296.40	1,518.82	96.37
680	16.48	1,291.48	1,518.51	98.37
540	7.98	1,284.92	1,518.46	101.19
958	1.41	1,285.00	1,518.78	101.30
960	5.33	1,285.00	1,518.78	101.30
1760	0.47	1,285.00	1,518.78	101.30
952	0.58	1,281.68	1,518.79	102.74
956	0.64	1,281.23	1,518.79	102.94
724	5.89	1,280.00	1,518.78	103.46
560	4.11	1,277.96	1,518.79	104.35
558	11.3	1,276.35	1,518.79	105.05
542	7.66	1,272.65	1,518.63	106.58
1762	8.77	1,270.00	1,518.65	107.74

Zone A 2040 Junction Pressures Bottom of Domestic Storage - Site A

ID	Demand (gpm)	Elevation (ft)	Head (ft)	Pressure (psi)
1704	0	1,374.26	1,398.00	10.28
1710	0	1,373.99	1,397.99	10.4
1706	0	1,373.88	1,398.00	10.45
1708	0	1,373.51	1,398.00	10.61
J122	0	1,430.00	1,509.13	34.29
J28	43.4	1,427.87	1,509.16	35.22
1776	3.65	1,420.12	1,509.34	38.66
1476	18.63	1,395.49	1,510.86	49.99
1816	24.58	1,394.50	1,514.90	52.17
1474	12.68	1,390.00	1,510.86	52.37
1814	6.94	1,391.17	1,512.30	52.49
J124	0	1,394.50	1,517.35	53.23
1812	304.52	1,380.00	1,511.67	57.05
1498	3.73	1,382.46	1,514.70	57.3
1204	1.03	1,377.46	1,511.46	58.06
878	4.73	1,377.11	1,511.38	58.18
1470	19.2	1,376.53	1,510.86	58.21
1260	0	1,376.56	1,511.66	58.54
1714	0	1,376.39	1,511.66	58.61
1712	0	1,376.22	1,511.67	58.69
1468	10.43	1,375.18	1,510.88	58.8
1466	8.47	1,374.44	1,510.93	59.14
1472	16.96	1,374.25	1,510.86	59.19
1434	0.07	1,371.80	1,511.43	60.5
884	7.14	1,370.00	1,509.90	60.62
882	2.24	1,371.34	1,511.43	60.7
1462	15.01	1,369.96	1,511.00	61.11
1460	0.68	1,368.81	1,511.01	61.61
J24	479.3	1,367.49	1,509.67	61.61
610	0.38	1,368.94	1,511.46	61.75
1464	3.48	1,368.41	1,511.01	61.78
1504	29.46	1,368.53	1,511.31	61.86
408	4.47	1,366.42	1,509.76	62.11
J30	344.46	1,365.14	1,509.06	62.36
900	0.05	1,367.38	1,511.43	62.42
1356	3.96	1,367.27	1,511.43	62.47
898	0.04	1,366.94	1,511.43	62.61
870	2.88	1,366.82	1,511.46	62.67
1452	4.75	1,365.32	1,511.58	63.38
940	2.23	1,362.55	1,509.38	63.62
942	1.29	1,361.81	1,509.38	63.94
1496	22.13	1,365.96	1,513.86	64.08
1442	12.93	1,363.09	1,511.42	64.27
880	3.01	1,362.50	1,511.05	64.37
1444	8.54	1,362.57	1,511.41	64.49

Junction Pressures

< 35 psi

35-50 psi

50-80 psi

80-100 psi

> 100 psi

Zone A 2040 Junction Pressures Bottom of Domestic Storage - Site A

ID	Demand (gpm)	Elevation (ft)	Head (ft)	Pressure (psi)
1522	16.48	1,361.89	1,511.66	64.89
1510	4.56	1,358.89	1,509.11	65.09
68	1.05	1,360.00	1,510.36	65.15
702	7.32	1,357.85	1,509.38	65.66
1446	19.4	1,359.51	1,511.22	65.74
1508	11.88	1,358.50	1,510.31	65.78
1454	17.71	1,358.53	1,511.34	66.21
1802	9.13	1,357.95	1,511.17	66.39
1458	1.36	1,356.87	1,511.19	66.87
1450	4	1,355.64	1,511.58	67.57
1500	1.4	1,355.65	1,511.74	67.63
1502	3.27	1,355.07	1,511.34	67.71
1512	7.29	1,352.48	1,509.11	67.87
1478	8.29	1,354.74	1,511.60	67.97
1448	5.21	1,354.15	1,511.56	68.21
1524	18.64	1,354.07	1,511.66	68.29
1526	13.87	1,353.94	1,511.66	68.34
1520	16.81	1,353.42	1,511.66	68.56
1506	9.76	1,352.90	1,511.17	68.58
714	4.92	1,349.85	1,510.69	69.69
1490	24.77	1,350.25	1,512.85	70.45
1440	16.39	1,348.72	1,511.39	70.48
1488	2.74	1,349.40	1,512.22	70.55
872	11.34	1,348.43	1,511.33	70.58
406	5.71	1,345.40	1,509.67	71.18
1514	6.08	1,347.49	1,511.83	71.21
1798	4.8	1,345.89	1,511.21	71.63
598	10.78	1,341.50	1,507.07	71.74
1516	16.38	1,345.95	1,511.70	71.82
1518	14.85	1,345.28	1,511.69	72.11
876	7.12	1,343.52	1,510.24	72.24
1792	4.42	1,344.32	1,511.21	72.32
1480	4.71	1,344.14	1,511.72	72.61
1492	6.29	1,345.22	1,512.85	72.63
1484	3.78	1,342.46	1,511.87	73.41
920	3.73	1,340.00	1,510.32	73.8
922	0.27	1,340.00	1,510.32	73.8
948	0.9	1,337.36	1,508.72	74.25
730	0.13	1,336.34	1,508.71	74.69
950	2.6	1,336.24	1,508.72	74.73
1482	4.73	1,338.32	1,511.75	75.15
1486	3.61	1,337.49	1,511.94	75.59
1456	9.26	1,335.76	1,511.33	76.07
1262	5.89	1,334.83	1,511.40	76.51
1438	6.33	1,334.11	1,511.39	76.82

Zone A 2040 Junction Pressures Bottom of Domestic Storage - Site A

ID	Demand (gpm)	Elevation (ft)	Head (ft)	Pressure (psi)
930	4.02	1,331.87	1,510.26	77.29
604	2.73	1,331.67	1,510.26	77.38
934	13.79	1,331.62	1,510.26	77.4
1338	11.75	1,330.00	1,508.97	77.55
1800	1.32	1,331.79	1,511.38	77.82
602	12.3	1,329.66	1,510.32	78.28
1528	11.95	1,330.39	1,511.32	78.4
1436	19.1	1,330.00	1,511.39	78.59
874	1.54	1,329.63	1,511.46	78.79
1796	4.69	1,329.31	1,511.35	78.88
902	0	1,329.21	1,511.46	78.97
904	1.05	1,328.81	1,511.46	79.15
284	8.97	1,326.11	1,508.86	79.18
470	3.16	1,326.72	1,509.72	79.29
1530	10.87	1,327.36	1,511.32	79.71
612	14.48	1,327.24	1,511.51	79.84
732	8.29	1,325.91	1,510.50	79.99
912	0	1,325.73	1,510.51	80.06
914	3.38	1,325.63	1,510.51	80.11
910	1.33	1,325.53	1,510.51	80.15
66	7.83	1,324.64	1,510.33	80.46
1090	4.98	1,322.47	1,508.17	80.46
1794	5.38	1,325.01	1,511.35	80.74
J42	81.6	1,323.04	1,510.13	81.07
1494	10.09	1,325.22	1,512.84	81.3
286	4.63	1,318.03	1,508.97	82.74
932	10.47	1,316.98	1,510.14	83.7
868	7.11	1,314.40	1,508.83	84.24
908	3.33	1,315.73	1,511.80	84.96
906	1.48	1,315.58	1,511.80	85.02
734	11.25	1,312.32	1,509.47	85.42
618	4.31	1,312.84	1,512.05	86.32
926	2.42	1,310.00	1,509.54	86.46
946	5.85	1,309.18	1,509.86	86.95
506	8.08	1,310.00	1,510.87	87.04
936	5.69	1,310.00	1,510.87	87.04
938	5.17	1,310.00	1,510.87	87.04
666	5.73	1,308.46	1,509.55	87.13
944	6.22	1,308.69	1,509.86	87.17
726	7.37	1,309.50	1,510.72	87.19
472	3.85	1,308.52	1,509.94	87.28
916	2.31	1,310.00	1,511.73	87.41
918	1.63	1,310.00	1,511.73	87.41
620	4.1	1,310.00	1,511.75	87.42
1804	0.39	1,308.89	1,511.12	87.63

Zone A 2040 Junction Pressures Bottom of Domestic Storage - Site A

ID	Demand (gpm)	Elevation (ft)	Head (ft)	Pressure (psi)
742	0	1,310.00	1,514.11	88.44
1354	0	1,310.00	1,514.24	88.5
1230	0	1,310.00	1,514.30	88.52
1232	0	1,310.00	1,514.29	88.52
1766	0	1,310.00	1,514.31	88.53
928	3.58	1,304.96	1,509.63	88.68
924	6	1,304.54	1,509.63	88.86
J120	0	1,302.61	1,508.08	89.03
1092	15.5	1,302.32	1,508.17	89.2
1094	3.83	1,299.96	1,508.24	90.25
504	7.22	1,301.51	1,510.64	90.62
J116	0	1,271.14	1,480.55	90.74
678	15.54	1,296.40	1,508.35	91.84
540	6	1,284.92	1,500.23	93.29
680	10.29	1,291.48	1,508.22	93.91
958	1.49	1,285.00	1,507.61	96.46
960	4.01	1,285.00	1,507.61	96.46
1760	2.97	1,285.00	1,507.61	96.46
J118	0	1,270.34	1,493.63	96.75
1762	8.54	1,270.00	1,494.64	97.34
952	0.2	1,281.68	1,507.93	98.04
956	0.21	1,281.23	1,507.93	98.23
724	4.8	1,280.00	1,507.61	98.62
542	8.13	1,272.65	1,500.33	98.65
J22	89.74	1,282.19	1,510.11	98.76
560	2.35	1,277.96	1,507.93	99.65
558	11.97	1,276.35	1,507.79	100.28

Zone A 2040 Junction Pressures at Bottom of Domestic Storage - Site B

ID	Demand (gpm)	Elevation (ft)	Head (ft)	Pressure (psi)
1,704.00	0	1,374.26	1,398.00	10.28
1,710.00	0	1,373.99	1,397.99	10.4
1,706.00	0	1,373.88	1,398.00	10.45
1,708.00	0	1,373.51	1,398.00	10.61
1716	0	1,310.00	1,338.80	12.48
J122	0	1,430.00	1,510.49	34.88
J28	43.4	1,427.87	1,510.93	35.99
1776	3.65	1,420.12	1,512.85	40.18
1,476.00	18.63	1,395.49	1,507.09	48.36
1816	24.58	1,394.50	1,508.59	49.44
1,474.00	12.68	1,390.00	1,507.10	50.74
1814	6.94	1,391.17	1,508.92	51.02
1,498.00	3.73	1,382.46	1,508.56	54.64
1812	304.52	1,380.00	1,509.00	55.9
1,204.00	1.03	1,377.46	1,507.88	56.51
1,470.00	19.2	1,376.53	1,507.09	56.57
878.00	4.73	1,377.11	1,507.81	56.63
1,260.00	0	1,376.56	1,508.08	56.99
1,714.00	0	1,376.39	1,508.09	57.07
1,712.00	0	1,376.22	1,508.10	57.14
1,468.00	10.43	1,375.18	1,507.12	57.17
1,466.00	8.47	1,374.44	1,507.16	57.51
1,472.00	16.96	1,374.25	1,507.09	57.56
1,434.00	0.07	1,371.80	1,507.82	58.94
884.00	7.14	1,370.00	1,506.47	59.13
882.00	2.24	1,371.34	1,507.82	59.14
1,462.00	15.01	1,369.96	1,507.24	59.48
J40	27.78	1,373.06	1,510.76	59.66
1,460.00	0.68	1,368.81	1,507.24	59.98
1,464.00	3.48	1,368.41	1,507.24	60.15
610.00	0.38	1,368.94	1,507.88	60.2
1,504.00	29.46	1,368.53	1,508.27	60.55
408.00	4.47	1,366.42	1,506.33	60.62
900.00	0.05	1,367.38	1,507.83	60.85
1,356.00	3.96	1,367.27	1,507.83	60.91
898.00	0.04	1,366.94	1,507.83	61.05
870.00	2.88	1,366.82	1,507.88	61.12
1,452.00	4.75	1,365.32	1,507.74	61.71
1,496.00	22.13	1,365.96	1,508.42	61.73
940.00	2.23	1,362.55	1,505.98	62.15
J30	344.46	1,365.14	1,509.21	62.42
1768	35.06	1,373.62	1,517.67	62.42
942.00	1.29	1,361.81	1,505.98	62.47
1,442.00	12.93	1,363.09	1,507.64	62.63
880.00	3.01	1,362.50	1,507.50	62.83

Junction Pressures

< 35 psi

35-50 psi

50-80 psi

80-100 psi

> 100 psi

Zone A 2040 Junction Pressures at Bottom of Domestic Storage - Site B

ID	Demand (gpm)	Elevation (ft)	Head (ft)	Pressure (psi)
1,444.00	8.54	1,362.57	1,507.63	62.85
1,522.00	16.48	1,361.89	1,507.71	63.18
68.00	1.05	1,360.00	1,506.90	63.65
1,446.00	19.4	1,359.51	1,507.45	64.1
702.00	7.32	1,357.85	1,505.97	64.18
J24	479.3	1,367.49	1,516.39	64.52
1,454.00	17.71	1,358.53	1,507.58	64.59
1802	9.13	1,357.95	1,507.40	64.76
1,508.00	11.88	1,358.50	1,508.65	65.06
1,510.00	4.56	1,358.89	1,509.18	65.12
1,458.00	1.36	1,356.87	1,507.42	65.23
1,450.00	4	1,355.64	1,507.74	65.91
1,500.00	1.4	1,355.65	1,508.25	66.12
1,478.00	8.29	1,354.74	1,507.75	66.3
1,502.00	3.27	1,355.07	1,508.31	66.4
1,448.00	5.21	1,354.15	1,507.73	66.55
1,524.00	18.64	1,354.07	1,507.72	66.58
1,526.00	13.87	1,353.94	1,507.72	66.63
1,520.00	16.81	1,353.42	1,507.72	66.86
1,506.00	9.76	1,352.90	1,508.36	67.36
1,512.00	7.29	1,352.48	1,509.18	67.9
714.00	4.92	1,349.85	1,507.20	68.18
1,490.00	24.77	1,350.25	1,508.27	68.47
1,488.00	2.74	1,349.40	1,508.19	68.8
1,440.00	16.39	1,348.72	1,507.63	68.86
872.00	11.34	1,348.43	1,507.75	69.03
1,514.00	6.08	1,347.49	1,507.88	69.5
406.00	5.71	1,345.40	1,506.24	69.69
1798	4.8	1,345.89	1,507.45	70
1,516.00	16.38	1,345.95	1,507.75	70.11
598.00	10.78	1,341.50	1,503.71	70.29
1,518.00	14.85	1,345.28	1,507.75	70.4
1,492.00	6.29	1,345.22	1,508.26	70.64
1,792.00	4.42	1,344.32	1,507.45	70.68
876.00	7.12	1,343.52	1,506.66	70.69
1,480.00	4.71	1,344.14	1,507.83	70.93
1,484.00	3.78	1,342.46	1,507.93	71.7
920.00	3.73	1,340.00	1,506.86	72.3
922.00	0.27	1,340.00	1,506.86	72.3
948.00	0.9	1,337.36	1,505.36	72.8
730.00	0.13	1,336.34	1,505.35	73.23
950.00	2.6	1,336.24	1,505.36	73.28
1,482.00	4.73	1,338.32	1,507.85	73.46
1,486.00	3.61	1,337.49	1,507.98	73.87
1,456.00	9.26	1,335.76	1,507.57	74.45

Zone A 2040 Junction Pressures at Bottom of Domestic Storage - Site B

ID	Demand (gpm)	Elevation (ft)	Head (ft)	Pressure (psi)
1,262.00	5.89	1,334.83	1,507.81	74.95
1,438.00	6.33	1,334.11	1,507.63	75.19
930.00	4.02	1,331.87	1,506.81	75.8
604.00	2.73	1,331.67	1,506.81	75.89
934.00	13.79	1,331.62	1,506.81	75.91
1,338.00	11.75	1,330.00	1,505.59	76.08
1800	1.32	1,331.79	1,507.63	76.19
1,528.00	11.95	1,330.39	1,507.56	76.77
602.00	12.3	1,329.66	1,506.86	76.78
1,436.00	19.1	1,330.00	1,507.65	76.98
874.00	1.54	1,329.63	1,507.88	77.24
1796	4.69	1,329.31	1,507.60	77.25
902.00	0	1,329.21	1,507.88	77.42
904.00	1.05	1,328.81	1,507.88	77.59
284.00	8.97	1,326.11	1,505.48	77.72
470.00	3.16	1,326.72	1,506.41	77.86
1,530.00	10.87	1,327.36	1,507.56	78.08
612.00	14.48	1,327.24	1,507.95	78.3
732.00	8.29	1,325.91	1,507.04	78.48
912.00	0	1,325.73	1,507.04	78.56
914.00	3.38	1,325.63	1,507.04	78.6
910.00	1.33	1,325.53	1,507.04	78.65
66.00	7.83	1,324.64	1,506.86	78.96
1,794.00	5.38	1,325.01	1,507.60	79.12
1,090.00	4.98	1,322.47	1,505.25	79.2
1,494.00	10.09	1,325.22	1,508.25	79.31
286.00	4.63	1,318.03	1,505.60	81.27
932.00	10.47	1,316.98	1,506.71	82.21
868.00	7.11	1,314.40	1,505.46	82.79
908.00	3.33	1,315.73	1,508.31	83.44
906.00	1.48	1,315.58	1,508.31	83.51
734.00	11.25	1,312.32	1,506.06	83.95
618.00	4.31	1,312.84	1,508.61	84.83
926.00	2.42	1,310.00	1,506.27	85.05
946.00	5.85	1,309.18	1,506.44	85.47
506.00	8.08	1,310.00	1,507.44	85.55
936.00	5.69	1,310.00	1,507.43	85.55
938.00	5.17	1,310.00	1,507.43	85.55
944.00	6.22	1,308.69	1,506.44	85.68
726.00	7.37	1,309.50	1,507.26	85.69
666.00	5.73	1,308.46	1,506.25	85.7
472.00	3.85	1,308.52	1,506.59	85.82
916.00	2.31	1,310.00	1,508.28	85.92
918.00	1.63	1,310.00	1,508.28	85.92
620.00	4.1	1,310.00	1,508.31	85.93

Zone A 2040 Junction Pressures at Bottom of Domestic Storage - Site B

ID	Demand (gpm)	Elevation (ft)	Head (ft)	Pressure (psi)
1804	0.39	1,308.89	1,508.42	86.46
742.00	0	1,310.00	1,510.83	87.02
1,354.00	0	1,310.00	1,510.97	87.08
1,230.00	0	1,310.00	1,511.02	87.1
1,232.00	0	1,310.00	1,511.01	87.1
1,766.00	0	1,310.00	1,511.04	87.11
928.00	3.58	1,304.96	1,506.34	87.26
924.00	6	1,304.54	1,506.34	87.44
J120	0	1,302.61	1,505.23	87.8
1,092.00	15.5	1,302.32	1,505.26	87.93
1,094.00	3.83	1,299.96	1,505.33	88.98
504.00	7.22	1,301.51	1,507.19	89.12
J116	0	1,271.14	1,479.32	90.2
678.00	15.54	1,296.40	1,505.02	90.39
540.00	6	1,284.92	1,497.52	92.12
680.00	10.29	1,291.48	1,504.89	92.47
958.00	1.49	1,285.00	1,504.33	95.03
960.00	4.01	1,285.00	1,504.33	95.03
1,760.00	2.97	1,285.00	1,504.33	95.03
J118	0	1,270.34	1,491.52	95.84
1,762.00	8.54	1,270.00	1,492.44	96.39
952.00	0.2	1,281.68	1,504.63	96.6
956.00	0.21	1,281.23	1,504.63	96.8
724.00	4.8	1,280.00	1,504.33	97.2
542.00	8.13	1,272.65	1,497.62	97.48
560.00	2.35	1,277.96	1,504.63	98.22
558.00	11.97	1,276.35	1,504.49	98.85
J22	89.74	1,282.19	1,517.60	102

Zone A 2040 Junction Pressures at Bottom of Domestic Storage- Site C

ID	Demand (gpm)	Elevation (ft)	Head (ft)	Pressure (psi
1,704.00	0	1,374.26	1,398.00	10.28
1,710.00	0	1,373.99	1,397.99	10.4
1,706.00	0	1,373.88	1,398.00	10.45
1,708.00	0	1,373.51	1,398.00	10.61
J122	0	1,430.00	1,510.01	34.67
J28	43.4	1,427.87	1,509.19	35.24
1776	3.65	1,420.12	1,506.42	37.4
1,476.00	18.63	1,395.49	1,497.91	44.38
1816	24.58	1,394.50	1,498.66	45.13
1814	6.94	1,391.17	1,498.64	46.57
1,474.00	12.68	1,390.00	1,497.91	46.76
1,498.00	3.73	1,382.46	1,498.66	50.35
1812	304.52	1,380.00	1,498.64	51.41
1,470.00	19.2	1,376.53	1,497.91	52.59
1,204.00	1.03	1,377.46	1,499.06	52.69
878.00	4.73	1,377.11	1,498.99	52.81
1,260.00	0	1,376.56	1,499.28	53.18
1,468.00	10.43	1,375.18	1,497.93	53.19
1,714.00	0	1,376.39	1,499.29	53.25
1,712.00	0	1,376.22	1,499.30	53.33
1,466.00	8.47	1,374.44	1,497.98	53.53
1,472.00	16.96	1,374.25	1,497.91	53.58
1,434.00	0.07	1,371.80	1,498.97	55.1
882.00	2.24	1,371.34	1,498.97	55.3
1768	35.06	1,373.62	1,501.40	55.37
884.00	7.14	1,370.00	1,497.82	55.38
1,462.00	15.01	1,369.96	1,498.06	55.5
1,460.00	0.68	1,368.81	1,498.06	56
1,464.00	3.48	1,368.41	1,498.06	56.17
610.00	0.38	1,368.94	1,499.08	56.39
408.00	4.47	1,366.42	1,497.70	56.88
900.00	0.05	1,367.38	1,498.97	57.02
1,504.00	29.46	1,368.53	1,500.21	57.05
1,356.00	3.96	1,367.27	1,498.97	57.07
898.00	0.04	1,366.94	1,498.97	57.21
870.00	2.88	1,366.82	1,499.07	57.3
1,496.00	22.13	1,365.96	1,498.68	57.5
1,452.00	4.75	1,365.32	1,498.49	57.7
J24	479.3	1,367.49	1,501.45	58.04
940.00	2.23	1,362.55	1,497.40	58.43
1,442.00	12.93	1,363.09	1,498.45	58.65
942.00	1.29	1,361.81	1,497.40	58.75
1,444.00	8.54	1,362.57	1,498.44	58.87
880.00	3.01	1,362.50	1,498.64	58.99
1,522.00	16.48	1,361.89	1,498.36	59.13

Junction Pressures

< 35 psi

35-50 psi

50-80 psi

80-100 psi

> 100 psi

Zone A 2040 Junction Pressures at Bottom of Domestic Storage- Site C

ID	Demand (gpm)	Elevation (ft)	Head (ft)	Pressure (psi)
68.00	1.05	1,360.00	1,498.19	59.88
1,446.00	19.4	1,359.51	1,498.26	60.12
702.00	7.32	1,357.85	1,497.39	60.46
1,454.00	17.71	1,358.53	1,498.40	60.6
1802	9.13	1,357.95	1,498.22	60.78
1,458.00	1.36	1,356.87	1,498.24	61.26
J30	344.46	1,365.14	1,507.00	61.47
1,450.00	4	1,355.64	1,498.49	61.9
1,478.00	8.29	1,354.74	1,498.49	62.29
1,500.00	1.4	1,355.65	1,499.56	62.36
1,524.00	18.64	1,354.07	1,498.37	62.53
1,448.00	5.21	1,354.15	1,498.48	62.54
1,526.00	13.87	1,353.94	1,498.37	62.58
1,508.00	11.88	1,358.50	1,503.03	62.63
1,520.00	16.81	1,353.42	1,498.36	62.8
1,502.00	3.27	1,355.07	1,500.24	62.9
1,506.00	9.76	1,352.90	1,500.66	64.02
1,510.00	4.56	1,358.89	1,506.82	64.1
1,490.00	24.77	1,350.25	1,498.71	64.32
714.00	4.92	1,349.85	1,498.33	64.34
1,488.00	2.74	1,349.40	1,498.75	64.71
1,440.00	16.39	1,348.72	1,498.45	64.88
872.00	11.34	1,348.43	1,498.94	65.22
1,514.00	6.08	1,347.49	1,498.53	65.45
406.00	5.71	1,345.40	1,497.61	65.95
1,798.00	4.8	1,345.89	1,498.27	66.03
1,516.00	16.38	1,345.95	1,498.40	66.05
1,518.00	14.85	1,345.28	1,498.39	66.35
598.00	10.78	1,341.50	1,494.82	66.44
1,492.00	6.29	1,345.22	1,498.70	66.5
1,792.00	4.42	1,344.32	1,498.27	66.71
876.00	7.12	1,343.52	1,497.86	66.87
1,512.00	7.29	1,352.48	1,506.82	66.88
1,480.00	4.71	1,344.14	1,498.53	66.9
1,484.00	3.78	1,342.46	1,498.58	67.65
920.00	3.73	1,340.00	1,498.16	68.53
922.00	0.27	1,340.00	1,498.16	68.53
948.00	0.9	1,337.36	1,496.86	69.11
1,482.00	4.73	1,338.32	1,498.54	69.42
730.00	0.13	1,336.34	1,496.86	69.55
950.00	2.6	1,336.24	1,496.86	69.6
1,486.00	3.61	1,337.49	1,498.61	69.81
1,456.00	9.26	1,335.76	1,498.38	70.47
1,262.00	5.89	1,334.83	1,499.01	71.14
1,438.00	6.33	1,334.11	1,498.46	71.21

Zone A 2040 Junction Pressures at Bottom of Domestic Storage- Site C

ID	Demand (gpm)	Elevation (ft)	Head (ft)	Pressure (psi)
930.00	4.02	1,331.87	1,498.14	72.05
604.00	2.73	1,331.67	1,498.15	72.13
934.00	13.79	1,331.62	1,498.14	72.16
1,800.00	1.32	1,331.79	1,498.47	72.22
1,338.00	11.75	1,330.00	1,497.06	72.39
1,528.00	11.95	1,330.39	1,498.38	72.79
602.00	12.3	1,329.66	1,498.17	73.02
1,436.00	19.1	1,330.00	1,498.52	73.02
1,796.00	4.69	1,329.31	1,498.43	73.28
874.00	1.54	1,329.63	1,499.08	73.42
902.00	0	1,329.21	1,499.08	73.6
904.00	1.05	1,328.81	1,499.08	73.78
470.00	3.16	1,326.72	1,497.52	74.01
284.00	8.97	1,326.11	1,496.96	74.03
1,530.00	10.87	1,327.36	1,498.37	74.1
612.00	14.48	1,327.24	1,499.18	74.5
732.00	8.29	1,325.91	1,498.35	74.72
912.00	0	1,325.73	1,498.35	74.8
914.00	3.38	1,325.63	1,498.35	74.84
910.00	1.33	1,325.53	1,498.35	74.88
1,794.00	5.38	1,325.01	1,498.43	75.14
1,494.00	10.09	1,325.22	1,498.70	75.17
66.00	7.83	1,324.64	1,498.16	75.19
1,090.00	4.98	1,322.47	1,496.16	75.26
J42	81.6	1,323.04	1,501.34	77.26
286.00	4.63	1,318.03	1,497.07	77.58
932.00	10.47	1,316.98	1,498.10	78.48
868.00	7.11	1,314.40	1,496.95	79.1
908.00	3.33	1,315.73	1,499.67	79.7
906.00	1.48	1,315.58	1,499.67	79.76
734.00	11.25	1,312.32	1,497.49	80.24
618.00	4.31	1,312.84	1,500.07	81.13
926.00	2.42	1,310.00	1,497.37	81.19
946.00	5.85	1,309.18	1,497.84	81.75
936.00	5.69	1,310.00	1,498.84	81.82
938.00	5.17	1,310.00	1,498.84	81.82
506.00	8.08	1,310.00	1,498.85	81.83
666.00	5.73	1,308.46	1,497.35	81.84
726.00	7.37	1,309.50	1,498.62	81.95
944.00	6.22	1,308.69	1,497.84	81.96
472.00	3.85	1,308.52	1,497.70	81.97
1804	0.39	1,308.89	1,498.25	82.05
916.00	2.31	1,310.00	1,499.73	82.21
918.00	1.63	1,310.00	1,499.73	82.21
620.00	4.1	1,310.00	1,499.75	82.22

Zone A 2040 Junction Pressures at Bottom of Domestic Storage- Site C

ID	Demand (gpm)	Elevation (ft)	Head (ft)	Pressure (psi)
928.00	3.58	1,304.96	1,497.46	83.41
742.00	0	1,310.00	1,502.63	83.47
1,354.00	0	1,310.00	1,502.80	83.54
1,232.00	0	1,310.00	1,502.85	83.56
1,230.00	0	1,310.00	1,502.86	83.57
1,766.00	0	1,310.00	1,502.88	83.57
924.00	6	1,304.54	1,497.46	83.59
J120	0	1,302.61	1,496.10	83.84
1,092.00	15.5	1,302.32	1,496.16	83.99
1,094.00	3.83	1,299.96	1,496.23	85.04
504.00	7.22	1,301.51	1,498.57	85.38
678.00	15.54	1,296.40	1,496.57	86.73
J116	0	1,271.14	1,475.70	88.64
680.00	10.29	1,291.48	1,496.44	88.81
540.00	6	1,284.92	1,490.25	88.97
958.00	1.49	1,285.00	1,495.98	91.42
960.00	4.01	1,285.00	1,495.98	91.42
1,760.00	2.97	1,285.00	1,495.98	91.42
952.00	0.2	1,281.68	1,496.24	92.97
956.00	0.21	1,281.23	1,496.24	93.16
J118	0	1,270.34	1,485.40	93.18
724.00	4.8	1,280.00	1,495.98	93.59
1,762.00	8.54	1,270.00	1,486.15	93.66
542.00	8.13	1,272.65	1,490.35	94.33
560.00	2.35	1,277.96	1,496.24	94.58
J22	89.74	1,282.19	1,501.32	94.95
558.00	11.97	1,276.35	1,496.12	95.23

Zone A 2040 Junction Pressures at Bottom of Domestic Storage- Site D

ID	Demand (gpm)	Elevation (ft)	Head (ft)	Pressure (psi)
1704	0	1,374.26	1,398.00	10.28
1710	0	1,373.99	1,397.99	10.4
1706	0	1,373.88	1,398.00	10.45
1708	0	1,373.51	1,398.00	10.61
J122	0	1,430.00	1,512.16	34.9
J28	43.4	1,427.87	1,512.25	36.56
1776	3.65	1,420.12	1,512.69	40.11
1476	18.63	1,395.49	1,512.07	50.52
1816	24.58	1,394.50	1,515.03	52.23
1474	12.68	1,390.00	1,512.08	52.9
1814	6.94	1,391.17	1,516.26	54.2
1498	3.73	1,382.46	1,514.90	57.38
1204	1.03	1,377.46	1,512.79	58.64
1470	19.2	1,376.53	1,512.07	58.73
878	4.73	1,377.11	1,512.73	58.76
1260	0	1,376.56	1,512.99	59.11
1812	304.52	1,380.00	1,516.57	59.18
1714	0	1,376.39	1,513.00	59.19
1712	0	1,376.22	1,513.00	59.27
1468	10.43	1,375.18	1,512.10	59.32
1466	8.47	1,374.44	1,512.14	59.66
1472	16.96	1,374.25	1,512.07	59.72
1768	35.06	1,373.62	1,514.20	60.91
1434	0.07	1,371.80	1,512.75	61.07
884	7.14	1,370.00	1,511.38	61.26
882	2.24	1,371.34	1,512.75	61.28
1462	15.01	1,369.96	1,512.22	61.64
1460	0.68	1,368.81	1,512.22	62.14
1464	3.48	1,368.41	1,512.22	62.31
610	0.38	1,368.94	1,512.79	62.33
1504	29.46	1,368.53	1,512.78	62.5
408	4.47	1,366.42	1,511.23	62.75
900	0.05	1,367.38	1,512.75	62.99
1356	3.96	1,367.27	1,512.75	63.04
898	0.04	1,366.94	1,512.75	63.18
870	2.88	1,366.82	1,512.79	63.25
J24	479.3	1,367.49	1,513.53	63.28
J30	344.46	1,365.14	1,511.92	63.6
1452	4.75	1,365.32	1,512.74	63.88
940	2.23	1,362.55	1,510.85	64.26
1496	22.13	1,365.96	1,514.33	64.29
942	1.29	1,361.81	1,510.85	64.58
1442	12.93	1,363.09	1,512.62	64.79
880	3.01	1,362.50	1,512.50	65
1444	8.54	1,362.57	1,512.61	65.01

Junction Pressures

< 35 psi

35-50 psi

50-80 psi

80-100 psi

> 100 psi

Zone A 2040 Junction Pressures at Bottom of Domestic Storage- Site D

ID	Demand (gpm)	Elevation (ft)	Head (ft)	Pressure (psi)
1522	16.48	1,361.89	1,512.74	65.36
68	1.05	1,360.00	1,511.85	65.79
1446	19.4	1,359.51	1,512.43	66.26
702	7.32	1,357.85	1,510.85	66.29
1510	4.56	1,358.89	1,511.94	66.31
1508	11.88	1,358.50	1,512.40	66.68
1454	17.71	1,358.53	1,512.56	66.74
1802	9.13	1,357.95	1,512.38	66.92
1458	1.36	1,356.87	1,512.40	67.39
1450	4	1,355.64	1,512.74	68.07
1500	1.4	1,355.65	1,513.00	68.18
1502	3.27	1,355.07	1,512.82	68.35
1478	8.29	1,354.74	1,512.75	68.46
1448	5.21	1,354.15	1,512.73	68.71
1524	18.64	1,354.07	1,512.74	68.75
1526	13.87	1,353.94	1,512.74	68.81
1520	16.81	1,353.42	1,512.74	69.03
1512	7.29	1,352.48	1,511.94	69.09
1506	9.76	1,352.90	1,512.74	69.26
714	4.92	1,349.85	1,512.27	70.38
1490	24.77	1,350.25	1,513.65	70.8
1488	2.74	1,349.40	1,513.23	70.99
1440	16.39	1,348.72	1,512.61	71.01
872	11.34	1,348.43	1,512.66	71.16
1514	6.08	1,347.49	1,512.91	71.68
406	5.71	1,345.40	1,511.14	71.82
1798	4.8	1,345.89	1,512.43	72.16
1516	16.38	1,345.95	1,512.78	72.28
598	10.78	1,341.50	1,508.93	72.55
1518	14.85	1,345.28	1,512.77	72.57
876	7.12	1,343.52	1,511.57	72.82
1792	4.42	1,344.32	1,512.43	72.84
1492	6.29	1,345.22	1,513.64	72.98
1480	4.71	1,344.14	1,512.84	73.1
1484	3.78	1,342.46	1,512.95	73.88
920	3.73	1,340.00	1,511.79	74.44
922	0.27	1,340.00	1,511.79	74.44
948	0.9	1,337.36	1,510.19	74.89
730	0.13	1,336.34	1,510.19	75.33
950	2.6	1,336.24	1,510.19	75.37
1482	4.73	1,338.32	1,512.86	75.63
1486	3.61	1,337.49	1,513.01	76.05
1456	9.26	1,335.76	1,512.55	76.6
1262	5.89	1,334.83	1,512.72	77.08
1438	6.33	1,334.11	1,512.61	77.35

Zone A 2040 Junction Pressures at Bottom of Domestic Storage- Site D

ID	Demand (gpm)	Elevation (ft)	Head (ft)	Pressure (psi)
930	4.02	1,331.87	1,511.71	77.92
604	2.73	1,331.67	1,511.71	78.01
934	13.79	1,331.62	1,511.71	78.03
1338	11.75	1,330.00	1,510.44	78.19
1800	1.32	1,331.79	1,512.61	78.35
602	12.3	1,329.66	1,511.79	78.92
1528	11.95	1,330.39	1,512.54	78.92
1436	19.1	1,330.00	1,512.62	79.13
874	1.54	1,329.63	1,512.79	79.36
1796	4.69	1,329.31	1,512.57	79.41
902	0	1,329.21	1,512.79	79.54
904	1.05	1,328.81	1,512.79	79.72
284	8.97	1,326.11	1,510.33	79.82
470	3.16	1,326.72	1,511.68	80.14
1530	10.87	1,327.36	1,512.54	80.24
612	14.48	1,327.24	1,512.84	80.42
732	8.29	1,325.91	1,511.95	80.61
912	0	1,325.73	1,511.95	80.69
914	3.38	1,325.63	1,511.95	80.73
910	1.33	1,325.53	1,511.95	80.77
66	7.83	1,324.64	1,511.81	81.1
1794	5.38	1,325.01	1,512.57	81.27
1494	10.09	1,325.22	1,513.64	81.64
1090	4.98	1,322.47	1,511.08	81.72
J42	81.6	1,323.04	1,514.14	82.81
286	4.63	1,318.03	1,510.44	83.37
932	10.47	1,316.98	1,511.58	84.32
868	7.11	1,314.40	1,510.30	84.88
908	3.33	1,315.73	1,513.14	85.54
906	1.48	1,315.58	1,513.14	85.6
734	11.25	1,312.32	1,510.93	86.06
618	4.31	1,312.84	1,513.39	86.9
926	2.42	1,310.00	1,511.59	87.35
946	5.85	1,309.18	1,511.31	87.58
936	5.69	1,310.00	1,512.27	87.64
938	5.17	1,310.00	1,512.27	87.64
506	8.08	1,310.00	1,512.27	87.65
944	6.22	1,308.69	1,511.31	87.79
726	7.37	1,309.50	1,512.13	87.8
666	5.73	1,308.46	1,511.51	87.98
916	2.31	1,310.00	1,513.08	87.99
918	1.63	1,310.00	1,513.08	87.99
620	4.1	1,310.00	1,513.10	88
472	3.85	1,308.52	1,511.80	88.08
742	0	1,310.00	1,515.39	89

Zone A 2040 Junction Pressures at Bottom of Domestic Storage- Site D

ID	Demand (gpm)	Elevation (ft)	Head (ft)	Pressure (psi)
1354	0	1,310.00	1,515.52	89.05
1230	0	1,310.00	1,515.57	89.07
1232	0	1,310.00	1,515.56	89.07
1766	0	1,310.00	1,515.58	89.08
928	3.58	1,304.96	1,511.61	89.54
1804	0.39	1,308.89	1,515.73	89.63
924	6	1,304.54	1,511.61	89.72
J120	0	1,302.61	1,511.12	90.35
1092	15.5	1,302.32	1,511.08	90.46
J116	0	1,271.14	1,481.50	91.15
504	7.22	1,301.51	1,512.06	91.23
1094	3.83	1,299.96	1,511.15	91.51
678	15.54	1,296.40	1,509.83	92.48
540	6	1,284.92	1,501.80	93.97
680	10.29	1,291.48	1,509.70	94.56
958	1.49	1,285.00	1,509.09	97.1
960	4.01	1,285.00	1,509.09	97.1
1760	2.97	1,285.00	1,509.09	97.1
J118	0	1,270.34	1,495.28	97.46
1762	8.54	1,270.00	1,496.28	98.05
952	0.2	1,281.68	1,509.42	98.68
956	0.21	1,281.23	1,509.42	98.87
724	4.8	1,280.00	1,509.09	99.27
542	8.13	1,272.65	1,501.90	99.33
560	2.35	1,277.96	1,509.42	100.29
J22	89.74	1,282.19	1,514.13	100.5
558	11.97	1,276.35	1,509.27	100.92

2040 Junction Pressures at Top of Domestic Storage - Site B

ID	Demand (gpm)	Elevation (ft)	Head (ft)	Pressure (psi)
1768	35.06	1,373.62	1,529.62	67.59
68	1.05	1,360.00	1,516.11	67.64
702	7.32	1,357.85	1,515.04	68.11
1446	19.4	1,359.51	1,517.07	68.27
1454	17.71	1,358.53	1,517.19	68.75
1802	9.13	1,357.95	1,517.02	68.93
1458	1.36	1,356.87	1,517.04	69.4
1508	11.88	1,358.50	1,519.09	69.59
J24	479.3	1,367.49	1,528.24	69.65
1510	4.56	1,358.89	1,519.92	69.77
1450	4	1,355.64	1,517.50	70.14
1478	8.29	1,354.74	1,517.52	70.53
1500	1.4	1,355.65	1,518.42	70.53
1448	5.21	1,354.15	1,517.48	70.77
1502	3.27	1,355.07	1,518.53	70.83
1524	18.64	1,354.07	1,517.68	70.89
1526	13.87	1,353.94	1,517.67	70.94
1520	16.81	1,353.42	1,517.67	71.17
1506	9.76	1,352.90	1,518.61	71.8
714	4.92	1,349.85	1,516.55	72.23
1512	7.29	1,352.48	1,519.92	72.55
1490	24.77	1,350.25	1,518.41	72.86
1440	16.39	1,348.72	1,517.24	73.02
872	11.34	1,348.43	1,517.09	73.08
1488	2.74	1,349.40	1,518.30	73.18
406	5.71	1,345.40	1,515.36	73.64
1514	6.08	1,347.49	1,517.84	73.81
1798	4.8	1,345.89	1,517.06	74.17
598	10.78	1,341.50	1,513.02	74.32
1516	16.38	1,345.95	1,517.71	74.42
1518	14.85	1,345.28	1,517.70	74.71
876	7.12	1,343.52	1,516.00	74.74
1792	4.42	1,344.32	1,517.06	74.85
1492	6.29	1,345.22	1,518.40	75.04
1480	4.71	1,344.14	1,517.68	75.2
1484	3.78	1,342.46	1,517.89	76.01
920	3.73	1,340.00	1,516.05	76.28
922	0.27	1,340.00	1,516.05	76.28
948	0.9	1,337.36	1,514.33	76.68
730	0.13	1,336.34	1,514.32	77.12
950	2.6	1,336.24	1,514.33	77.16
1482	4.73	1,338.32	1,517.72	77.73
1486	3.61	1,337.49	1,517.96	78.2
1456	9.26	1,335.76	1,517.17	78.61
1262	5.89	1,334.83	1,517.16	79

2040 Junction Pressures at Top of Domestic Storage - Site B

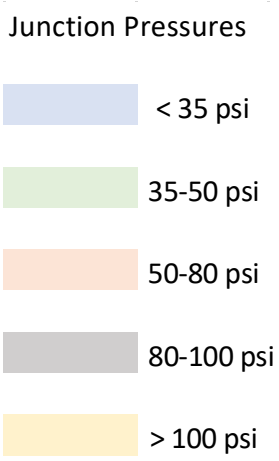
ID	Demand (gpm)	Elevation (ft)	Head (ft)	Pressure (psi)
1438	6.33	1,334.11	1,517.22	79.34
930	4.02	1,331.87	1,515.96	79.76
604	2.73	1,331.67	1,515.96	79.85
934	13.79	1,331.62	1,515.96	79.87
1338	11.75	1,330.00	1,514.60	79.99
1800	1.32	1,331.79	1,517.21	80.34
602	12.3	1,329.66	1,516.04	80.76
1528	11.95	1,330.39	1,517.16	80.93
1436	19.1	1,330.00	1,517.21	81.12
874	1.54	1,329.63	1,517.22	81.29
1796	4.69	1,329.31	1,517.18	81.41
902	0	1,329.21	1,517.22	81.47
284	8.97	1,326.11	1,514.48	81.62
904	1.05	1,328.81	1,517.22	81.64
470	3.16	1,326.72	1,515.71	81.89
1530	10.87	1,327.36	1,517.16	82.24
612	14.48	1,327.24	1,517.25	82.33
732	8.29	1,325.91	1,516.22	82.46
912	0	1,325.73	1,516.22	82.54
914	3.38	1,325.63	1,516.22	82.58
910	1.33	1,325.53	1,516.22	82.62
66	7.83	1,324.64	1,516.07	82.95
1090	4.98	1,322.47	1,514.55	83.23
1794	5.38	1,325.01	1,517.18	83.27
1494	10.09	1,325.22	1,518.40	83.7
286	4.63	1,318.03	1,514.60	85.17
932	10.47	1,316.98	1,515.81	86.15
868	7.11	1,314.40	1,514.44	86.68
908	3.33	1,315.73	1,517.47	87.41
906	1.48	1,315.58	1,517.47	87.48
734	11.25	1,312.32	1,515.12	87.87
618	4.31	1,312.84	1,517.65	88.75
926	2.42	1,310.00	1,515.55	89.07
946	5.85	1,309.18	1,515.52	89.41
506	8.08	1,310.00	1,516.52	89.48
936	5.69	1,310.00	1,516.51	89.48
938	5.17	1,310.00	1,516.51	89.48
944	6.22	1,308.69	1,515.52	89.62
726	7.37	1,309.50	1,516.40	89.65
666	5.73	1,308.46	1,515.54	89.73
916	2.31	1,310.00	1,517.34	89.84
918	1.63	1,310.00	1,517.34	89.84
620	4.1	1,310.00	1,517.36	89.85
472	3.85	1,308.52	1,515.90	89.86
742	0	1,310.00	1,519.47	90.76

2040 Junction Pressures at Top of Domestic Storage - Site B

ID	Demand (gpm)	Elevation (ft)	Head (ft)	Pressure (psi)
1354	0	1,310.00	1,519.59	90.82
1232	0	1,310.00	1,519.63	90.83
1230	0	1,310.00	1,519.64	90.84
1766	0	1,310.00	1,519.65	90.84
1804	0.39	1,308.89	1,518.64	90.88
928	3.58	1,304.96	1,515.61	91.27
924	6	1,304.54	1,515.61	91.46
J116	0	1,271.14	1,482.97	91.79
J120	0	1,302.61	1,514.53	91.83
1092	15.5	1,302.32	1,514.56	91.96
1094	3.83	1,299.96	1,514.63	93.01
504	7.22	1,301.51	1,516.31	93.07
678	15.54	1,296.40	1,513.93	94.26
540	6	1,284.92	1,505.11	95.41
680	10.29	1,291.48	1,513.81	96.33
J118	0	1,270.34	1,497.82	98.56
958	1.49	1,285.00	1,513.13	98.85
960	4.01	1,285.00	1,513.13	98.85
1760	2.97	1,285.00	1,513.13	98.85
1762	8.54	1,270.00	1,498.93	99.2
952	0.2	1,281.68	1,513.48	100.44
956	0.21	1,281.23	1,513.48	100.63
542	8.13	1,272.65	1,505.21	100.77
724	4.8	1,280.00	1,513.13	101.01
560	2.35	1,277.96	1,513.48	102.05
558	11.97	1,276.35	1,513.32	102.68

2023 Junction Pressures at Top of Domestic Storage - Site B

ID	Demand (gpm)	Elevation (ft)	Head (ft)	Pressure (psi)
1704	0	1,374.26	1,397.99	10.28
1710	0	1,373.99	1,397.97	10.39
1706	0	1,373.88	1,397.99	10.45
1708	0	1,373.51	1,397.99	10.61
1476	12.48	1,395.49	1,528.45	57.61
1816	61.3	1,394.50	1,528.76	58.18
1814	0	1,391.17	1,528.91	59.68
1474	13.04	1,390.00	1,528.45	59.99
1498	4.53	1,382.46	1,528.76	63.39
1812	13.97	1,380.00	1,528.95	64.54
1470	4.4	1,376.53	1,528.47	65.83
1204	1.82	1,377.46	1,530.13	66.15
878	6.86	1,377.11	1,530.07	66.28
1468	8.92	1,375.18	1,528.47	66.42
1466	5.76	1,374.44	1,528.48	66.75
1260	0	1,376.56	1,530.62	66.76
1472	4.49	1,374.25	1,528.47	66.82
1714	0	1,376.39	1,530.65	66.84
1712	0	1,376.22	1,530.66	66.92
J40	88.18	1,373.06	1,529.08	67.6
1768	91.77	1,373.62	1,529.98	67.75
1434	0.55	1,371.80	1,529.62	68.38
882	1.17	1,371.34	1,529.62	68.58
1462	17.24	1,369.96	1,528.51	68.7
884	9.22	1,370.00	1,529.14	68.95
1460	0.95	1,368.81	1,528.51	69.2
1504	22.33	1,368.53	1,528.58	69.35
1464	4.89	1,368.41	1,528.51	69.37
610	1.76	1,368.94	1,529.36	69.51
900	0.4	1,367.38	1,529.60	70.29
1356	5.04	1,367.27	1,529.59	70.34
870	2.59	1,366.82	1,529.37	70.43
408	4.6	1,366.42	1,529.07	70.47
898	0.27	1,366.94	1,529.60	70.48
1496	8.81	1,365.96	1,528.72	70.52
1452	6.66	1,365.32	1,528.66	70.78
1442	3.93	1,363.09	1,528.67	71.75
1444	4.75	1,362.57	1,528.67	71.97
940	4.03	1,362.55	1,528.88	72.07
1522	5.25	1,361.89	1,528.61	72.24
880	2.89	1,362.50	1,529.52	72.37
942	2.73	1,361.81	1,528.88	72.39
1446	6.54	1,359.51	1,528.61	73.27
68	6.35	1,360.00	1,529.39	73.39
1510	4.78	1,358.89	1,528.57	73.52



2023 Junction Pressures at Top of Domestic Storage - Site B

ID	Demand (gpm)	Elevation (ft)	Head (ft)	Pressure (psi)
1508	31.43	1,358.50	1,528.57	73.69
1454	7.62	1,358.53	1,528.68	73.73
1802	3.69	1,357.95	1,528.59	73.94
702	7.79	1,357.85	1,528.89	74.11
1458	1.9	1,356.87	1,528.60	74.41
1500	1.96	1,355.65	1,528.63	74.95
1450	0.75	1,355.64	1,528.66	74.97
1502	1.45	1,355.07	1,528.60	75.19
1478	3.24	1,354.74	1,528.66	75.36
1448	3.52	1,354.15	1,528.66	75.62
1524	9.63	1,354.07	1,528.61	75.63
1526	9.73	1,353.94	1,528.60	75.68
1520	6.6	1,353.42	1,528.61	75.91
1506	3.86	1,352.90	1,528.60	76.13
1512	3.75	1,352.48	1,528.57	76.3
1490	4.68	1,350.25	1,528.68	77.31
1488	3.85	1,349.40	1,528.66	77.67
714	5.87	1,349.85	1,529.43	77.81
1440	6.13	1,348.72	1,528.70	77.98
872	10.21	1,348.43	1,529.25	78.35
1514	3.45	1,347.49	1,528.65	78.5
1516	6	1,345.95	1,528.62	79.15
1798	6.73	1,345.89	1,528.62	79.18
1518	4.96	1,345.28	1,528.62	79.44
1492	2.53	1,345.22	1,528.68	79.49
406	8.21	1,345.40	1,528.89	79.51
1792	6.21	1,344.32	1,528.62	79.86
1480	6.41	1,344.14	1,528.66	79.95
876	6.1	1,343.52	1,528.44	80.13
598	7.96	1,341.50	1,527.65	80.66
1484	3.68	1,342.46	1,528.66	80.68
920	4.78	1,340.00	1,529.02	81.9
922	2.52	1,340.00	1,529.02	81.9
1482	6.63	1,338.32	1,528.66	82.47
1486	4.11	1,337.49	1,528.66	82.83
948	1.47	1,337.36	1,528.75	82.93
730	1.75	1,336.34	1,528.75	83.37
950	5.31	1,336.24	1,528.75	83.41
1456	6.52	1,335.76	1,528.68	83.59
1262	3.25	1,334.83	1,529.35	84.28
1438	5.4	1,334.11	1,528.74	84.33
930	5.28	1,331.87	1,528.88	85.36
1800	2.32	1,331.79	1,528.79	85.36
604	3.29	1,331.67	1,528.88	85.45
934	4.34	1,331.62	1,528.88	85.47

2023 Junction Pressures at Top of Domestic Storage - Site B

ID	Demand (gpm)	Elevation (ft)	Head (ft)	Pressure (psi)
1528	4.38	1,330.39	1,528.67	85.92
1338	9.95	1,330.00	1,528.80	86.14
1436	3.51	1,330.00	1,528.88	86.17
602	5.09	1,329.66	1,528.99	86.37
1796	6.72	1,329.31	1,528.75	86.42
874	1.61	1,329.63	1,529.36	86.54
902	0.04	1,329.21	1,529.36	86.72
904	1.98	1,328.81	1,529.36	86.9
1530	9.65	1,327.36	1,528.67	87.23
612	10.45	1,327.24	1,529.27	87.54
284	8.32	1,326.11	1,528.65	87.76
470	5.32	1,326.72	1,529.26	87.76
732	5.17	1,325.91	1,528.98	87.99
912	0.1	1,325.73	1,528.98	88.07
914	2.06	1,325.63	1,528.98	88.11
910	3.56	1,325.53	1,528.98	88.15
1494	10.73	1,325.22	1,528.67	88.16
1794	7.55	1,325.01	1,528.75	88.28
66	5.64	1,324.64	1,529.36	88.7
1090	0	1,322.47	1,529.22	89.59
286	9.28	1,318.03	1,528.75	91.31
932	12.91	1,316.98	1,528.82	91.79
908	4.35	1,315.73	1,529.10	92.45
906	4.12	1,315.58	1,529.10	92.52
868	5.74	1,314.40	1,528.75	92.88
618	9.72	1,312.84	1,528.99	93.66
734	18.99	1,312.32	1,528.78	93.79
506	6.28	1,310.00	1,528.87	94.83
936	10.91	1,310.00	1,528.87	94.83
938	3.26	1,310.00	1,528.87	94.83
620	5.45	1,310.00	1,528.96	94.87
916	2.09	1,310.00	1,528.95	94.87
918	4.27	1,310.00	1,528.95	94.87
742	0	1,310.00	1,528.99	94.89
1230	0	1,310.00	1,528.99	94.89
1232	0	1,310.00	1,528.99	94.89
1354	0	1,310.00	1,528.99	94.89
1766	0	1,310.00	1,528.99	94.89
926	3.36	1,310.00	1,529.26	95.01
726	8.6	1,309.50	1,528.93	95.08
946	4.71	1,309.18	1,528.80	95.16
1804	0	1,308.89	1,528.95	95.35
944	11.35	1,308.69	1,528.80	95.37
666	10.03	1,308.46	1,528.80	95.47
472	7.21	1,308.52	1,529.28	95.66

2023 Junction Pressures at Top of Domestic Storage - Site B

ID	Demand (gpm)	Elevation (ft)	Head (ft)	Pressure (psi)
928	2.74	1,304.96	1,529.27	97.19
924	4.11	1,304.54	1,529.27	97.38
1092	6.65	1,302.32	1,529.22	98.32
504	9.62	1,301.51	1,528.87	98.51
1094	7.88	1,299.96	1,529.23	99.34
678	11.62	1,296.40	1,528.71	100.66
680	16.48	1,291.48	1,528.41	102.66
540	7.98	1,284.92	1,528.36	105.48
958	1.41	1,285.00	1,528.68	105.59
960	5.33	1,285.00	1,528.68	105.59
1760	0.47	1,285.00	1,528.68	105.59
952	0.58	1,281.68	1,528.69	107.03
956	0.64	1,281.23	1,528.69	107.22
724	5.89	1,280.00	1,528.68	107.75
560	4.11	1,277.96	1,528.69	108.64
558	11.3	1,276.35	1,528.69	109.34
542	7.66	1,272.65	1,528.53	110.87
1762	8.77	1,270.00	1,528.54	112.03

2040 Junction Pressures at Top of Domestic Storage - Site B

ID	Demand (gpm)	Elevation (ft)	Head (ft)	Pressure (psi)
1704	0	1,374.26	1,398.00	10.28
1710	0	1,373.99	1,397.99	10.4
1706	0	1,373.88	1,398.00	10.45
1708	0	1,373.51	1,398.00	10.61
J122	0	1,430.00	1,521.45	39.63
J28	43.4	1,427.87	1,521.96	40.77
1776	3.65	1,420.12	1,524.18	45.09
1476	18.63	1,395.49	1,516.71	52.53
1816	24.58	1,394.50	1,518.84	53.88
1474	12.68	1,390.00	1,516.71	54.9
1814	6.94	1,391.17	1,519.27	55.51
1498	3.73	1,382.46	1,518.80	59.08
1812	304.52	1,380.00	1,519.38	60.39
1204	1.03	1,377.46	1,517.23	60.56
878	4.73	1,377.11	1,517.15	60.68
1470	19.2	1,376.53	1,516.71	60.74
1260	0	1,376.56	1,517.41	61.03
1714	0	1,376.39	1,517.41	61.11
1712	0	1,376.22	1,517.42	61.18
1468	10.43	1,375.18	1,516.73	61.33
1466	8.47	1,374.44	1,516.78	61.67
1472	16.96	1,374.25	1,516.71	61.73
1434	0.07	1,371.80	1,517.21	63.01
884	7.14	1,370.00	1,515.61	63.09
882	2.24	1,371.34	1,517.21	63.21
1462	15.01	1,369.96	1,516.86	63.65
1460	0.68	1,368.81	1,516.86	64.15
610	0.38	1,368.94	1,517.23	64.25
J40	27.78	1,373.06	1,521.46	64.3
1464	3.48	1,368.41	1,516.86	64.32
408	4.47	1,366.42	1,515.45	64.57
900	0.05	1,367.38	1,517.21	64.92
1356	3.96	1,367.27	1,517.21	64.97
1504	29.46	1,368.53	1,518.49	64.98
898	0.04	1,366.94	1,517.21	65.11
870	2.88	1,366.82	1,517.22	65.17
1452	4.75	1,365.32	1,517.50	65.94
940	2.23	1,362.55	1,515.04	66.07
1496	22.13	1,365.96	1,518.61	66.14
942	1.29	1,361.81	1,515.04	66.39
1442	12.93	1,363.09	1,517.29	66.81
880	3.01	1,362.50	1,516.87	66.89
1444	8.54	1,362.57	1,517.27	67.03
J30	344.46	1,365.14	1,519.96	67.08
1522	16.48	1,361.89	1,517.67	67.5

Junction Pressures

- < 35 psi
- 35-50 psi
- 50-80 psi
- 80-100 psi
- > 100 psi

2040 Junction Pressures at Top of Domestic Storage - Site B

ID	Demand (gpm)	Elevation (ft)	Head (ft)	Pressure (psi)
1768	35.06	1,373.62	1,529.62	67.59
68	1.05	1,360.00	1,516.11	67.64
702	7.32	1,357.85	1,515.04	68.11
1446	19.4	1,359.51	1,517.07	68.27
1454	17.71	1,358.53	1,517.19	68.75
1802	9.13	1,357.95	1,517.02	68.93
1458	1.36	1,356.87	1,517.04	69.4
1508	11.88	1,358.50	1,519.09	69.59
J24	479.3	1,367.49	1,528.24	69.65
1510	4.56	1,358.89	1,519.92	69.77
1450	4	1,355.64	1,517.50	70.14
1478	8.29	1,354.74	1,517.52	70.53
1500	1.4	1,355.65	1,518.42	70.53
1448	5.21	1,354.15	1,517.48	70.77
1502	3.27	1,355.07	1,518.53	70.83
1524	18.64	1,354.07	1,517.68	70.89
1526	13.87	1,353.94	1,517.67	70.94
1520	16.81	1,353.42	1,517.67	71.17
1506	9.76	1,352.90	1,518.61	71.8
714	4.92	1,349.85	1,516.55	72.23
1512	7.29	1,352.48	1,519.92	72.55
1490	24.77	1,350.25	1,518.41	72.86
1440	16.39	1,348.72	1,517.24	73.02
872	11.34	1,348.43	1,517.09	73.08
1488	2.74	1,349.40	1,518.30	73.18
406	5.71	1,345.40	1,515.36	73.64
1514	6.08	1,347.49	1,517.84	73.81
1798	4.8	1,345.89	1,517.06	74.17
598	10.78	1,341.50	1,513.02	74.32
1516	16.38	1,345.95	1,517.71	74.42
1518	14.85	1,345.28	1,517.70	74.71
876	7.12	1,343.52	1,516.00	74.74
1792	4.42	1,344.32	1,517.06	74.85
1492	6.29	1,345.22	1,518.40	75.04
1480	4.71	1,344.14	1,517.68	75.2
1484	3.78	1,342.46	1,517.89	76.01
920	3.73	1,340.00	1,516.05	76.28
922	0.27	1,340.00	1,516.05	76.28
948	0.9	1,337.36	1,514.33	76.68
730	0.13	1,336.34	1,514.32	77.12
950	2.6	1,336.24	1,514.33	77.16
1482	4.73	1,338.32	1,517.72	77.73
1486	3.61	1,337.49	1,517.96	78.2
1456	9.26	1,335.76	1,517.17	78.61
1262	5.89	1,334.83	1,517.16	79

2040 Junction Pressures at Top of Domestic Storage - Site B

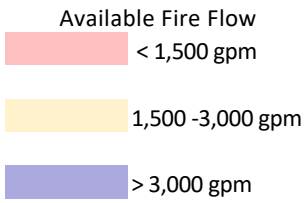
ID	Demand (gpm)	Elevation (ft)	Head (ft)	Pressure (psi)
1438	6.33	1,334.11	1,517.22	79.34
930	4.02	1,331.87	1,515.96	79.76
604	2.73	1,331.67	1,515.96	79.85
934	13.79	1,331.62	1,515.96	79.87
1338	11.75	1,330.00	1,514.60	79.99
1800	1.32	1,331.79	1,517.21	80.34
602	12.3	1,329.66	1,516.04	80.76
1528	11.95	1,330.39	1,517.16	80.93
1436	19.1	1,330.00	1,517.21	81.12
874	1.54	1,329.63	1,517.22	81.29
1796	4.69	1,329.31	1,517.18	81.41
902	0	1,329.21	1,517.22	81.47
284	8.97	1,326.11	1,514.48	81.62
904	1.05	1,328.81	1,517.22	81.64
470	3.16	1,326.72	1,515.71	81.89
1530	10.87	1,327.36	1,517.16	82.24
612	14.48	1,327.24	1,517.25	82.33
732	8.29	1,325.91	1,516.22	82.46
912	0	1,325.73	1,516.22	82.54
914	3.38	1,325.63	1,516.22	82.58
910	1.33	1,325.53	1,516.22	82.62
66	7.83	1,324.64	1,516.07	82.95
1090	4.98	1,322.47	1,514.55	83.23
1794	5.38	1,325.01	1,517.18	83.27
1494	10.09	1,325.22	1,518.40	83.7
286	4.63	1,318.03	1,514.60	85.17
932	10.47	1,316.98	1,515.81	86.15
868	7.11	1,314.40	1,514.44	86.68
908	3.33	1,315.73	1,517.47	87.41
906	1.48	1,315.58	1,517.47	87.48
734	11.25	1,312.32	1,515.12	87.87
618	4.31	1,312.84	1,517.65	88.75
926	2.42	1,310.00	1,515.55	89.07
946	5.85	1,309.18	1,515.52	89.41
506	8.08	1,310.00	1,516.52	89.48
936	5.69	1,310.00	1,516.51	89.48
938	5.17	1,310.00	1,516.51	89.48
944	6.22	1,308.69	1,515.52	89.62
726	7.37	1,309.50	1,516.40	89.65
666	5.73	1,308.46	1,515.54	89.73
916	2.31	1,310.00	1,517.34	89.84
918	1.63	1,310.00	1,517.34	89.84
620	4.1	1,310.00	1,517.36	89.85
472	3.85	1,308.52	1,515.90	89.86
742	0	1,310.00	1,519.47	90.76

2040 Junction Pressures at Top of Domestic Storage - Site B

ID	Demand (gpm)	Elevation (ft)	Head (ft)	Pressure (psi)
1354	0	1,310.00	1,519.59	90.82
1232	0	1,310.00	1,519.63	90.83
1230	0	1,310.00	1,519.64	90.84
1766	0	1,310.00	1,519.65	90.84
1804	0.39	1,308.89	1,518.64	90.88
928	3.58	1,304.96	1,515.61	91.27
924	6	1,304.54	1,515.61	91.46
J116	0	1,271.14	1,482.97	91.79
J120	0	1,302.61	1,514.53	91.83
1092	15.5	1,302.32	1,514.56	91.96
1094	3.83	1,299.96	1,514.63	93.01
504	7.22	1,301.51	1,516.31	93.07
678	15.54	1,296.40	1,513.93	94.26
540	6	1,284.92	1,505.11	95.41
680	10.29	1,291.48	1,513.81	96.33
J118	0	1,270.34	1,497.82	98.56
958	1.49	1,285.00	1,513.13	98.85
960	4.01	1,285.00	1,513.13	98.85
1760	2.97	1,285.00	1,513.13	98.85
1762	8.54	1,270.00	1,498.93	99.2
952	0.2	1,281.68	1,513.48	100.44
956	0.21	1,281.23	1,513.48	100.63
542	8.13	1,272.65	1,505.21	100.77
724	4.8	1,280.00	1,513.13	101.01
560	2.35	1,277.96	1,513.48	102.05
558	11.97	1,276.35	1,513.32	102.68

2023 Fire Flow Modeling - Site A

ID	Static Demand (gpm)	Static Pressure (psi)	Static Head (ft)	Residual Pressure (psi)
1706	0	10.45	1,398.00	10.43
1704	0	10.28	1,398.00	10.26
1708	0	10.61	1,398.00	10.59
1710	0	10.40	1,397.99	10.33
598	3.03	79.38	1,524.70	-11,646.36
876	2.32	78.66	1,525.05	-10,602.83
666	3.82	93.79	1,524.91	-2,140.35
406	3.13	77.92	1,525.24	-1,128.97
540	3.04	104.11	1,525.20	-1,309.82
1262	1.24	82.48	1,525.19	-734.68
284	3.17	86.30	1,525.27	-592.68
872	3.89	76.59	1,525.18	-430.18
680	6.27	101.27	1,525.21	-493.89
1090	0	87.77	1,525.03	-230.94
1092	2.53	96.50	1,525.03	-128.45
542	2.91	109.44	1,525.23	-117.29
1762	3.34	110.59	1,525.23	-107.29
1094	3	97.52	1,525.03	-40.62
1476	4.75	54.18	1,520.53	1.89
1474	4.96	56.56	1,520.53	6.97
1472	1.71	63.38	1,520.53	9.42
1470	1.68	62.40	1,520.53	13.55
726	3.27	93.64	1,525.60	13.22
504	3.66	97.10	1,525.60	18.42
470	2.02	85.91	1,524.99	22.19
1468	3.4	62.98	1,520.53	25.09
714	2.24	75.87	1,524.95	27.69
472	2.74	93.79	1,524.97	31.04
926	1.28	93.17	1,525.03	32.05
914	0.78	86.56	1,525.41	33.34
1522	2	68.17	1,519.22	29.84
910	1.36	86.61	1,525.41	34.02
912	0.04	86.52	1,525.41	34.13
928	1.04	95.37	1,525.06	35.89
732	1.97	86.44	1,525.40	34.24
1512	1.43	72.09	1,518.84	31.44
924	1.56	95.55	1,525.06	36.90
1510	1.82	69.30	1,518.84	31.37
1466	2.19	63.30	1,520.54	30.14
1504	8.5	65.13	1,518.84	32.22
1526	3.7	71.61	1,519.22	34.30
880	1.1	70.38	1,524.94	35.38
1520	2.51	71.84	1,519.22	38.05
1524	3.67	71.56	1,519.22	38.53
1462	6.56	65.25	1,520.54	37.55



2023 Fire Flow Modeling - Site A

ID	Static Demand (gpm)	Static Pressure (psi)	Static Head (ft)	Residual Pressure (psi)
1530	3.67	83.79	1,520.72	45.10
934	1.65	83.98	1,525.43	45.64
930	2.01	83.87	1,525.43	46.37
1528	1.67	82.47	1,520.72	45.95
1464	1.86	65.92	1,520.54	39.10
604	1.25	83.96	1,525.43	46.61
1460	0.36	65.75	1,520.54	39.34
942	1.04	70.83	1,525.27	41.40
1452	2.54	67.00	1,519.95	40.03
922	0.96	80.32	1,525.37	45.75
940	1.54	70.51	1,525.27	41.88
920	1.82	80.32	1,525.37	46.52
1494	4.08	83.82	1,518.66	48.22
1760	0.18	104.10	1,525.25	57.26
960	2.03	104.10	1,525.25	57.92
958	0.54	104.10	1,525.25	58.79
956	0.24	105.74	1,525.26	60.58
952	0.22	105.54	1,525.26	61.22
602	1.94	84.81	1,525.39	51.81
724	2.24	106.27	1,525.25	62.65
950	2.02	81.90	1,525.27	51.69
948	0.56	81.42	1,525.27	52.02
1456	2.48	80.15	1,520.72	51.72
702	2.97	72.54	1,525.27	47.50
730	0.67	81.86	1,525.27	52.41
408	1.75	68.83	1,525.27	45.95
884	3.51	67.28	1,525.27	45.36
1508	11.96	69.48	1,518.84	46.44
286	3.53	89.81	1,525.29	58.09
558	4.3	107.85	1,525.26	69.04
868	2.19	91.37	1,525.28	60.20
1338	3.79	84.61	1,525.27	56.66
560	1.56	107.15	1,525.26	69.93
678	4.42	99.17	1,525.26	66.42
1454	2.9	70.28	1,520.73	50.42
918	1.63	93.63	1,526.07	65.18
734	7.23	92.30	1,525.34	64.56
916	0.79	93.63	1,526.07	65.93
904	0.75	85.10	1,525.21	60.70
610	0.67	67.71	1,525.21	49.97
946	1.79	93.70	1,525.42	65.86
874	0.61	84.74	1,525.21	60.88
870	0.99	68.62	1,525.19	51.02
932	4.91	90.34	1,525.47	64.59
944	4.32	93.91	1,525.42	66.86

2023 Fire Flow Modeling - Site A

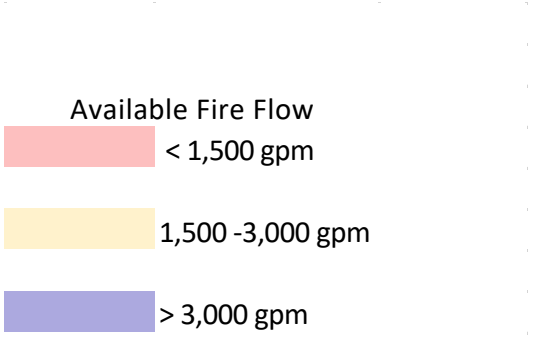
ID	Static Demand (gpm)	Static Pressure (psi)	Static Head (ft)	Residual Pressure (psi)
902	0.01	84.92	1,525.21	61.79
1766	0	94.39	1,527.83	67.96
68	2.42	71.61	1,525.27	53.21
1230	0	94.38	1,527.82	67.99
1232	0	94.38	1,527.81	68.01
1354	0	94.37	1,527.78	68.1
742	0	94.32	1,527.69	68.39
938	1.24	93.48	1,525.75	67.87
1798	2.56	75.75	1,520.72	56.65
1260	0	64.51	1,525.43	49.35
1714	0	64.58	1,525.44	49.40
1712	0	64.66	1,525.44	49.46
878	2.61	64.20	1,525.28	49.15
1204	0.69	64.05	1,525.28	49.4
936	4.15	93.48	1,525.75	68.64
506	2.39	93.48	1,525.75	68.69
1518	1.89	75.37	1,519.22	56.98
1796	2.56	83.13	1,521.16	62.43
1802	1.41	70.46	1,520.55	54.20
900	0.15	68.27	1,524.95	52.97
1792	2.36	76.44	1,520.72	58.54
1458	0.72	70.92	1,520.54	55.25
908	1.65	91.04	1,525.83	68.91
1516	2.28	75.08	1,519.22	58.04
1446	2.49	69.77	1,520.52	54.88
1434	0.21	66.35	1,524.93	52.59
882	0.45	66.55	1,524.94	52.74
1356	1.92	68.33	1,524.96	54.05
898	0.1	68.47	1,524.95	54.32
906	1.57	91.10	1,525.83	70.29
620	2.07	93.63	1,526.08	72.11
612	3.98	85.85	1,525.37	67.09
618	3.7	92.45	1,526.20	72.00
66	2.15	86.93	1,525.27	68.34
1506	1.47	71.90	1,518.84	58.77
1492	0.96	75.15	1,518.66	62.05
1502	0.55	70.96	1,518.85	59.69
1794	2.87	84.99	1,521.16	72.84
1444	1.81	68.41	1,520.45	60.25
1442	1.49	68.18	1,520.45	60.59
1440	2.33	74.53	1,520.73	66.24
1436	1.33	83.04	1,521.65	73.49
1500	0.75	70.71	1,518.85	62.90
1800	0.88	82.09	1,521.24	73.14
1438	2.05	80.97	1,520.96	72.33

2023 Fire Flow Modeling - Site A

ID	Static Demand (gpm)	Static Pressure (psi)	Static Head (ft)	Residual Pressure (psi)
1514	1.31	74.41	1,519.23	66.69
1804	0	90.67	1,518.14	80.03
1448	1.34	71.87	1,520.00	65.24
1450	0.28	71.20	1,519.95	64.69
1478	1.23	71.56	1,519.90	65.16
1480	2.44	76.03	1,519.60	70.35
1812	5.32	59.85	1,518.14	55.72
1482	2.52	78.52	1,519.53	73.02
1814	0	55.01	1,518.14	51.54
1484	1.4	76.59	1,519.23	71.86
1486	1.57	78.72	1,519.15	74.19
1488	1.47	73.42	1,518.85	69.80
1490	1.78	72.97	1,518.66	70.07
1496	3.35	66.05	1,518.39	64.21
1498	1.72	58.81	1,518.18	57.85
1816	23.33	53.57	1,518.14	52.83
J124	0	53.52	1,518.03	53.37

2023 Fire Flow Modeling - Site B

ID	Static Demand (gpm)	Static Pressure (psi)	Static Head (ft)
1710	0	10.40	1,397.99
1704	0	10.28	1,398.00
1708	0	10.61	1,398.00
1706	0	10.45	1,398.00
598	3.03	79.84	1,525.76
876	2.32	79.12	1,526.12
666	3.82	94.25	1,525.98
406	3.13	78.38	1,526.30
540	3.04	104.57	1,526.26
1262	1.24	82.94	1,526.25
284	3.17	86.75	1,526.33
872	3.89	77.05	1,526.24
680	6.27	101.73	1,526.27
1090	0	88.23	1,526.09
1092	2.53	96.96	1,526.09
542	2.91	109.90	1,526.29
1762	3.34	111.05	1,526.29
1094	3	97.98	1,526.09
1476	4.75	54.70	1,521.73
1474	4.96	57.08	1,521.73
1472	1.71	63.91	1,521.73
1470	1.68	62.92	1,521.73
726	3.27	94.09	1,526.65
504	3.66	97.55	1,526.65
470	2.02	86.37	1,526.06
1468	3.4	63.50	1,521.73
714	2.24	76.33	1,526.02
1522	2	68.71	1,520.47
472	2.74	94.25	1,526.04
1512	1.43	72.63	1,520.10
1510	1.82	69.85	1,520.10
926	1.28	93.64	1,526.10
1466	2.19	63.82	1,521.74
1504	8.5	65.68	1,520.10
914	0.78	87.02	1,526.46
910	1.36	87.06	1,526.46
912	0.04	86.98	1,526.46
732	1.97	86.90	1,526.46
928	1.04	95.83	1,526.13
1526	3.7	72.16	1,520.47
924	1.56	96.01	1,526.13
880	1.1	70.85	1,526.01
1520	2.51	72.38	1,520.47
1524	3.67	72.10	1,520.47
1462	6.56	65.77	1,521.74



2023 Fire Flow Modeling - Site B

ID	Static Demand (gpm)	Static Pressure (psi)	Static Head (ft)
1464	1.86	66.44	1,521.74
1452	2.54	67.53	1,521.18
1460	0.36	66.27	1,521.74
1530	3.67	84.30	1,521.92
1528	1.67	82.99	1,521.92
934	1.65	84.44	1,526.49
1494	4.08	84.37	1,519.93
942	1.04	71.29	1,526.33
930	2.01	84.33	1,526.49
604	1.25	84.42	1,526.49
940	1.54	70.97	1,526.33
922	0.96	80.78	1,526.43
920	1.82	80.78	1,526.43
1760	0.18	104.56	1,526.31
960	2.03	104.56	1,526.31
1508	11.96	70.02	1,520.10
958	0.54	104.56	1,526.31
956	0.24	106.19	1,526.32
602	1.94	85.27	1,526.44
1456	2.48	80.66	1,521.92
952	0.22	106.00	1,526.32
702	2.97	73.00	1,526.33
950	2.02	82.36	1,526.33
408	1.75	69.29	1,526.33
724	2.24	106.73	1,526.31
884	3.51	67.74	1,526.33
948	0.56	81.88	1,526.33
730	0.67	82.32	1,526.33
1454	2.9	70.80	1,521.92
286	3.53	90.26	1,526.35
1338	3.79	85.07	1,526.33
868	2.19	91.83	1,526.34
558	4.3	108.31	1,526.32
560	1.56	107.61	1,526.32
610	0.67	68.17	1,526.27
678	4.42	99.62	1,526.32
1518	1.89	75.91	1,520.47
870	0.99	69.08	1,526.26
1798	2.56	76.27	1,521.91
904	0.75	85.56	1,526.27
918	1.63	94.08	1,527.11
1802	1.41	70.98	1,521.75
734	7.23	92.76	1,526.40
68	2.42	72.07	1,526.33
878	2.61	64.66	1,526.34

2023 Fire Flow Modeling - Site B

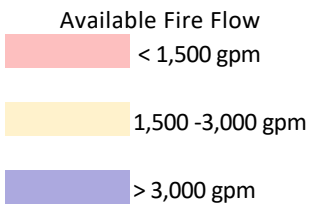
ID	Static Demand (gpm)	Static Pressure (psi)	Static Head (ft)
874	0.61	85.21	1,526.27
1260	0	64.96	1,526.49
1714	0	65.04	1,526.49
1712	0	65.12	1,526.50
946	1.79	94.15	1,526.47
916	0.79	94.08	1,527.11
1516	2.28	75.62	1,520.47
1204	0.69	64.51	1,526.34
1458	0.72	71.44	1,521.74
902	0.01	85.38	1,526.27
1792	2.36	76.95	1,521.91
932	4.91	90.80	1,526.53
1796	2.56	83.64	1,522.34
1446	2.49	70.29	1,521.73
944	4.32	94.36	1,526.47
900	0.15	68.74	1,526.02
938	1.24	93.94	1,526.79
1766	0	94.82	1,528.83
1230	0	94.81	1,528.82
1232	0	94.81	1,528.81
1354	0	94.80	1,528.78
742	0	94.76	1,528.69
1434	0.21	66.82	1,526.00
936	4.15	93.94	1,526.79
506	2.39	93.94	1,526.80
882	0.45	67.02	1,526.01
1506	1.47	72.45	1,520.11
1356	1.92	68.79	1,526.03
898	0.1	68.93	1,526.02
1492	0.96	75.70	1,519.93
908	1.65	91.49	1,526.87
1502	0.55	71.51	1,520.11
906	1.57	91.55	1,526.87
612	3.98	86.31	1,526.42
620	2.07	94.08	1,527.12
66	2.15	87.39	1,526.33
618	3.7	92.90	1,527.24
1444	1.81	68.93	1,521.66
1500	0.75	71.26	1,520.11
1442	1.49	68.71	1,521.66
1794	2.87	85.50	1,522.34
1514	1.31	74.96	1,520.47
1440	2.33	75.05	1,521.93
1450	0.28	71.73	1,521.18
1448	1.34	72.40	1,521.22

2023 Fire Flow Modeling - Site B

ID	Static Demand (gpm)	Static Pressure (psi)	Static Head (ft)
1816	23.33	54.13	1,519.43
1478	1.23	72.09	1,521.13
1436	1.33	83.55	1,522.82
1438	2.05	81.48	1,522.15
1800	0.88	82.60	1,522.42
1498	1.72	59.37	1,519.47
1480	2.44	76.56	1,520.83
1482	2.52	79.05	1,520.77
1484	1.4	77.13	1,520.48
1814	0	55.43	1,519.09
1496	3.35	66.60	1,519.67
1488	1.47	73.97	1,520.12
1486	1.57	79.26	1,520.41
1490	1.78	73.52	1,519.93
1804	0	91.04	1,519.00
1812	5.32	60.23	1,519.00
J40	34.25	63.13	1,518.75
1768	35.65	62.56	1,518.01

2023 Fire Flow Modeling - Site C

ID	Static Demand (gpm)	Static Pressure (psi)	Static Head (ft)	Residual Pressure (psi)
1710	0	10.4	1,397.99	10.33
1704	0	10.28	1,398.00	10.26
1708	0	10.61	1,398.00	10.59
1706	0	10.45	1,398.00	10.43
598	3.03	80.83	1,528.05	-11,656.08
876	2.32	80.1	1,528.39	-10,612.42
666	3.82	95.24	1,528.26	-2,150.05
406	3.13	79.37	1,528.57	-1,138.56
540	3.04	105.55	1,528.53	-1,319.37
1262	1.24	83.93	1,528.52	-744.28
284	3.17	87.74	1,528.60	-602.22
872	3.89	78.03	1,528.52	-439.78
680	6.27	102.72	1,528.54	-503.44
1090	0	89.22	1,528.37	-240.63
1092	2.53	97.95	1,528.37	-138.14
542	2.91	110.88	1,528.56	-126.84
1762	3.34	112.03	1,528.56	-116.84
1094	3	98.97	1,528.37	-50.31
1476	4.75	55.82	1,524.30	-10.71
1474	4.96	58.19	1,524.30	-5.63
1472	1.71	65.02	1,524.31	-3.18
1470	1.68	64.03	1,524.31	0.96
726	3.27	95.06	1,528.89	3.93
1468	3.4	64.62	1,524.31	12.49
504	3.66	98.52	1,528.89	9.11
470	2.02	87.36	1,528.34	12.48
1522	2	69.87	1,523.14	15.79
1466	2.19	64.94	1,524.31	17.55
714	2.24	77.32	1,528.31	17.94
1526	3.7	73.31	1,523.14	20.25
472	2.74	95.24	1,528.32	21.32
926	1.28	94.62	1,528.38	22.36
914	0.78	88	1,528.72	23.9
910	1.36	88.04	1,528.72	24.59
912	0.04	87.96	1,528.72	24.69
732	1.97	87.88	1,528.72	24.8
1520	2.51	73.54	1,523.14	24
928	1.04	96.82	1,528.41	26.21
1524	3.67	73.26	1,523.14	24.49
924	1.56	97	1,528.41	27.22
880	1.1	71.84	1,528.30	25.61
1462	6.56	66.88	1,524.31	24.96
1464	1.86	67.55	1,524.31	26.51
1452	2.54	68.67	1,523.80	26.78
1460	0.36	67.38	1,524.31	26.75
1504	8.5	66.44	1,521.87	27.37



2023 Fire Flow Modeling - Site C

ID	Static Demand (gpm)	Static Pressure (psi)	Static Head (ft)	Residual Pressure (psi)
1494	4.08	85.62	1,522.82	31.74
1530	3.67	85.41	1,524.49	32.54
1528	1.67	84.1	1,524.49	33.39
942	1.04	72.27	1,528.60	31.84
940	1.54	71.95	1,528.60	32.32
934	1.65	85.41	1,528.74	36.2
1814	0	57.04	1,522.81	29.56
930	2.01	85.3	1,528.74	36.93
922	0.96	81.76	1,528.69	36.22
604	1.25	85.39	1,528.74	37.17
920	1.82	81.76	1,528.69	37
1456	2.48	81.78	1,524.49	39.16
1816	23.33	55.6	1,522.81	30.85
1812	5.32	61.88	1,522.81	33.73
1760	0.18	105.54	1,528.58	47.71
884	3.51	68.72	1,528.60	35.77
408	1.75	70.27	1,528.60	36.36
960	2.03	105.54	1,528.58	48.37
702	2.97	73.98	1,528.60	37.93
602	1.94	86.25	1,528.70	42.3
1454	2.9	71.91	1,524.49	37.86
958	0.54	105.54	1,528.58	49.23
950	2.02	83.34	1,528.59	42.13
956	0.24	107.18	1,528.58	51.02
948	0.56	82.86	1,528.59	42.46
730	0.67	83.3	1,528.59	42.86
952	0.22	106.98	1,528.58	51.67
724	2.24	107.71	1,528.58	53.1
1498	1.72	60.81	1,522.81	36.39
1518	1.89	77.07	1,523.15	42.94
286	3.53	91.25	1,528.61	48.55
1802	1.41	72.09	1,524.33	41.61
1798	2.56	77.38	1,524.48	44.07
1516	2.28	76.78	1,523.15	44
1338	3.79	86.05	1,528.59	47.11
610	0.67	69.15	1,528.54	40.38
1458	0.72	72.55	1,524.32	42.65
868	2.19	92.81	1,528.60	50.65
1446	2.49	71.41	1,524.30	42.27
870	0.99	70.07	1,528.53	41.41
878	2.61	65.64	1,528.61	39.55
1260	0	65.95	1,528.75	39.84
1714	0	66.02	1,528.76	39.9
1712	0	66.1	1,528.76	39.96
1492	0.96	76.95	1,522.82	45.56
1204	0.69	65.49	1,528.61	39.8

2023 Fire Flow Modeling - Site C

ID	Static Demand (gpm)	Static Pressure (psi)	Static Head (ft)	Residual Pressure (psi)
1792	2.36	78.06	1,524.48	45.96
558	4.3	109.29	1,528.58	59.49
68	2.42	73.05	1,528.60	43.6
560	1.56	108.6	1,528.58	60.38
1796	2.56	84.74	1,524.87	50.11
678	4.42	100.61	1,528.59	56.87
904	0.75	86.55	1,528.54	51.11
900	0.15	69.73	1,528.31	43.17
874	0.61	86.19	1,528.54	51.29
1434	0.21	67.81	1,528.29	42.75
882	0.45	68.01	1,528.30	42.91
734	7.23	93.74	1,528.66	55.06
918	1.63	95.04	1,529.33	56.23
902	0.01	86.37	1,528.54	52.2
946	1.79	95.13	1,528.73	56.42
1356	1.92	69.78	1,528.31	44.26
916	0.79	95.04	1,529.33	56.99
898	0.1	69.92	1,528.31	44.52
932	4.91	91.77	1,528.78	55.2
944	4.32	95.34	1,528.73	57.42
1496	3.35	67.96	1,522.82	44.97
1804	0	92.69	1,522.81	58.04
938	1.24	94.91	1,529.03	58.69
936	4.15	94.91	1,529.03	59.45
506	2.39	94.91	1,529.03	59.51
1766	0	95.74	1,530.95	60.21
1230	0	95.73	1,530.94	60.24
1232	0	95.73	1,530.93	60.25
1354	0	95.72	1,530.91	60.32
742	0	95.68	1,530.82	60.55
1444	1.81	70.05	1,524.24	47.51
1442	1.49	69.83	1,524.24	47.81
908	1.65	92.46	1,529.11	59.8
612	3.98	87.29	1,528.69	57.62
1514	1.31	76.11	1,523.15	52.65
906	1.57	92.52	1,529.11	61.18
66	2.15	88.38	1,528.60	58.73
620	2.07	95.04	1,529.34	63.2
1450	0.28	72.86	1,523.80	51.43
1478	1.23	73.23	1,523.75	51.86
1448	1.34	73.53	1,523.84	52.04
618	3.7	93.86	1,529.45	63.21
1440	2.33	76.16	1,524.49	53.68
1490	1.78	74.77	1,522.82	53.58
1794	2.87	86.6	1,524.87	60.52
1488	1.47	75.14	1,522.82	55.24

2023 Fire Flow Modeling - Site C

ID	Static Demand (gpm)	Static Pressure (psi)	Static Head (ft)	Residual Pressure (psi)
1480	2.44	77.71	1,523.48	56.73
1500	0.75	72.21	1,522.30	53.61
1438	2.05	82.59	1,524.70	59.94
1484	1.4	78.29	1,523.15	57.81
1800	0.88	83.7	1,524.95	60.98
1436	1.33	84.63	1,525.33	61.61
1482	2.52	80.2	1,523.42	59.31
1502	0.55	72.28	1,521.87	54.84
1486	1.57	80.42	1,523.09	60.05
1506	1.47	73.12	1,521.65	56.34
1508	11.96	70.19	1,520.48	57.35
1512	1.43	72.08	1,518.83	64.08
J122	0	38.28	1,518.34	35.96
1510	1.82	69.3	1,518.83	64.01
J30	9.63	66.56	1,518.76	61.66

Available Fire Flow
< 1,500 gpm
1,500 -3,000 gpm
> 3,000 gpm

2023 Fire Flow Modeling - Site D

ID	Static Demand (gpm)	Static Pressure (psi)	Static Head (ft)	Residual Pressure (psi)	Available Flow at Hydrant (gpm)
1710	0	10.4	1,397.99	10.33	0.04
1704	0	10.28	1,398.00	10.26	0.19
1708	0	10.61	1,398.00	10.59	0.19
1706	0	10.45	1,398.00	10.43	0.24
598	3.03	79.51	1,525.00	-11,647.27	86.14
876	2.32	78.79	1,525.36	-10,603.72	89.85
666	3.82	93.92	1,525.22	-2,141.25	235.61
406	3.13	78.06	1,525.54	-1,129.86	286.66
540	3.04	104.24	1,525.50	-1,310.71	322.79
1262	1.24	82.61	1,525.49	-735.58	369.12
284	3.17	86.43	1,525.57	-593.57	421.36
872	3.89	76.72	1,525.48	-431.07	453.99
680	6.27	101.41	1,525.51	-494.78	508.54
1090	0	87.9	1,525.33	-231.84	643.55
1092	2.53	96.63	1,525.33	-129.35	834.97
542	2.91	109.57	1,525.53	-118.18	904.31
1762	3.34	110.72	1,525.53	-108.18	931.47
1094	3	97.65	1,525.33	-41.53	1,095.94
1476	4.75	54.33	1,520.87	0.67	1,183.75
1474	4.96	56.71	1,520.87	5.75	1,262.07
1472	1.71	63.53	1,520.87	8.2	1,320.22
1470	1.68	62.54	1,520.87	12.34	1,373.99
726	3.27	93.77	1,525.90	12.36	1,425.85
504	3.66	97.23	1,525.90	17.56	1,478.74
470	2.02	86.04	1,525.30	21.28	1,518.02
1468	3.4	63.13	1,520.87	23.87	1,581.00
714	2.24	76	1,525.25	26.78	1,609.69
472	2.74	93.92	1,525.27	30.13	1,626.89
926	1.28	93.31	1,525.34	31.14	1,640.87
1522	2	68.32	1,519.57	28.45	1,664.32
914	0.78	86.69	1,525.71	32.46	1,676.84
1512	1.43	72.24	1,519.19	29.98	1,682.05
910	1.36	86.74	1,525.71	33.14	1,688.77
912	0.04	86.65	1,525.71	33.25	1,689.59
928	1.04	95.5	1,525.36	34.99	1,691.20
1510	1.82	69.46	1,519.19	29.9	1,692.77
732	1.97	86.57	1,525.71	33.35	1,693.53
1466	2.19	63.45	1,520.87	28.93	1,698.22
924	1.56	95.68	1,525.36	36	1,706.58
1504	8.5	65.28	1,519.20	30.76	1,742.92
1526	3.7	71.77	1,519.57	32.91	1,752.25
880	1.1	70.52	1,525.24	34.46	1,796.97
1520	2.51	71.99	1,519.57	36.66	1,845.70
1524	3.67	71.71	1,519.57	37.14	1,863.34
1462	6.56	65.39	1,520.88	36.34	1,908.00
1530	3.67	83.93	1,521.06	43.9	1,927.08

2023 Fire Flow Modeling - Site D

ID	Static Demand (gpm)	Static Pressure (psi)	Static Head (ft)	Residual Pressure (psi)	Available Flow at Hydrant (gpm)
1464	1.86	66.06	1,520.88	37.89	1,949.64
934	1.65	84.11	1,525.74	44.76	1,950.00
1460	0.36	65.89	1,520.88	38.13	1,959.36
1528	1.67	82.62	1,521.06	44.74	1,960.41
1452	2.54	67.15	1,520.30	38.76	1,962.05
930	2.01	84	1,525.74	45.49	1,971.06
604	1.25	84.09	1,525.74	45.73	1,976.06
942	1.04	70.96	1,525.57	40.51	1,979.69
922	0.96	80.45	1,525.67	44.86	1,992.91
940	1.54	70.64	1,525.57	40.99	2,001.88
1494	4.08	83.97	1,519.01	46.71	2,006.60
920	1.82	80.45	1,525.67	45.63	2,017.29
1760	0.18	104.23	1,525.56	56.37	2,037.44
960	2.03	104.23	1,525.56	57.03	2,054.66
958	0.54	104.23	1,525.56	57.9	2,073.97
956	0.24	105.87	1,525.56	59.69	2,098.66
952	0.22	105.67	1,525.56	60.33	2,117.13
602	1.94	84.94	1,525.69	50.92	2,122.91
724	2.24	106.4	1,525.56	61.76	2,147.72
950	2.02	82.03	1,525.57	50.8	2,175.36
1456	2.48	80.29	1,521.06	50.52	2,180.65
1508	11.96	69.63	1,519.19	44.98	2,191.11
702	2.97	72.67	1,525.57	46.61	2,193.75
948	0.56	81.55	1,525.57	51.13	2,196.01
730	0.67	81.99	1,525.57	51.52	2,203.05
408	1.75	68.96	1,525.57	45.06	2,206.19
884	3.51	67.41	1,525.57	44.47	2,217.55
286	3.53	89.94	1,525.59	57.2	2,264.42
558	4.3	107.98	1,525.56	68.15	2,310.47
868	2.19	91.5	1,525.58	59.31	2,312.46
1338	3.79	84.74	1,525.57	55.77	2,321.42
560	1.56	107.29	1,525.56	69.04	2,349.30
1454	2.9	70.43	1,521.06	49.22	2,365.32
678	4.42	99.3	1,525.56	65.53	2,388.81
918	1.63	93.75	1,526.37	64.36	2,450.59
610	0.67	67.84	1,525.51	49.08	2,463.12
734	7.23	92.43	1,525.64	63.67	2,477.79
904	0.75	85.23	1,525.51	59.8	2,477.88
916	0.79	93.75	1,526.37	65.11	2,484.19
946	1.79	93.83	1,525.72	64.97	2,491.03
870	0.99	68.75	1,525.50	50.12	2,497.69
874	0.61	84.88	1,525.51	59.99	2,498.99
932	4.91	90.47	1,525.77	63.71	2,530.72
944	4.32	94.04	1,525.72	65.97	2,535.33
68	2.42	71.74	1,525.57	52.31	2,539.18
902	0.01	85.06	1,525.51	60.89	2,541.82

2023 Fire Flow Modeling - Site D

ID	Static Demand (gpm)	Static Pressure (psi)	Static Head (ft)	Residual Pressure (psi)	Available Flow at Hydrant (gpm)
1798	2.56	75.9	1,521.06	55.44	2,550.05
1766	0	94.51	1,528.12	67.24	2,568.95
1260	0	64.64	1,525.73	48.46	2,569.80
1714	0	64.71	1,525.74	48.51	2,570.21
1230	0	94.51	1,528.11	67.27	2,570.46
1712	0	64.79	1,525.74	48.57	2,571.04
1232	0	94.5	1,528.10	67.29	2,571.56
878	2.61	64.33	1,525.58	48.25	2,571.85
1354	0	94.49	1,528.07	67.38	2,576.24
1518	1.89	75.52	1,519.57	55.59	2,580.06
938	1.24	93.61	1,526.05	67.02	2,590.29
742	0	94.45	1,527.98	67.67	2,591.67
1204	0.69	64.18	1,525.58	48.5	2,598.65
1802	1.41	70.6	1,520.89	52.98	2,612.94
1796	2.56	83.27	1,521.49	61.26	2,616.43
936	4.15	93.61	1,526.05	67.79	2,634.68
506	2.39	93.61	1,526.05	67.84	2,635.56
1792	2.36	76.58	1,521.06	57.33	2,648.64
900	0.15	68.41	1,525.25	52.05	2,665.19
1516	2.28	75.23	1,519.57	56.65	2,668.78
1458	0.72	71.06	1,520.88	54.03	2,669.86
1446	2.49	69.91	1,520.86	53.66	2,701.50
908	1.65	91.17	1,526.13	68.07	2,733.79
1434	0.21	66.48	1,525.24	51.66	2,748.65
882	0.45	66.69	1,525.24	51.82	2,750.69
1356	1.92	68.46	1,525.26	53.13	2,762.61
898	0.1	68.6	1,525.25	53.4	2,778.01
906	1.57	91.23	1,526.13	69.44	2,823.51
620	2.07	93.76	1,526.38	71.29	2,833.91
612	3.98	85.98	1,525.67	66.2	2,856.47
618	3.7	92.58	1,526.50	71.2	2,884.13
66	2.15	87.07	1,525.57	67.44	2,914.41
1506	1.47	72.06	1,519.20	57.31	2,921.66
1492	0.96	75.3	1,519.01	60.54	3,008.54
1502	0.55	71.12	1,519.20	58.22	3,097.86
1794	2.87	85.14	1,521.49	71.67	3,425.90
1444	1.81	68.56	1,520.79	59.02	3,467.78
1442	1.49	68.33	1,520.79	59.35	3,563.09
1500	0.75	70.87	1,519.20	61.44	3,614.62
1440	2.33	74.68	1,521.07	65.04	3,680.58
1514	1.31	74.57	1,519.58	65.3	3,763.60
1436	1.33	83.19	1,521.98	72.36	3,765.37
1800	0.88	82.23	1,521.58	71.98	3,831.89
1438	2.05	81.11	1,521.30	71.14	3,846.18
1450	0.28	71.35	1,520.30	63.41	3,909.62
1448	1.34	72.01	1,520.35	63.97	3,912.04

2023 Fire Flow Modeling - Site D

ID	Static Demand (gpm)	Static Pressure (psi)	Static Head (ft)	Residual Pressure (psi)	Available Flow at Hydrant (gpm)
1478	1.23	71.71	1,520.25	63.88	3,952.29
1480	2.44	76.18	1,519.95	69.02	4,326.89
1482	2.52	78.67	1,519.88	71.68	4,481.79
1484	1.4	76.75	1,519.58	70.47	4,645.93
1486	1.57	78.87	1,519.51	72.79	4,816.81
1488	1.47	73.58	1,519.21	68.34	4,933.60
1804	0	90.63	1,518.06	83.8	5,256.45
1490	1.78	73.12	1,519.02	68.55	5,260.10
1496	3.35	66.2	1,518.75	62.63	5,519.19
1816	23.33	53.73	1,518.50	51.17	5,540.63
1498	1.72	58.96	1,518.55	56.21	5,741.63
1814	0	55.02	1,518.15	54.23	10,200.11
1812	5.32	59.82	1,518.06	59.49	17,040.50

Available Fire Flow
< 1,500 gpm
1,500 -3,000 gpm
> 3,000 gpm

2040 Fire Flow Modeling - Site A

ID	Static Demand (gpm)	Static Pressure (psi)	Static Head (ft)	Residual Pressure (psi)	Available Flow at Hydrant (gpm)
1710	0	10.4	1,397.99	10.33	-0.04
1704	0	10.28	1,398.00	10.26	0.13
1708	0	10.61	1,398.00	10.59	0.14
1706	0	10.45	1,398.00	10.43	0.2
598	5.28	77.15	1,519.54	-11,659.63	84.86
876	3.49	76.79	1,520.73	-10,614.54	88.67
666	2.81	91.74	1,520.18	-2,112.49	235.63
406	2.8	76.04	1,520.88	-1,122.11	285.5
540	2.94	101.86	1,520.00	-1,248.05	329.63
1262	2.89	80.68	1,521.03	-732.65	367.92
284	4.39	84.37	1,520.84	-585.67	422.06
872	5.56	74.78	1,521.02	-427.52	452.68
680	5.04	99.34	1,520.74	-482.3	510.89
1090	2.44	85.24	1,519.18	-117.84	810.47
542	3.98	107.19	1,520.02	-55.66	1,071.81
1476	9.13	53.23	1,518.33	1.01	1,176.56
1092	7.59	93.97	1,519.18	-15.07	1,221.61
1474	6.21	55.61	1,518.33	6.1	1,255.80
1472	8.31	62.43	1,518.33	8.4	1,320.64
1470	9.41	61.44	1,518.33	12.57	1,378.58
726	3.61	91.79	1,521.34	17.43	1,475.50
J116	0.42	107.63	1,519.53	22.67	1,525.78
504	3.54	95.25	1,521.34	22.94	1,536.08
1468	5.11	62.03	1,518.33	24.3	1,597.71
1522	8.08	67.64	1,518.01	28.68	1,684.07
1466	4.15	62.35	1,518.35	29.49	1,730.17
1526	6.8	71.09	1,518.01	33.24	1,776.39
914	1.66	84.72	1,521.14	37.56	1,780.02
910	0.65	84.76	1,521.14	38.24	1,792.82
912	0	84.67	1,521.14	38.35	1,794.94
732	4.06	84.59	1,521.14	38.45	1,801.60
714	2.41	73.98	1,520.58	37.39	1,850.49
J122	0	37.95	1,517.59	25.71	1,867.42
1520	8.24	71.31	1,518.01	36.92	1,878.75
1524	9.14	71.04	1,518.01	37.49	1,899.92
1504	14.43	64.7	1,517.86	35.34	1,904.79
J28	21.27	38.89	1,517.61	26.85	1,960.41
1462	7.35	64.3	1,518.37	37.09	1,970.23
1530	5.33	82.83	1,518.51	44.95	1,980.84
472	1.89	91.77	1,520.31	50.2	2,015.67
1464	1.71	64.97	1,518.37	38.64	2,017.46
1528	5.85	81.51	1,518.51	45.8	2,022.41
470	1.55	83.85	1,520.22	47.35	2,029.06
1460	0.33	64.8	1,518.37	38.88	2,029.46
1762	4.19	108.16	1,519.61	57.55	2,029.72
1452	2.33	66.27	1,518.26	39.87	2,035.62

2040 Fire Flow Modeling - Site A

ID	Static Demand (gpm)	Static Pressure (psi)	Static Head (ft)	Residual Pressure (psi)	Available Flow at Hydrant (gpm)
1494	4.94	83.53	1,518.00	47.63	2,051.32
880	1.48	68.55	1,520.70	41.83	2,064.81
J118	0.42	107.97	1,519.53	59.23	2,064.91
934	6.75	82.11	1,521.11	50.23	2,152.86
930	1.97	82	1,521.11	50.96	2,176.98
604	1.34	82.09	1,521.11	51.21	2,183.87
922	0.13	78.45	1,521.06	50.41	2,225.06
1776	1.79	42.29	1,517.71	31.31	2,235.15
920	1.83	78.45	1,521.06	51.18	2,260.33
1456	4.54	79.19	1,518.51	51.64	2,278.00
602	6.03	82.94	1,521.08	56.39	2,389.86
942	0.63	68.93	1,520.88	48.58	2,406.00
940	1.09	68.61	1,520.88	49.06	2,450.03
928	1.75	93.28	1,520.25	64.17	2,467.43
924	2.94	93.47	1,520.25	65.18	2,510.62
1454	8.68	69.32	1,518.52	50.42	2,534.18
1760	1.45	102.13	1,520.70	72.28	2,597.23
956	0.1	103.78	1,520.73	73.43	2,599.25
960	1.96	102.13	1,520.70	72.94	2,629.43
952	0.1	103.58	1,520.73	74.08	2,635.87
926	1.19	91.06	1,520.15	66.23	2,643.30
958	0.73	102.13	1,520.70	73.8	2,671.61
1518	7.28	74.85	1,518.02	56.08	2,723.49
1798	2.35	74.79	1,518.50	56.61	2,739.85
918	0.8	91.82	1,521.91	69.09	2,754.97
286	2.27	87.89	1,520.87	66.08	2,770.01
950	1.28	79.98	1,520.82	60.96	2,791.77
724	2.35	104.3	1,520.70	77.67	2,803.89
702	3.59	70.64	1,520.88	54.77	2,803.90
916	1.13	91.82	1,521.91	69.85	2,804.26
408	2.19	66.94	1,520.90	52.33	2,806.25
1796	2.3	82.08	1,518.75	62.79	2,821.92
884	3.5	65.39	1,520.92	51.45	2,823.60
1516	8.02	74.55	1,518.02	57.17	2,834.34
1802	4.47	69.53	1,518.41	54.04	2,841.61
1766	0	92.67	1,523.87	71.17	2,843.10
904	0.51	83.3	1,521.06	64.35	2,843.61
948	0.44	79.49	1,520.82	61.29	2,845.23
1230	0	92.67	1,523.86	71.2	2,845.46
1232	0	92.66	1,523.85	71.23	2,847.16
1354	0	92.65	1,523.82	71.32	2,854.44
730	0.06	79.93	1,520.82	61.71	2,855.10
1792	2.17	75.47	1,518.50	58.5	2,864.81
742	0	92.6	1,523.71	71.64	2,878.56
874	0.76	82.95	1,521.06	64.54	2,878.96
868	3.48	89.45	1,520.84	68.78	2,890.20

2040 Fire Flow Modeling - Site A

ID	Static Demand (gpm)	Static Pressure (psi)	Static Head (ft)	Residual Pressure (psi)	Available Flow at Hydrant (gpm)
1458	0.66	70	1,518.41	55.11	2,913.41
902	0	83.13	1,521.06	65.44	2,944.35
1094	1.88	94.99	1,519.20	73.56	2,957.39
946	2.87	91.81	1,521.07	71.59	2,963.50
1512	3.57	71.53	1,517.55	56.11	2,968.79
1446	9.51	68.85	1,518.41	54.77	2,970.83
1338	5.76	82.69	1,520.84	65.12	2,986.84
610	0.19	65.91	1,521.06	53.64	3,001.20
734	5.51	90.4	1,520.96	71.09	3,013.05
938	2.53	91.64	1,521.50	72.34	3,013.76
932	5.13	88.47	1,521.15	69.88	3,017.48
944	3.05	92.02	1,521.07	72.6	3,032.58
870	1.41	66.83	1,521.04	54.68	3,051.54
558	5.86	105.88	1,520.72	82.67	3,054.99
936	2.79	91.64	1,521.50	73.1	3,079.18
506	3.96	91.64	1,521.50	73.15	3,083.71
560	1.15	105.2	1,520.73	82.78	3,094.95
678	7.62	97.22	1,520.78	77.16	3,121.40
908	1.63	89.24	1,521.68	72.63	3,180.38
1510	2.23	68.75	1,517.55	56.04	3,228.17
1492	3.08	74.86	1,518.00	61.48	3,249.52
1712	0	62.84	1,521.25	53.28	3,283.12
1714	0	62.77	1,521.24	53.23	3,283.86
1260	0	62.69	1,521.24	53.18	3,285.65
J30	168.79	66.04	1,517.54	53.32	3,293.02
68	0.51	69.74	1,520.95	58.47	3,309.20
906	0.72	89.3	1,521.68	74.01	3,320.70
620	2.01	91.83	1,521.92	75.98	3,324.35
878	2.32	62.37	1,521.06	53.14	3,334.29
J120	0.42	93.79	1,519.06	77.18	3,369.82
1204	0.5	62.23	1,521.07	53.27	3,377.22
900	0.03	66.5	1,520.85	56.56	3,380.04
618	2.11	90.66	1,522.07	75.7	3,388.52
612	7.1	84.04	1,521.20	70.77	3,448.95
1508	5.82	68.99	1,517.72	57.94	3,473.20
1356	1.94	66.55	1,520.85	57.64	3,583.09
1434	0.03	64.58	1,520.83	56.15	3,601.09
882	1.1	64.78	1,520.83	56.32	3,602.76
898	0.02	66.69	1,520.85	57.91	3,613.86
66	3.83	85.06	1,520.95	73.65	3,811.31
1768	17.18	62.59	1,518.06	55.21	3,875.57
1794	2.63	83.95	1,518.75	73.2	3,938.09
J24	234.86	65.17	1,517.89	57.19	4,090.51
1444	4.18	67.52	1,518.41	60.3	4,166.82
1506	4.78	71.47	1,517.84	63.18	4,183.66
1442	6.33	67.3	1,518.41	60.64	4,341.83

2040 Fire Flow Modeling - Site A

ID	Static Demand (gpm)	Static Pressure (psi)	Static Head (ft)	Residual Pressure (psi)	Available Flow at Hydrant (gpm)
1502	1.6	70.54	1,517.86	62.96	4,352.10
1514	2.98	73.91	1,518.05	66.18	4,395.89
1440	8.03	73.58	1,518.53	66.44	4,469.01
1436	9.36	81.9	1,519.01	74.3	4,632.09
1438	3.1	79.96	1,518.65	72.67	4,681.35
1800	0.65	81.03	1,518.80	73.68	4,688.89
1448	2.55	71.12	1,518.28	65.09	4,811.04
1450	1.96	70.47	1,518.26	64.51	4,814.34
1478	4.06	70.85	1,518.25	64.97	4,876.28
1500	0.68	70.31	1,517.93	64.31	4,936.90
J40	13.61	62.81	1,518.01	58.42	5,243.74
1804	0.19	90.68	1,518.17	83.58	5,275.14
1480	2.31	75.41	1,518.17	70.06	5,415.71
1482	2.32	77.92	1,518.15	72.7	5,637.49
1814	3.4	54.96	1,518.00	52.05	5,947.04
1484	1.85	76.09	1,518.07	71.47	5,985.18
1812	149.21	59.8	1,518.00	56.55	6,172.56
1486	1.77	78.24	1,518.05	73.8	6,266.93
1488	1.34	73.06	1,518.00	69.45	6,773.75
1490	12.14	72.68	1,518.00	69.53	7,263.78
1496	10.84	65.88	1,518.00	63.6	7,958.44
1498	1.83	58.73	1,518.00	57.4	9,564.41
1816	12.04	53.51	1,518.00	52.48	10,042.84
J124	0	53.51	1,518.00	53.29	22,874.65

Available Fire Flow
< 1,500 gpm
1,500 -3,000 gpm
> 3,000 gpm

2040 Fire Flow Modeling - Site B

ID	Static Demand (gpm)	Static Pressure (psi)	Static Head (ft)	Residual Pressure (psi)	Available Flow at Hydrant (gpm)
1706	0	10.45	1,397.99	10.42	-0.23
1704	0	10.28	1,397.99	10.26	-0.22
1708	0	10.61	1,397.99	10.59	-0.22
1710	0	10.39	1,397.97	10.31	-0.2
598	5.28	78.99	1,523.80	-11,658.67	86.00
876	3.49	78.88	1,525.56	-10,612.89	90.2
666	2.81	93.53	1,524.31	-2,111.69	236.99
406	2.8	78.18	1,525.83	-1,120.66	288.53
540	2.94	103.55	1,523.91	-1,247.39	331.78
1262	2.89	82.77	1,525.86	-731.00	371.45
284	4.39	86.47	1,525.68	-584.36	425.27
872	5.56	76.88	1,525.85	-425.88	456.47
680	5.04	101.42	1,525.54	-481.12	513.86
1090	2.44	86.35	1,521.76	-118.43	814.2
542	3.98	108.88	1,523.94	-55.00	1,074.76
1476	9.13	54.02	1,520.15	0.23	1,172.74
1092	7.59	95.08	1,521.76	-15.65	1,220.35
1474	6.21	56.39	1,520.15	5.33	1,249.24
1472	8.31	63.22	1,520.15	7.62	1,313.00
1470	9.41	62.23	1,520.15	11.80	1,368.67
726	3.61	93.89	1,526.19	18.94	1,491.96
J116	0.42	108.97	1,522.64	22.55	1,524.59
504	3.54	97.35	1,526.18	24.42	1,552.63
1468	5.11	62.82	1,520.15	23.53	1,578.72
1522	8.08	68.06	1,518.97	27.30	1,649.16
1466	4.15	63.14	1,520.17	28.71	1,705.24
1526	6.8	71.51	1,518.97	31.86	1,736.89
914	1.66	86.83	1,526.02	39.09	1,805.44
910	0.65	86.87	1,526.02	39.78	1,818.57
912	0	86.79	1,526.02	39.89	1,820.79
732	4.06	86.71	1,526.02	39.99	1,827.56
1520	8.24	71.73	1,518.97	35.54	1,831.23
1524	9.14	71.45	1,518.97	36.11	1,850.42
714	2.41	75.95	1,525.14	38.56	1,874.99
1504	14.43	64.97	1,518.47	35.14	1,890.25
1462	7.35	65.09	1,520.19	36.31	1,934.33
1530	5.33	83.67	1,520.47	44.19	1,955.38
1464	1.71	65.76	1,520.19	37.87	1,978.98
1452	2.33	66.9	1,519.71	38.77	1,981.24
1494	4.94	83.83	1,518.69	45.64	1,983.83
1460	0.33	65.59	1,520.19	38.11	1,990.02
1528	5.85	82.36	1,520.47	45.04	1,994.67
1762	4.19	109.55	1,522.83	57.53	2,026.39
472	1.89	93.61	1,524.56	51.16	2,030.24
470	1.55	85.64	1,524.35	48.14	2,042.45
J118	0.42	109.32	1,522.64	59.10	2,059.22
880	1.48	70.59	1,525.40	43.20	2,103.02

2040 Fire Flow Modeling - Site B

ID	Static Demand (gpm)	Static Pressure (psi)	Static Head (ft)	Residual Pressure (psi)	Available Flow at Hydrant (gpm)
934	6.75	84.23	1,526.01	51.73	2,187.79
930	1.97	84.12	1,526.01	52.46	2,212.72
604	1.34	84.21	1,526.01	52.71	2,219.76
1456	4.54	80.04	1,520.47	50.87	2,235.99
J122	0	38.03	1,517.78	29.02	2,241.35
922	0.13	80.59	1,525.99	51.95	2,265.52
920	1.83	80.59	1,525.99	52.72	2,301.77
J28	21.27	38.96	1,517.78	30.33	2,386.69
602	6.03	85.07	1,526.00	57.92	2,432.15
942	0.63	71.05	1,525.78	49.95	2,453.43
1454	8.68	70.17	1,520.48	49.66	2,464.08
928	1.75	95.08	1,524.39	64.83	2,475.20
940	1.09	70.73	1,525.78	50.43	2,499.34
924	2.94	95.26	1,524.39	65.84	2,518.10
1774	-1,041.67	76.05	1,460.44	64.53	2,580.03
1518	7.28	75.27	1,518.98	54.70	2,582.41
1760	1.45	104.17	1,525.42	73.31	2,618.00
956	0.1	105.83	1,525.48	74.54	2,622.04
926	1.19	92.8	1,524.16	66.74	2,644.72
960	1.96	104.17	1,525.42	73.97	2,650.43
1798	2.35	75.63	1,520.44	55.83	2,657.28
952	0.1	105.64	1,525.48	75.19	2,659.07
1516	8.02	74.97	1,518.98	55.79	2,675.52
958	0.73	104.17	1,525.42	74.84	2,692.93
1802	4.47	70.32	1,520.23	53.26	2,738.67
1796	2.3	83.06	1,521.00	62.14	2,752.48
1792	2.17	76.32	1,520.44	57.73	2,771.01
918	0.8	93.88	1,526.67	70.57	2,800.01
1458	0.66	70.78	1,520.22	54.34	2,802.77
286	2.27	89.99	1,525.71	67.38	2,809.77
724	2.35	106.34	1,525.42	78.71	2,825.62
950	1.28	82.07	1,525.65	62.20	2,833.84
916	1.13	93.88	1,526.67	71.32	2,850.68
1446	9.51	69.63	1,520.21	53.98	2,851.65
702	3.59	72.76	1,525.78	56.14	2,862.45
408	2.19	69.08	1,525.85	53.78	2,875.96
1766	0	94.64	1,528.42	72.54	2,884.97
1230	0	94.64	1,528.41	72.57	2,887.41
948	0.44	81.59	1,525.65	62.53	2,888.83
1232	0	94.63	1,528.40	72.60	2,889.17
1094	1.88	96.11	1,521.78	72.97	2,894.04
1354	0	94.62	1,528.37	72.70	2,896.72
730	0.06	82.02	1,525.65	62.95	2,898.52
884	3.5	67.54	1,525.88	52.93	2,899.19
904	0.51	85.4	1,525.89	66.00	2,905.85
742	0	94.58	1,528.27	73.03	2,921.74
868	3.48	91.54	1,525.67	70.06	2,930.15

2040 Fire Flow Modeling - Site B

ID	Static Demand (gpm)	Static Pressure (psi)	Static Head (ft)	Residual Pressure (psi)	Available Flow at Hydrant (gpm)
874	0.76	85.04	1,525.89	66.19	2,943.02
1492	3.08	75.16	1,518.69	59.49	2,954.43
1776	1.79	42.33	1,517.82	35.58	2,981.83
946	2.87	93.92	1,525.94	73.01	3,010.23
902	0	85.22	1,525.89	67.09	3,011.04
1338	5.76	84.8	1,525.70	66.40	3,033.99
734	5.51	92.51	1,525.83	72.48	3,060.18
938	2.53	93.73	1,526.32	73.80	3,065.67
932	5.13	90.57	1,526.01	71.31	3,069.90
558	5.86	107.94	1,525.45	83.76	3,080.40
944	3.05	94.13	1,525.94	74.02	3,081.33
610	0.19	68.01	1,525.89	55.29	3,096.81
560	1.15	107.25	1,525.48	83.89	3,122.23
936	2.79	93.73	1,526.32	74.56	3,133.18
506	3.96	93.73	1,526.32	74.61	3,137.83
870	1.41	68.92	1,525.88	56.33	3,148.40
678	7.62	99.3	1,525.57	78.34	3,156.02
908	1.63	91.31	1,526.46	74.18	3,245.41
J120	0.42	94.79	1,521.38	76.50	3,256.26
1512	3.57	71.63	1,517.78	58.86	3,310.67
620	2.01	93.89	1,526.68	77.45	3,387.83
906	0.72	91.37	1,526.46	75.56	3,391.65
68	0.51	71.91	1,525.97	60.09	3,418.20
618	2.11	92.72	1,526.81	77.18	3,455.61
900	0.03	68.59	1,525.69	58.15	3,499.08
878	2.32	64.67	1,526.35	55.15	3,530.05
1714	0	65.22	1,526.91	55.61	3,535.22
1260	0	65.14	1,526.89	55.54	3,535.26
1712	0	65.31	1,526.93	55.68	3,535.92
612	7.1	86.13	1,526.02	72.40	3,539.05
1204	0.5	64.53	1,526.38	55.34	3,589.85
1508	5.82	69.18	1,518.15	59.12	3,632.83
1510	2.23	68.85	1,517.78	58.79	3,707.89
1356	1.94	68.65	1,525.69	59.24	3,719.41
1434	0.03	66.67	1,525.68	57.74	3,745.28
882	1.1	66.88	1,525.68	57.90	3,746.09
1794	2.63	84.92	1,521.00	72.55	3,750.58
898	0.02	68.79	1,525.69	59.50	3,752.55
J30	168.79	66.13	1,517.76	56.14	3,776.25
1444	4.18	68.29	1,520.18	59.43	3,820.99
1514	2.98	74.32	1,519.02	64.80	3,872.67
66	3.83	87.23	1,525.96	75.25	3,924.71
1442	6.33	68.07	1,520.18	59.75	3,949.27
1506	4.78	71.72	1,518.42	63.22	4,047.90
1502	1.6	70.8	1,518.47	62.76	4,115.95
1440	8.03	74.43	1,520.49	65.67	4,118.28
1816	12.04	53.76	1,518.58	48.79	4,164.03

2040 Fire Flow Modeling - Site B

ID	Static Demand (gpm)	Static Pressure (psi)	Static Head (ft)	Residual Pressure (psi)	Available Flow at Hydrant (gpm)
1450	1.96	71.09	1,519.71	63.42	4,241.43
1448	2.55	71.76	1,519.75	64.01	4,253.48
1478	4.06	71.46	1,519.66	63.86	4,280.08
1438	3.1	80.88	1,520.77	71.98	4,347.07
1500	0.68	70.6	1,518.59	63.57	4,391.83
1800	0.65	82.03	1,521.10	73.13	4,393.87
1436	9.36	83.02	1,521.60	73.94	4,395.61
1498	1.83	58.98	1,518.59	53.95	4,465.84
1814	3.4	55.18	1,518.51	50.86	4,584.54
1480	2.31	75.93	1,519.38	68.83	4,627.84
1482	2.32	78.42	1,519.31	71.44	4,782.33
1804	0.19	91.02	1,518.94	83.03	4,796.26
1496	10.84	66.15	1,518.63	60.89	4,808.17
1484	1.85	76.51	1,519.03	70.09	4,893.72
1486	1.77	78.64	1,518.97	72.39	5,061.88
1490	12.14	72.98	1,518.69	67.54	5,118.59
1488	1.34	73.38	1,518.74	67.87	5,119.84
1812	149.21	60.01	1,518.50	55.90	5,200.13
J40	13.61	62.97	1,518.38	59.37	5,629.57
J24	234.86	65.16	1,517.88	63.79	11,608.35

Available Fire Flow
< 1,500 gpm
1,500 -3,000 gpm
> 3,000 gpm

2040 Fire Flow Modeling - Site C

ID	Static Demand (gpm)	Static Pressure (psi)	Static Head (ft)	Residual Pressure (psi)	Available Flow at Hydrant (gpm)
1710	0	10.4	1,397.99	10.33	0.02
1704	0	10.28	1,398.00	10.26	0.13
1708	0	10.61	1,398.00	10.59	0.13
1706	0	10.45	1,398.00	10.43	0.2
598	5.28	77.33	1,519.96	-11,665.35	84.91
876	3.49	76.96	1,521.14	-10,619.83	88.72
666	2.81	91.92	1,520.60	-2,118.26	235.39
406	2.8	76.21	1,521.29	-1,127.57	284.95
540	2.94	102.04	1,520.41	-1,253.85	329.04
1262	2.89	80.86	1,521.44	-737.95	366.86
284	4.39	84.55	1,521.24	-591.15	420.44
872	5.56	74.96	1,521.42	-432.82	450.36
680	5.04	99.52	1,521.15	-487.85	508.49
1090	2.44	85.42	1,519.61	-124.17	797.82
542	3.98	107.37	1,520.44	-61.46	1,051.74
1476	9.13	53.42	1,518.77	-5.09	1,108.11
1474	6.21	55.79	1,518.77	0.01	1,178.59
1092	7.59	94.15	1,519.61	-21.40	1,185.02
1472	8.31	62.62	1,518.77	2.3	1,245.85
1470	9.41	61.63	1,518.77	6.48	1,292.90
726	3.61	91.97	1,521.75	12.26	1,422.83
J116	0.42	107.81	1,519.96	16.57	1,469.49
1468	5.11	62.22	1,518.77	18.21	1,470.87
504	3.54	95.43	1,521.74	17.74	1,479.73
1522	8.08	67.84	1,518.45	22.4	1,551.13
1466	4.15	62.54	1,518.78	23.39	1,574.93
1526	6.8	71.28	1,518.45	26.96	1,631.88
914	1.66	84.89	1,521.55	32.29	1,683.26
910	0.65	84.93	1,521.55	32.98	1,694.21
912	0	84.85	1,521.55	33.09	1,695.82
732	4.06	84.77	1,521.55	33.19	1,702.00
1520	8.24	71.51	1,518.45	30.64	1,711.83
714	2.41	74.15	1,520.99	31.77	1,716.40
1524	9.14	71.23	1,518.45	31.21	1,727.40
1462	7.35	64.49	1,518.81	30.99	1,763.29
1464	1.71	65.16	1,518.81	32.55	1,798.95
1504	14.43	64.89	1,518.29	32.23	1,798.97
1460	0.33	64.99	1,518.81	32.79	1,806.52
1452	2.33	66.46	1,518.70	33.64	1,815.78
1530	5.33	83.02	1,518.95	38.86	1,827.75
1528	5.85	81.7	1,518.95	39.71	1,857.82
1494	4.94	83.73	1,518.45	40.81	1,864.23
880	1.48	68.73	1,521.11	36.3	1,873.71
470	1.55	84.03	1,520.64	41.57	1,878.51
472	1.89	91.95	1,520.72	44.48	1,883.57
1762	4.19	108.34	1,520.03	51.49	1,911.86
J118	0.42	108.16	1,519.96	53.12	1,939.98

2040 Fire Flow Modeling - Site C

ID	Static Demand (gpm)	Static Pressure (psi)	Static Head (ft)	Residual Pressure (psi)	Available Flow at Hydrant (gpm)
934	6.75	82.28	1,521.52	44.94	1,989.87
930	1.97	82.17	1,521.52	45.67	2,008.10
604	1.34	82.26	1,521.52	45.92	2,013.71
922	0.13	78.63	1,521.47	45.06	2,034.69
1456	4.54	79.38	1,518.95	45.54	2,046.92
920	1.83	78.63	1,521.47	45.83	2,062.65
942	0.63	69.1	1,521.29	43.11	2,129.44
940	1.09	68.78	1,521.29	43.59	2,159.58
602	6.03	83.12	1,521.49	51.06	2,179.09
1454	8.68	69.51	1,518.95	44.33	2,184.81
928	1.75	93.46	1,520.66	58.35	2,247.66
924	2.94	93.65	1,520.66	59.37	2,281.85
1518	7.28	75.04	1,518.46	49.8	2,317.50
1798	2.35	74.98	1,518.94	50.51	2,348.85
926	1.19	91.24	1,520.57	60.35	2,372.39
1802	4.47	69.72	1,518.85	47.94	2,377.70
1760	1.45	102.31	1,521.11	66.66	2,379.62
1516	8.02	74.75	1,518.46	50.9	2,385.57
956	0.1	103.95	1,521.14	67.85	2,386.37
408	2.19	67.11	1,521.31	46.87	2,395.52
884	3.5	65.57	1,521.32	45.99	2,396.61
960	1.96	102.31	1,521.11	67.32	2,405.29
952	0.1	103.76	1,521.14	68.49	2,415.14
702	3.59	70.82	1,521.29	49.29	2,417.67
1458	0.66	70.19	1,518.85	49.02	2,423.47
1792	2.17	75.66	1,518.94	52.41	2,433.35
958	0.73	102.31	1,521.11	68.19	2,438.35
1796	2.3	82.27	1,519.18	56.74	2,448.52
1446	9.51	69.04	1,518.85	48.67	2,452.32
950	1.28	80.15	1,521.23	55.44	2,456.75
286	2.27	88.07	1,521.27	60.6	2,478.01
948	0.44	79.67	1,521.23	55.77	2,492.12
730	0.06	80.11	1,521.23	56.19	2,501.17
918	0.8	91.99	1,522.31	64.17	2,512.25
904	0.51	83.48	1,521.46	59.06	2,527.82
610	0.19	66.09	1,521.47	48.35	2,530.97
724	2.35	104.47	1,521.11	72.06	2,548.10
916	1.13	91.99	1,522.31	64.92	2,551.03
874	0.76	83.12	1,521.46	59.25	2,551.92
870	1.41	67	1,521.45	49.38	2,569.83
868	3.48	89.63	1,521.25	63.28	2,572.11
1774	-1,041.67	76.05	1,460.44	64.53	2,580.02
1094	1.88	95.18	1,519.63	67.23	2,585.21
1492	3.08	75.06	1,518.45	54.65	2,585.98
902	0	83.3	1,521.46	60.15	2,599.45
1338	5.76	82.87	1,521.25	59.61	2,611.09
1766	0	92.84	1,524.25	66.83	2,622.14

2040 Fire Flow Modeling - Site C

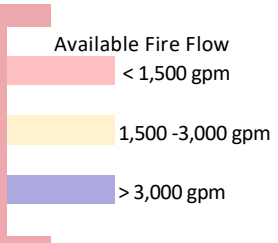
ID	Static Demand (gpm)	Static Pressure (psi)	Static Head (ft)	Residual Pressure (psi)	Available Flow at Hydrant (gpm)
1230	0	92.83	1,524.24	66.86	2,623.87
1232	0	92.83	1,524.23	66.88	2,625.13
1354	0	92.81	1,524.20	66.97	2,630.49
946	2.87	91.99	1,521.48	66.26	2,646.31
742	0	92.77	1,524.10	67.26	2,648.21
734	5.51	90.58	1,521.37	65.69	2,672.63
1260	0	62.87	1,521.64	47.89	2,674.65
1714	0	62.94	1,521.65	47.94	2,674.82
1712	0	63.02	1,521.66	48	2,675.53
932	5.13	88.64	1,521.55	64.6	2,676.80
878	2.32	62.55	1,521.47	47.79	2,690.58
944	3.05	92.2	1,521.48	67.27	2,697.97
938	2.53	91.82	1,521.90	67.22	2,698.98
1204	0.5	62.4	1,521.48	47.93	2,713.11
68	0.51	69.92	1,521.36	53.06	2,737.72
558	5.86	106.06	1,521.13	77.08	2,747.07
936	2.79	91.82	1,521.90	67.99	2,747.91
900	0.03	66.67	1,521.26	51.14	2,750.81
506	3.96	91.82	1,521.90	68.04	2,751.75
678	7.62	97.4	1,521.19	71.61	2,768.70
560	1.15	105.37	1,521.14	77.2	2,774.22
908	1.63	89.41	1,522.08	67.63	2,821.28
J120	0.42	93.97	1,519.49	70.77	2,842.98
1434	0.03	64.75	1,521.24	50.72	2,849.20
882	1.1	64.96	1,521.24	50.89	2,853.26
1356	1.94	66.73	1,521.26	52.23	2,866.48
898	0.02	66.87	1,521.26	52.49	2,883.57
1816	12.04	53.71	1,518.45	43.5	2,914.06
906	0.72	89.48	1,522.08	69	2,923.04
620	2.01	92	1,522.32	71.08	2,947.08
1776	1.79	42.47	1,518.13	36.09	2,957.66
612	7.1	84.22	1,521.60	65.55	2,963.34
618	2.11	90.83	1,522.47	70.89	2,995.36
1814	3.4	55.15	1,518.45	45.19	3,011.87
1444	4.18	67.71	1,518.85	54.17	3,029.92
1442	6.33	67.49	1,518.85	54.5	3,097.50
1794	2.63	84.13	1,519.18	67.15	3,139.42
1498	1.83	58.92	1,518.45	48.7	3,147.17
1514	2.98	74.1	1,518.50	59.9	3,164.42
66	3.83	85.24	1,521.36	68.23	3,174.70
1440	8.03	73.77	1,518.97	60.34	3,260.98
1450	1.96	70.66	1,518.71	58.29	3,303.30
1448	2.55	71.31	1,518.72	58.87	3,316.99
1478	4.06	71.04	1,518.69	58.74	3,330.69
1812	149.21	59.99	1,518.45	50.13	3,401.53
J40	13.61	63	1,518.46	53.27	3,406.93
1438	3.1	80.15	1,519.09	66.6	3,450.24

2040 Fire Flow Modeling - Site C

ID	Static Demand (gpm)	Static Pressure (psi)	Static Head (ft)	Residual Pressure (psi)	Available Flow at Hydrant (gpm)
1496	10.84	66.07	1,518.45	55.84	3,472.81
1800	0.65	81.22	1,519.23	67.66	3,479.31
1436	9.36	82.09	1,519.45	68.34	3,485.71
1502	1.6	70.73	1,518.30	59.85	3,526.62
J28	21.27	39.06	1,518.02	35	3,527.71
1508	5.82	69.17	1,518.14	58.74	3,542.62
1506	4.78	71.65	1,518.27	60.72	3,551.18
1768	17.18	62.78	1,518.50	54.22	3,558.62
1500	0.68	70.51	1,518.37	59.91	3,574.05
1480	2.31	75.6	1,518.61	63.78	3,577.00
1482	2.32	78.11	1,518.59	66.42	3,690.64
1804	0.19	90.87	1,518.61	77.18	3,713.84
1484	1.85	76.28	1,518.51	65.19	3,731.07
1490	12.14	72.88	1,518.45	62.71	3,776.73
1488	1.34	73.25	1,518.45	63.2	3,813.17
1486	1.77	78.43	1,518.50	67.53	3,846.91
J108	-511.24	84.37	1,518.55	75.72	3,885.65
J24	234.86	65.36	1,518.33	56.82	3,909.32
1512	3.57	71.7	1,517.96	62.48	3,922.45
J122	0	38.13	1,518.00	35.04	3,994.75

2040 Fire Flow Modeling - Site D

ID	Static Demand (gpm)	Static Pressure (psi)	Static Head (ft)	Residual Pressure (psi)	Available Flow at Hydrant (gpm)
1706	0	10.45	1,397.99	10.42	-0.23
1704	0	10.28	1,397.99	10.26	-0.22
1708	0	10.61	1,397.99	10.59	-0.22
1710	0	10.39	1,397.97	10.31	-0.2
598	5.28	78.85	1,523.46	-11,656.60	85.93
876	3.49	78.74	1,525.25	-10,611.11	90.14
666	2.81	93.38	1,523.97	-2,109.56	236.99
406	2.8	78.04	1,525.51	-1,118.76	288.53
540	2.94	103.4	1,523.56	-1,245.24	331.84
1262	2.89	82.64	1,525.54	-729.22	371.56
284	4.39	86.33	1,525.36	-582.45	425.55
872	5.56	76.74	1,525.53	-424.1	456.9
680	5.04	101.28	1,525.21	-479.15	514.48
1090	2.44	86.19	1,521.37	-115.78	818.95
542	3.98	108.73	1,523.59	-52.85	1,082.19
1476	9.13	53.87	1,519.81	2.18	1,193.34
1092	7.59	94.92	1,521.38	-13.01	1,235.53
1474	6.21	56.25	1,519.81	7.27	1,273.47
1472	8.31	63.07	1,519.81	9.57	1,337.05
1470	9.41	62.08	1,519.81	13.74	1,397.17
726	3.61	93.76	1,525.88	20.7	1,511.49
J116	0.42	108.81	1,522.27	25.03	1,549.17
504	3.54	97.21	1,525.87	26.2	1,573.74
1468	5.11	62.67	1,519.82	25.47	1,625.99
1522	8.08	67.92	1,518.63	29.1	1,691.74
1466	4.15	63	1,519.83	30.65	1,765.65
1526	6.8	71.36	1,518.63	33.66	1,783.96
914	1.66	86.69	1,525.71	40.88	1,843.79
910	0.65	86.74	1,525.71	41.57	1,857.72
912	0	86.65	1,525.71	41.68	1,860.16
732	4.06	86.57	1,525.71	41.78	1,867.13
1520	8.24	71.58	1,518.63	37.34	1,886.94
1524	9.14	71.31	1,518.63	37.92	1,908.30
1504	14.43	64.85	1,518.20	35.94	1,921.31
714	2.41	75.81	1,524.81	40.55	1,932.88
J122	0	38.04	1,517.79	27.07	1,990.36
1530	5.33	83.53	1,520.13	46.13	2,014.42
1462	7.35	64.95	1,519.85	38.26	2,017.44
1494	4.94	83.67	1,518.32	47.61	2,044.96
1528	5.85	82.22	1,520.13	46.98	2,058.51
1452	2.33	66.75	1,519.37	40.62	2,066.52
1464	1.71	65.62	1,519.85	39.81	2,067.10
1460	0.33	65.45	1,519.85	40.05	2,080.11
1762	4.19	109.4	1,522.47	59.97	2,080.91
472	1.89	93.47	1,524.23	53.23	2,087.03
J28	21.27	38.97	1,517.80	28.24	2,092.97



2040 Fire Flow Modeling - Site D

ID	Static Demand (gpm)	Static Pressure (psi)	Static Head (ft)	Residual Pressure (psi)	Available Flow at Hydrant (gpm)
470	1.55	85.49	1,524.02	50.27	2,109.67
J118	0.42	109.16	1,522.27	61.58	2,117.85
880	1.48	70.45	1,525.08	45.14	2,187.47
934	6.75	84.09	1,525.69	53.53	2,255.71
930	1.97	83.98	1,525.69	54.26	2,283.25
604	1.34	84.07	1,525.69	54.51	2,290.86
1456	4.54	79.89	1,520.14	52.81	2,328.46
922	0.13	80.45	1,525.67	53.76	2,346.76
920	1.83	80.45	1,525.67	54.53	2,386.38
1776	1.79	42.35	1,517.87	32.84	2,418.06
602	6.03	84.94	1,525.68	59.73	2,522.54
928	1.75	94.93	1,524.05	67	2,577.35
1774	-1,041.67	76.05	1,460.44	64.53	2,580.03
942	0.63	70.91	1,525.47	51.86	2,581.42
1454	8.68	70.03	1,520.14	51.59	2,611.90
924	2.94	95.11	1,524.05	68.01	2,624.84
940	1.09	70.59	1,525.47	52.34	2,634.80
1760	1.45	104.03	1,525.09	75.33	2,714.36
956	0.1	105.69	1,525.16	76.53	2,715.52
1518	7.28	75.12	1,518.64	56.51	2,743.06
960	1.96	104.03	1,525.09	75.99	2,750.13
952	0.1	105.5	1,525.16	77.17	2,756.52
926	1.19	92.65	1,523.82	68.98	2,775.43
958	0.73	104.03	1,525.09	76.85	2,797.31
1798	2.35	75.49	1,520.11	57.78	2,823.25
1516	8.02	74.82	1,518.64	57.6	2,855.84
918	0.8	93.75	1,526.36	72.23	2,901.70
1796	2.3	82.92	1,520.66	64.12	2,909.92
1802	4.47	70.17	1,519.89	55.21	2,940.92
724	2.35	106.2	1,525.09	80.72	2,941.67
286	2.27	89.85	1,525.39	69.3	2,943.21
1792	2.17	76.17	1,520.11	59.68	2,955.71
916	1.13	93.75	1,526.36	72.98	2,957.20
1766	0	94.51	1,528.12	73.95	2,973.86
1230	0	94.51	1,528.11	73.99	2,976.57
1232	0	94.5	1,528.10	74.01	2,978.54
1354	0	94.49	1,528.07	74.11	2,986.96
950	1.28	81.93	1,525.33	64.14	2,992.88
742	0	94.45	1,527.98	74.44	3,014.89
1458	0.66	70.63	1,519.89	56.28	3,017.51
904	0.51	85.26	1,525.57	67.78	3,045.79
702	3.59	72.63	1,525.46	58.05	3,052.00
948	0.44	81.45	1,525.33	64.47	3,057.96
730	0.06	81.89	1,525.33	64.9	3,068.01
868	3.48	91.4	1,525.35	71.99	3,077.53
1446	9.51	69.49	1,519.88	55.92	3,081.07

2040 Fire Flow Modeling - Site D

ID	Static Demand (gpm)	Static Pressure (psi)	Static Head (ft)	Residual Pressure (psi)	Available Flow at Hydrant (gpm)
408	2.19	68.94	1,525.53	55.68	3,081.08
874	0.76	84.9	1,525.57	67.97	3,088.45
1512	3.57	71.62	1,517.76	57.36	3,094.26
1094	1.88	95.95	1,521.39	75.62	3,103.52
884	3.5	67.41	1,525.56	54.82	3,114.83
946	2.87	93.78	1,525.62	74.84	3,151.70
902	0	85.08	1,525.57	68.87	3,165.15
938	2.53	93.59	1,526.00	75.54	3,203.42
1492	3.08	75.01	1,518.33	61.46	3,213.42
1338	5.76	84.66	1,525.38	68.34	3,214.02
734	5.51	92.37	1,525.51	74.34	3,215.28
558	5.86	107.8	1,525.13	85.75	3,222.02
932	5.13	90.44	1,525.70	73.12	3,223.22
944	3.05	93.99	1,525.62	75.84	3,231.30
560	1.15	107.11	1,525.16	85.88	3,269.94
936	2.79	93.59	1,526.00	76.3	3,279.02
506	3.96	93.6	1,526.01	76.34	3,283.99
678	7.62	99.16	1,525.25	80.31	3,320.54
610	0.19	67.87	1,525.57	57.06	3,328.51
870	1.41	68.78	1,525.56	58.11	3,386.06
1510	2.23	68.84	1,517.76	57.29	3,397.78
908	1.63	91.17	1,526.15	75.87	3,403.01
J30	168.79	66.13	1,517.75	54.59	3,460.65
620	2.01	93.75	1,526.37	79.1	3,553.43
906	0.72	91.24	1,526.15	77.24	3,568.54
J120	0.42	94.62	1,520.99	79.2	3,578.54
1508	5.82	69.11	1,518.00	58.87	3,604.64
618	2.11	92.58	1,526.50	78.79	3,628.50
68	0.51	71.78	1,525.65	61.96	3,719.39
612	7.1	85.99	1,525.71	74.17	3,767.22
900	0.03	68.46	1,525.37	59.99	3,835.29
1712	0	65.17	1,526.62	57.45	3,882.73
1714	0	65.09	1,526.60	57.39	3,882.99
1260	0	65	1,526.58	57.32	3,884.30
878	2.32	64.53	1,526.04	56.96	3,895.85
1204	0.5	64.39	1,526.07	57.14	3,972.80
1356	1.94	68.51	1,525.37	61.07	4,118.97
1794	2.63	84.78	1,520.66	74.52	4,122.79
898	0.02	68.65	1,525.37	61.34	4,161.99
882	1.1	66.74	1,525.36	59.74	4,173.80
1434	0.03	66.54	1,525.36	59.58	4,175.22
66	3.83	87.1	1,525.65	77.12	4,254.66
1506	4.78	71.61	1,518.18	63.84	4,297.46
1444	4.18	68.15	1,519.85	61.34	4,393.44
1514	2.98	74.18	1,518.68	66.6	4,435.63
1502	1.6	70.69	1,518.21	63.56	4,455.59

2040 Fire Flow Modeling - Site D

ID	Static Demand (gpm)	Static Pressure (psi)	Static Head (ft)	Residual Pressure (psi)	Available Flow at Hydrant (gpm)
1768	17.18	62.62	1,518.15	57.15	4,462.69
1442	6.33	67.92	1,519.85	61.66	4,586.98
J24	234.86	65.21	1,518.00	59.07	4,619.58
1440	8.03	74.28	1,520.15	67.61	4,729.87
J108	-511.24	84.22	1,518.20	78.65	4,954.06
1438	3.1	80.74	1,520.44	73.94	4,967.84
1436	9.36	82.88	1,521.27	75.96	4,981.90
1500	0.68	70.47	1,518.30	64.77	5,000.52
1800	0.65	81.89	1,520.77	75.12	5,008.89
1450	1.96	70.95	1,519.37	65.27	5,009.71
1448	2.55	71.61	1,519.42	65.87	5,012.87
1478	4.06	71.31	1,519.32	65.7	5,065.28
1480	2.31	75.78	1,519.04	70.64	5,555.29
1482	2.32	78.28	1,518.97	73.26	5,761.40
1484	1.85	76.36	1,518.69	71.89	6,026.08
1486	1.77	78.49	1,518.63	74.19	6,273.87
1804	0.19	90.83	1,518.51	86.26	6,386.00
1816	12.04	53.59	1,518.18	51.35	6,426.84
1488	1.34	73.23	1,518.40	69.67	6,594.48
1498	1.83	58.81	1,518.19	56.45	6,754.71
1496	10.84	65.98	1,518.25	63.14	6,780.80
1490	12.14	72.83	1,518.33	69.51	6,799.77
J40	13.61	62.83	1,518.07	60.94	7,866.45

2023 Higher Operating Range Junction Pressures - Bottom of Domestic Storage - Site B

Tank Elevation: 1500 feet

ID	Demand (gpm)	Elevation (ft)	Head (ft)	Pressure (psi)
1704	0	1,374.26	1,397.99	10.28
1710	0	1,373.99	1,397.97	10.39
1706	0	1,373.88	1,397.99	10.45
1708	0	1,373.51	1,397.99	10.61
1476	12.48	1,395.49	1,517.23	52.75
1816	61.3	1,394.50	1,517.32	53.22
1814	0	1,391.17	1,517.38	54.69
1474	13.04	1,390.00	1,517.23	55.13
1498	4.53	1,382.46	1,517.32	58.43
1812	13.97	1,380.00	1,517.40	59.53
1470	4.4	1,376.53	1,517.24	60.97
1468	8.92	1,375.18	1,517.24	61.55
1204	1.82	1,377.46	1,519.78	61.67
878	6.86	1,377.11	1,519.72	61.79
1466	5.76	1,374.44	1,517.26	61.88
1472	4.49	1,374.25	1,517.24	61.96
1260	0	1,376.56	1,520.38	62.32
1714	0	1,376.39	1,520.41	62.41
1712	0	1,376.22	1,520.44	62.49
1768	91.77	1,373.62	1,517.98	62.55
J40	88.18	1,373.06	1,517.45	62.56
1434	0.55	1,371.80	1,519.11	63.83
1462	17.24	1,369.96	1,517.28	63.84
882	1.17	1,371.34	1,519.11	64.03
1460	0.95	1,368.81	1,517.29	64.34
1504	22.33	1,368.53	1,517.22	64.43
884	9.22	1,370.00	1,518.73	64.44
1464	4.89	1,368.41	1,517.29	64.51
610	1.76	1,368.94	1,518.86	64.96
1496	8.81	1,365.96	1,517.31	65.58
900	0.4	1,367.38	1,519.09	65.74
1356	5.04	1,367.27	1,519.09	65.78
1452	6.66	1,365.32	1,517.36	65.88
870	2.59	1,366.82	1,518.88	65.89
898	0.27	1,366.94	1,519.09	65.93
408	4.6	1,366.42	1,518.65	65.96
1442	3.93	1,363.09	1,517.42	66.87
1444	4.75	1,362.57	1,517.41	67.09
1522	5.25	1,361.89	1,517.26	67.32
940	4.03	1,362.55	1,518.46	67.56
880	2.89	1,362.50	1,519.02	67.82

Tank Elevation: 1505 feet

ID	Demand (gpm)	Elevation (ft)	Head (ft)	Pressure (psi)
1704	0	1,374.26	1,397.99	10.28
1710	0	1,373.99	1,397.97	10.39
1706	0	1,373.88	1,397.99	10.45
1708	0	1,373.51	1,397.99	10.61
1476	12.48	1,395.49	1,521.92	54.78
1816	61.3	1,394.50	1,522.10	55.29
1814	0	1,391.17	1,522.20	56.77
1474	13.04	1,390.00	1,521.92	57.16
1498	4.53	1,382.46	1,522.10	60.51
1812	13.97	1,380.00	1,522.22	61.62
1470	4.4	1,376.53	1,521.93	63
1204	1.82	1,377.46	1,524.07	63.53
1468	8.92	1,375.18	1,521.93	63.59
878	6.86	1,377.11	1,524.02	63.66
1466	5.76	1,374.44	1,521.95	63.91
1472	4.49	1,374.25	1,521.93	63.99
1260	0	1,376.56	1,524.63	64.16
1714	0	1,376.39	1,524.66	64.24
1712	0	1,376.22	1,524.68	64.33
J40	88.18	1,373.06	1,522.31	64.67
1768	91.77	1,373.62	1,522.98	64.72
1434	0.55	1,371.80	1,523.47	65.72
1462	17.24	1,369.96	1,521.97	65.87
882	1.17	1,371.34	1,523.47	65.92
884	9.22	1,370.00	1,523.05	66.32
1460	0.95	1,368.81	1,521.98	66.37
1504	22.33	1,368.53	1,521.98	66.49
1464	4.89	1,368.41	1,521.97	66.54
610	1.76	1,368.94	1,523.22	66.85
900	0.4	1,367.38	1,523.46	67.63
1496	8.81	1,365.96	1,522.08	67.65
1356	5.04	1,367.27	1,523.45	67.67
870	2.59	1,366.82	1,523.23	67.77
898	0.27	1,366.94	1,523.46	67.82
408	4.6	1,366.42	1,522.98	67.83
1452	6.66	1,365.32	1,522.08	67.93
1442	3.93	1,363.09	1,522.12	68.91
1444	4.75	1,362.57	1,522.11	69.13
1522	5.25	1,361.89	1,522.01	69.38
940	4.03	1,362.55	1,522.79	69.43
880	2.89	1,362.50	1,523.38	69.71

Tank Elevation: 1510 feet

ID	Demand (gpm)	Elevation (ft)	Head (ft)	Pressure (psi)
1704	0	1,374.26	1,397.99	10.28
1710	0	1,373.99	1,397.97	10.39
1706	0	1,373.88	1,397.99	10.45
1708	0	1,373.51	1,397.99	10.61
1476	12.48	1,395.49	1,526.59	56.81
1816	61.3	1,394.50	1,526.87	57.35
1814	0	1,391.17	1,527.00	58.85
1474	13.04	1,390.00	1,526.59	59.19
1498	4.53	1,382.46	1,526.86	62.57
1812	13.97	1,380.00	1,527.03	63.71
1470	4.4	1,376.53	1,526.60	65.03
1204	1.82	1,377.46	1,528.39	65.4
878	6.86	1,377.11	1,528.34	65.53
1468	8.92	1,375.18	1,526.61	65.61
1466	5.76	1,374.44	1,526.62	65.94
1260	0	1,376.56	1,528.91	66.01
1472	4.49	1,374.25	1,526.60	66.02
1714	0	1,376.39	1,528.93	66.1
1712	0	1,376.22	1,528.95	66.18
J40	88.18	1,373.06	1,527.14	66.76
1768	91.77	1,373.62	1,527.98	66.88
1434	0.55	1,371.80	1,527.86	67.62
882	1.17	1,371.34	1,527.86	67.82
1462	17.24	1,369.96	1,526.65	67.89
884	9.22	1,370.00	1,527.40	68.2
1460	0.95	1,368.81	1,526.65	68.39
1504	22.33	1,368.53	1,526.70	68.53
1464	4.89	1,368.41	1,526.65	68.56
610	1.76	1,368.94	1,527.60	68.75
900	0.4	1,367.38	1,527.84	69.53
1356	5.04	1,367.27	1,527.84	69.58
870	2.59	1,366.82	1,527.61	69.67
1496	8.81	1,365.96	1,526.83	69.7
408	4.6	1,366.42	1,527.32	69.72
898	0.27	1,366.94	1,527.84	69.72
1452	6.66	1,365.32	1,526.79	69.96
1442	3.93	1,363.09	1,526.80	70.94
1444	4.75	1,362.57	1,526.80	71.16
940	4.03	1,362.55	1,527.14	71.32
1522	5.25	1,361.89	1,526.73	71.43
880	2.89	1,362.50	1,527.76	71.61

2023 Higher Operating Range Junction Pressures - Bottom of Domestic Storage - Site B

Tank Elevation: 1500 feet

ID	Demand (gpm)	Elevation (ft)	Head (ft)	Pressure (psi)
942	2.73	1,361.81	1,518.46	67.88
1446	6.54	1,359.51	1,517.38	68.4
1510	4.78	1,358.89	1,517.21	68.6
1508	31.43	1,358.50	1,517.21	68.77
1454	7.62	1,358.53	1,517.47	68.87
68	6.35	1,360.00	1,518.99	68.89
1802	3.69	1,357.95	1,517.37	69.08
1458	1.9	1,356.87	1,517.37	69.54
702	7.79	1,357.85	1,518.47	69.6
1500	1.96	1,355.65	1,517.27	70.03
1450	0.75	1,355.64	1,517.36	70.08
1502	1.45	1,355.07	1,517.24	70.27
1478	3.24	1,354.74	1,517.36	70.46
1524	9.63	1,354.07	1,517.26	70.71
1448	3.52	1,354.15	1,517.37	70.72
1526	9.73	1,353.94	1,517.25	70.76
1520	6.6	1,353.42	1,517.26	70.99
1506	3.86	1,352.90	1,517.24	71.21
1512	3.75	1,352.48	1,517.21	71.38
1490	4.68	1,350.25	1,517.30	72.38
1488	3.85	1,349.40	1,517.30	72.75
1440	6.13	1,348.72	1,517.48	73.12
714	5.87	1,349.85	1,518.95	73.27
1514	3.45	1,347.49	1,517.30	73.58
872	10.21	1,348.43	1,518.76	73.8
1516	6	1,345.95	1,517.27	74.23
1798	6.73	1,345.89	1,517.42	74.32
1518	4.96	1,345.28	1,517.27	74.52
1492	2.53	1,345.22	1,517.30	74.56
406	8.21	1,345.40	1,518.48	74.99
1792	6.21	1,344.32	1,517.42	75
1480	6.41	1,344.14	1,517.33	75.05
876	6.1	1,343.52	1,517.95	75.58
1484	3.68	1,342.46	1,517.31	75.76
598	7.96	1,341.50	1,517.20	76.13
920	4.78	1,340.00	1,518.59	77.38
922	2.52	1,340.00	1,518.59	77.38
1482	6.63	1,338.32	1,517.33	77.56
1486	4.11	1,337.49	1,517.30	77.91
948	1.47	1,337.36	1,518.32	78.41
1456	6.52	1,335.76	1,517.46	78.73

Tank Elevation: 1505 feet

ID	Demand (gpm)	Elevation (ft)	Head (ft)	Pressure (psi)
942	2.73	1,361.81	1,522.79	69.75
1446	6.54	1,359.51	1,522.07	70.44
1510	4.78	1,358.89	1,521.97	70.66
68	6.35	1,360.00	1,523.30	70.76
1508	31.43	1,358.50	1,521.97	70.83
1454	7.62	1,358.53	1,522.15	70.9
1802	3.69	1,357.95	1,522.06	71.11
702	7.79	1,357.85	1,522.80	71.47
1458	1.9	1,356.87	1,522.06	71.58
1500	1.96	1,355.65	1,522.03	72.09
1450	0.75	1,355.64	1,522.09	72.12
1502	1.45	1,355.07	1,522.00	72.33
1478	3.24	1,354.74	1,522.08	72.51
1448	3.52	1,354.15	1,522.09	72.77
1524	9.63	1,354.07	1,522.01	72.77
1526	9.73	1,353.94	1,522.01	72.82
1520	6.6	1,353.42	1,522.01	73.05
1506	3.86	1,352.90	1,521.99	73.27
1512	3.75	1,352.48	1,521.97	73.44
1490	4.68	1,350.25	1,522.07	74.45
1488	3.85	1,349.40	1,522.06	74.81
1440	6.13	1,348.72	1,522.17	75.15
714	5.87	1,349.85	1,523.30	75.16
1514	3.45	1,347.49	1,522.05	75.64
872	10.21	1,348.43	1,523.12	75.69
1516	6	1,345.95	1,522.02	76.29
1798	6.73	1,345.89	1,522.10	76.35
1518	4.96	1,345.28	1,522.02	76.58
1492	2.53	1,345.22	1,522.06	76.62
406	8.21	1,345.40	1,522.80	76.87
1792	6.21	1,344.32	1,522.10	77.03
1480	6.41	1,344.14	1,522.07	77.1
876	6.1	1,343.52	1,522.31	77.47
1484	3.68	1,342.46	1,522.06	77.82
598	7.96	1,341.50	1,521.54	78.01
920	4.78	1,340.00	1,522.92	79.26
922	2.52	1,340.00	1,522.92	79.26
1482	6.63	1,338.32	1,522.07	79.62
1486	4.11	1,337.49	1,522.06	79.97
948	1.47	1,337.36	1,522.65	80.29
730	1.75	1,336.34	1,522.65	80.73

Tank Elevation: 1510 feet

ID	Demand (gpm)	Elevation (ft)	Head (ft)	Pressure (psi)
942	2.73	1,361.81	1,527.14	71.64
1446	6.54	1,359.51	1,526.75	72.46
68	6.35	1,360.00	1,527.65	72.64
1510	4.78	1,358.89	1,526.69	72.71
1508	31.43	1,358.50	1,526.69	72.88
1454	7.62	1,358.53	1,526.82	72.92
1802	3.69	1,357.95	1,526.73	73.13
702	7.79	1,357.85	1,527.15	73.36
1458	1.9	1,356.87	1,526.74	73.6
1500	1.96	1,355.65	1,526.75	74.14
1450	0.75	1,355.64	1,526.79	74.16
1502	1.45	1,355.07	1,526.72	74.38
1478	3.24	1,354.74	1,526.79	74.55
1448	3.52	1,354.15	1,526.79	74.81
1524	9.63	1,354.07	1,526.73	74.81
1526	9.73	1,353.94	1,526.73	74.87
1520	6.6	1,353.42	1,526.73	75.1
1506	3.86	1,352.90	1,526.72	75.31
1512	3.75	1,352.48	1,526.69	75.49
1490	4.68	1,350.25	1,526.80	76.5
1488	3.85	1,349.40	1,526.78	76.86
714	5.87	1,349.85	1,527.68	77.05
1440	6.13	1,348.72	1,526.84	77.18
872	10.21	1,348.43	1,527.50	77.59
1514	3.45	1,347.49	1,526.77	77.68
1516	6	1,345.95	1,526.74	78.33
1798	6.73	1,345.89	1,526.76	78.37
1518	4.96	1,345.28	1,526.74	78.63
1492	2.53	1,345.22	1,526.79	78.67
406	8.21	1,345.40	1,527.15	78.75
1792	6.21	1,344.32	1,526.76	79.05
1480	6.41	1,344.14	1,526.78	79.14
876	6.1	1,343.52	1,526.69	79.37
1484	3.68	1,342.46	1,526.78	79.87
598	7.96	1,341.50	1,525.90	79.9
920	4.78	1,340.00	1,527.28	81.15
922	2.52	1,340.00	1,527.28	81.15
1482	6.63	1,338.32	1,526.78	81.66
1486	4.11	1,337.49	1,526.78	82.02
948	1.47	1,337.36	1,527.01	82.18
730	1.75	1,336.34	1,527.00	82.61

2023 Higher Operating Range Junction Pressures - Bottom of Domestic Storage - Site B

Tank Elevation: 1500 feet

ID	Demand (gpm)	Elevation (ft)	Head (ft)	Pressure (psi)
730	1.75	1,336.34	1,518.32	78.85
950	5.31	1,336.24	1,518.32	78.9
1438	5.4	1,334.11	1,517.56	79.49
1262	3.25	1,334.83	1,518.85	79.74
1800	2.32	1,331.79	1,517.65	80.54
930	5.28	1,331.87	1,518.44	80.84
604	3.29	1,331.67	1,518.44	80.93
934	4.34	1,331.62	1,518.44	80.95
1528	4.38	1,330.39	1,517.46	81.06
1436	3.51	1,330.00	1,517.81	81.38
1796	6.72	1,329.31	1,517.60	81.59
1338	9.95	1,330.00	1,518.38	81.62
602	5.09	1,329.66	1,518.56	81.85
874	1.61	1,329.63	1,518.86	82
902	0.04	1,329.21	1,518.86	82.18
904	1.98	1,328.81	1,518.86	82.35
1530	9.65	1,327.36	1,517.46	82.37
612	10.45	1,327.24	1,518.78	82.99
1494	10.73	1,325.22	1,517.29	83.23
284	8.32	1,326.11	1,518.22	83.24
470	5.32	1,326.72	1,518.82	83.24
1794	7.55	1,325.01	1,517.61	83.45
732	5.17	1,325.91	1,518.54	83.47
912	0.1	1,325.73	1,518.54	83.55
914	2.06	1,325.63	1,518.54	83.59
910	3.56	1,325.53	1,518.54	83.63
66	5.64	1,324.64	1,518.95	84.2
1090	0	1,322.47	1,518.78	85.06
286	9.28	1,318.03	1,518.32	86.79
932	12.91	1,316.98	1,518.38	87.27
908	4.35	1,315.73	1,518.63	87.92
906	4.12	1,315.58	1,518.63	87.98
868	5.74	1,314.40	1,518.32	88.36
618	9.72	1,312.84	1,518.53	89.13
734	18.99	1,312.32	1,518.35	89.27
506	6.28	1,310.00	1,518.42	90.31
936	10.91	1,310.00	1,518.42	90.31
938	3.26	1,310.00	1,518.42	90.31
620	5.45	1,310.00	1,518.50	90.34
916	2.09	1,310.00	1,518.50	90.34
918	4.27	1,310.00	1,518.50	90.34

Tank Elevation: 1505 feet

ID	Demand (gpm)	Elevation (ft)	Head (ft)	Pressure (psi)
1456	6.52	1,335.76	1,522.14	80.76
950	5.31	1,336.24	1,522.65	80.77
1438	5.4	1,334.11	1,522.23	81.51
1262	3.25	1,334.83	1,523.21	81.63
1800	2.32	1,331.79	1,522.30	82.55
930	5.28	1,331.87	1,522.77	82.72
604	3.29	1,331.67	1,522.78	82.81
934	4.34	1,331.62	1,522.77	82.83
1528	4.38	1,330.39	1,522.14	83.09
1436	3.51	1,330.00	1,522.43	83.38
1338	9.95	1,330.00	1,522.71	83.5
1796	6.72	1,329.31	1,522.26	83.61
602	5.09	1,329.66	1,522.89	83.73
874	1.61	1,329.63	1,523.22	83.88
902	0.04	1,329.21	1,523.22	84.06
904	1.98	1,328.81	1,523.22	84.24
1530	9.65	1,327.36	1,522.14	84.4
612	10.45	1,327.24	1,523.14	84.88
284	8.32	1,326.11	1,522.55	85.12
470	5.32	1,326.72	1,523.16	85.12
1494	10.73	1,325.22	1,522.06	85.29
732	5.17	1,325.91	1,522.88	85.35
912	0.1	1,325.73	1,522.88	85.43
914	2.06	1,325.63	1,522.88	85.47
1794	7.55	1,325.01	1,522.26	85.47
910	3.56	1,325.53	1,522.88	85.51
66	5.64	1,324.64	1,523.27	86.07
1090	0	1,322.47	1,523.12	86.94
286	9.28	1,318.03	1,522.65	88.66
932	12.91	1,316.98	1,522.71	89.14
908	4.35	1,315.73	1,522.98	89.8
906	4.12	1,315.58	1,522.98	89.86
868	5.74	1,314.40	1,522.65	90.23
618	9.72	1,312.84	1,522.88	91.01
734	18.99	1,312.32	1,522.68	91.15
506	6.28	1,310.00	1,522.76	92.19
936	10.91	1,310.00	1,522.76	92.19
938	3.26	1,310.00	1,522.76	92.19
620	5.45	1,310.00	1,522.84	92.22
916	2.09	1,310.00	1,522.84	92.22
918	4.27	1,310.00	1,522.84	92.22

Tank Elevation: 1510 feet

ID	Demand (gpm)	Elevation (ft)	Head (ft)	Pressure (psi)
950	5.31	1,336.24	1,527.01	82.66
1456	6.52	1,335.76	1,526.81	82.78
1262	3.25	1,334.83	1,527.59	83.52
1438	5.4	1,334.11	1,526.88	83.53
1800	2.32	1,331.79	1,526.94	84.56
930	5.28	1,331.87	1,527.13	84.61
604	3.29	1,331.67	1,527.13	84.7
934	4.34	1,331.62	1,527.13	84.72
1528	4.38	1,330.39	1,526.81	85.11
1436	3.51	1,330.00	1,527.04	85.38
1338	9.95	1,330.00	1,527.06	85.39
602	5.09	1,329.66	1,527.24	85.62
1796	6.72	1,329.31	1,526.90	85.62
874	1.61	1,329.63	1,527.60	85.78
902	0.04	1,329.21	1,527.60	85.96
904	1.98	1,328.81	1,527.60	86.14
1530	9.65	1,327.36	1,526.81	86.42
612	10.45	1,327.24	1,527.51	86.78
284	8.32	1,326.11	1,526.91	87
470	5.32	1,326.72	1,527.52	87.01
732	5.17	1,325.91	1,527.24	87.24
912	0.1	1,325.73	1,527.24	87.31
1494	10.73	1,325.22	1,526.79	87.34
914	2.06	1,325.63	1,527.24	87.36
910	3.56	1,325.53	1,527.24	87.4
1794	7.55	1,325.01	1,526.90	87.48
66	5.64	1,324.64	1,527.62	87.95
1090	0	1,322.47	1,527.48	88.83
286	9.28	1,318.03	1,527.01	90.55
932	12.91	1,316.98	1,527.07	91.03
908	4.35	1,315.73	1,527.35	91.69
906	4.12	1,315.58	1,527.35	91.76
868	5.74	1,314.40	1,527.00	92.12
618	9.72	1,312.84	1,527.24	92.9
734	18.99	1,312.32	1,527.04	93.04
506	6.28	1,310.00	1,527.12	94.08
936	10.91	1,310.00	1,527.12	94.08
938	3.26	1,310.00	1,527.12	94.08
620	5.45	1,310.00	1,527.21	94.12
916	2.09	1,310.00	1,527.21	94.12
918	4.27	1,310.00	1,527.21	94.12

2023 Higher Operating Range Junction Pressures - Bottom of Domestic Storage - Site B

Tank Elevation: 1500 feet

ID	Demand (gpm)	Elevation (ft)	Head (ft)	Pressure (psi)
1804	0	1,308.89	1,517.40	90.35
742	0	1,310.00	1,518.53	90.36
1230	0	1,310.00	1,518.53	90.36
1232	0	1,310.00	1,518.53	90.36
1354	0	1,310.00	1,518.53	90.36
1766	0	1,310.00	1,518.53	90.36
926	3.36	1,310.00	1,518.82	90.48
726	8.6	1,309.50	1,518.48	90.55
946	4.71	1,309.18	1,518.36	90.64
944	11.35	1,308.69	1,518.36	90.85
666	10.03	1,308.46	1,518.36	90.95
472	7.21	1,308.52	1,518.84	91.13
928	2.74	1,304.96	1,518.84	92.67
924	4.11	1,304.54	1,518.84	92.86
1092	6.65	1,302.32	1,518.78	93.79
504	9.62	1,301.51	1,518.42	93.99
1094	7.88	1,299.96	1,518.79	94.82
678	11.62	1,296.40	1,518.29	96.14
680	16.48	1,291.48	1,517.99	98.14
540	7.98	1,284.92	1,517.94	100.97
958	1.41	1,285.00	1,518.25	101.07
960	5.33	1,285.00	1,518.25	101.07
1760	0.47	1,285.00	1,518.25	101.07
952	0.58	1,281.68	1,518.27	102.51
956	0.64	1,281.23	1,518.27	102.71
724	5.89	1,280.00	1,518.25	103.24
560	4.11	1,277.96	1,518.27	104.13
558	11.3	1,276.35	1,518.26	104.82
542	7.66	1,272.65	1,518.10	106.35
1762	8.77	1,270.00	1,518.12	107.51

Tank Elevation: 1505 feet

ID	Demand (gpm)	Elevation (ft)	Head (ft)	Pressure (psi)
742	0	1,310.00	1,522.88	92.24
1230	0	1,310.00	1,522.88	92.24
1232	0	1,310.00	1,522.88	92.24
1354	0	1,310.00	1,522.88	92.24
1766	0	1,310.00	1,522.88	92.24
926	3.36	1,310.00	1,523.16	92.36
726	8.6	1,309.50	1,522.82	92.43
1804	0	1,308.89	1,522.22	92.44
946	4.71	1,309.18	1,522.69	92.51
944	11.35	1,308.69	1,522.69	92.73
666	10.03	1,308.46	1,522.69	92.82
472	7.21	1,308.52	1,523.17	93.01
928	2.74	1,304.96	1,523.17	94.55
924	4.11	1,304.54	1,523.17	94.73
1092	6.65	1,302.32	1,523.12	95.67
504	9.62	1,301.51	1,522.76	95.87
1094	7.88	1,299.96	1,523.13	96.7
678	11.62	1,296.40	1,522.62	98.02
680	16.48	1,291.48	1,522.31	100.02
540	7.98	1,284.92	1,522.26	102.84
958	1.41	1,285.00	1,522.58	102.94
960	5.33	1,285.00	1,522.58	102.94
1760	0.47	1,285.00	1,522.58	102.94
952	0.58	1,281.68	1,522.60	104.39
956	0.64	1,281.23	1,522.60	104.58
724	5.89	1,280.00	1,522.58	105.11
560	4.11	1,277.96	1,522.60	106
558	11.3	1,276.35	1,522.59	106.7
542	7.66	1,272.65	1,522.43	108.23
1762	8.77	1,270.00	1,522.45	109.39

Tank Elevation: 1510 feet

ID	Demand (gpm)	Elevation (ft)	Head (ft)	Pressure (psi)
742	0	1,310.00	1,527.24	94.13
1230	0	1,310.00	1,527.24	94.13
1232	0	1,310.00	1,527.24	94.13
1354	0	1,310.00	1,527.24	94.13
1766	0	1,310.00	1,527.24	94.13
926	3.36	1,310.00	1,527.52	94.25
726	8.6	1,309.50	1,527.18	94.32
946	4.71	1,309.18	1,527.05	94.4
1804	0	1,308.89	1,527.03	94.52
944	11.35	1,308.69	1,527.05	94.61
666	10.03	1,308.46	1,527.05	94.71
472	7.21	1,308.52	1,527.54	94.9
928	2.74	1,304.96	1,527.53	96.44
924	4.11	1,304.54	1,527.53	96.62
1092	6.65	1,302.32	1,527.48	97.56
504	9.62	1,301.51	1,527.12	97.76
1094	7.88	1,299.96	1,527.48	98.58
678	11.62	1,296.40	1,526.97	99.91
680	16.48	1,291.48	1,526.67	101.91
540	7.98	1,284.92	1,526.62	104.73
958	1.41	1,285.00	1,526.94	104.83
960	5.33	1,285.00	1,526.94	104.83
1760	0.47	1,285.00	1,526.94	104.83
952	0.58	1,281.68	1,526.95	106.28
956	0.64	1,281.23	1,526.95	106.47
724	5.89	1,280.00	1,526.94	107
560	4.11	1,277.96	1,526.95	107.89
558	11.3	1,276.35	1,526.94	108.58
542	7.66	1,272.65	1,526.79	110.12
1762	8.77	1,270.00	1,526.80	111.27

2040 Higher Operating Range Junction Pressures - Bottom of Domestic Storage - Site B

Tank Elevation: 1500 feet

ID	Demand (gpm)	Elevation (ft)	Head (ft)	Pressure (psi)
1704	0	1,374.26	1,397.99	10.28
1710	0	1,373.99	1,397.96	10.39
1706	0	1,373.88	1,397.99	10.44
1708	0	1,373.51	1,397.99	10.61
J28	43.4	1,420.00	1,510.90	39.39
1776	3.65	1,420.12	1,512.83	40.17
1476	18.63	1,395.49	1,507.08	48.35
J122	0	1,398.33	1,510.21	48.48
1816	24.58	1,394.50	1,508.50	49.4
1474	12.68	1,390.00	1,507.08	50.73
1814	6.94	1,391.17	1,508.81	50.97
1498	3.73	1,382.46	1,508.47	54.6
1812	304.52	1,380.00	1,508.89	55.85
1470	19.2	1,376.53	1,507.07	56.57
1204	1.03	1,377.46	1,508.37	56.72
878	4.73	1,377.11	1,508.25	56.82
1468	10.43	1,375.18	1,507.10	57.16
1260	0	1,376.56	1,509.11	57.43
1466	8.47	1,374.44	1,507.14	57.5
1714	0	1,376.39	1,509.14	57.52
1472	16.96	1,374.25	1,507.07	57.55
1712	0	1,376.22	1,509.17	57.61
884	7.14	1,370.00	1,505.95	58.91
1434	0.07	1,371.80	1,507.84	58.95
882	2.24	1,371.34	1,507.83	59.14
1462	15.01	1,369.96	1,507.22	59.48
J40	27.78	1,373.06	1,510.67	59.62
610	0.38	1,368.94	1,507.27	59.94
1460	0.68	1,368.81	1,507.22	59.97
1464	3.48	1,368.41	1,507.22	60.14
408	4.47	1,366.42	1,505.75	60.37
1504	29.46	1,368.53	1,508.22	60.53
900	0.05	1,367.38	1,507.80	60.84
870	2.88	1,366.82	1,507.30	60.87
1356	3.96	1,367.27	1,507.79	60.89
898	0.04	1,366.94	1,507.80	61.04
1496	22.13	1,365.96	1,508.34	61.69
1452	4.75	1,365.32	1,507.71	61.7
940	2.23	1,362.55	1,505.21	61.81
942	1.29	1,361.81	1,505.21	62.13
J30	344.46	1,365.14	1,509.17	62.41
1768	35.06	1,373.62	1,517.67	62.42

Tank Elevation: 1505 feet

ID	Demand (gpm)	Elevation (ft)	Head (ft)	Pressure (psi)
1704	0	1,374.26	1,397.99	10.28
1710	0	1,373.99	1,397.97	10.39
1706	0	1,373.88	1,397.99	10.44
1708	0	1,373.51	1,397.99	10.61
J28	43.4	1,420.00	1,515.53	41.39
1776	3.65	1,420.12	1,517.57	42.23
1476	18.63	1,395.49	1,511.20	50.14
J122	0	1,398.33	1,514.80	50.47
1816	24.58	1,394.50	1,512.84	51.28
1474	12.68	1,390.00	1,511.20	52.52
1814	6.94	1,391.17	1,513.18	52.87
1498	3.73	1,382.46	1,512.80	56.48
1812	304.52	1,380.00	1,513.27	57.75
1470	19.2	1,376.53	1,511.19	58.35
1204	1.03	1,377.46	1,512.30	58.43
878	4.73	1,377.11	1,512.17	58.52
1468	10.43	1,375.18	1,511.22	58.94
1260	0	1,376.56	1,512.99	59.12
1714	0	1,376.39	1,513.02	59.2
1466	8.47	1,374.44	1,511.26	59.28
1712	0	1,376.22	1,513.05	59.29
1472	16.96	1,374.25	1,511.19	59.34
884	7.14	1,370.00	1,509.83	60.59
1434	0.07	1,371.80	1,511.83	60.68
882	2.24	1,371.34	1,511.83	60.87
1462	15.01	1,369.96	1,511.34	61.26
J40	27.78	1,373.06	1,515.17	61.58
610	0.38	1,368.94	1,511.24	61.66
1460	0.68	1,368.81	1,511.34	61.76
1464	3.48	1,368.41	1,511.34	61.93
408	4.47	1,366.42	1,509.61	62.04
1504	29.46	1,368.53	1,512.54	62.4
900	0.05	1,367.38	1,511.79	62.57
870	2.88	1,366.82	1,511.27	62.59
1356	3.96	1,367.27	1,511.78	62.62
898	0.04	1,366.94	1,511.79	62.77
940	2.23	1,362.55	1,509.05	63.48
1452	4.75	1,365.32	1,511.87	63.5
1496	22.13	1,365.96	1,512.66	63.56
942	1.29	1,361.81	1,509.05	63.8
J30	344.46	1,365.14	1,513.69	64.37
1442	12.93	1,363.09	1,511.75	64.41

Tank Elevation: 1510 feet

ID	Demand (gpm)	Elevation (ft)	Head (ft)	Pressure (psi)
1704	0	1,374.26	1,397.99	10.28
1710	0	1,373.99	1,397.97	10.39
1706	0	1,373.88	1,397.99	10.45
1708	0	1,373.51	1,397.99	10.61
J28	43.4	1,420.00	1,520.14	43.39
1776	3.65	1,420.12	1,522.30	44.27
1476	18.63	1,395.49	1,515.23	51.88
J122	0	1,398.33	1,519.36	52.44
1816	24.58	1,394.50	1,517.13	53.13
1474	12.68	1,390.00	1,515.23	54.26
1814	6.94	1,391.17	1,517.51	54.74
1498	3.73	1,382.46	1,517.09	58.33
1812	304.52	1,380.00	1,517.61	59.63
1204	1.03	1,377.46	1,516.17	60.1
1470	19.2	1,376.53	1,515.23	60.1
878	4.73	1,377.11	1,516.04	60.2
1468	10.43	1,375.18	1,515.25	60.69
1260	0	1,376.56	1,516.81	60.77
1714	0	1,376.39	1,516.84	60.86
1712	0	1,376.22	1,516.87	60.94
1466	8.47	1,374.44	1,515.30	61.03
1472	16.96	1,374.25	1,515.22	61.08
884	7.14	1,370.00	1,513.65	62.24
1434	0.07	1,371.80	1,515.77	62.38
882	2.24	1,371.34	1,515.76	62.58
1462	15.01	1,369.96	1,515.37	63.01
610	0.38	1,368.94	1,515.15	63.35
1460	0.68	1,368.81	1,515.37	63.51
J40	27.78	1,373.06	1,519.65	63.51
1464	3.48	1,368.41	1,515.37	63.68
408	4.47	1,366.42	1,513.43	63.7
1504	29.46	1,368.53	1,516.82	64.25
870	2.88	1,366.82	1,515.18	64.28
900	0.05	1,367.38	1,515.73	64.28
1356	3.96	1,367.27	1,515.71	64.32
898	0.04	1,366.94	1,515.73	64.47
940	2.23	1,362.55	1,512.85	65.12
1452	4.75	1,365.32	1,515.96	65.28
1496	22.13	1,365.96	1,516.92	65.41
942	1.29	1,361.81	1,512.85	65.44
1442	12.93	1,363.09	1,515.79	66.17
880	3.01	1,362.50	1,515.36	66.23

2040 Higher Operating Range Junction Pressures - Bottom of Domestic Storage - Site B

Tank Elevation: 1500 feet

ID	Demand (gpm)	Elevation (ft)	Head (ft)	Pressure (psi)
1442	12.93	1,363.09	1,507.62	62.63
880	3.01	1,362.50	1,507.45	62.81
1444	8.54	1,362.57	1,507.61	62.85
1522	16.48	1,361.89	1,507.67	63.17
68	1.05	1,360.00	1,506.60	63.52
702	7.32	1,357.85	1,505.21	63.85
1446	19.4	1,359.51	1,507.43	64.09
J24	479.3	1,367.49	1,516.39	64.51
1454	17.71	1,358.53	1,507.57	64.58
1802	9.13	1,357.95	1,507.39	64.75
1508	11.88	1,358.50	1,508.61	65.04
1510	4.56	1,358.89	1,509.14	65.1
1458	1.36	1,356.87	1,507.41	65.23
1450	4	1,355.64	1,507.71	65.89
1500	1.4	1,355.65	1,508.20	66.1
1478	8.29	1,354.74	1,507.72	66.29
1502	3.27	1,355.07	1,508.25	66.37
1448	5.21	1,354.15	1,507.70	66.54
1524	18.64	1,354.07	1,507.68	66.56
1526	13.87	1,353.94	1,507.68	66.61
1520	16.81	1,353.42	1,507.67	66.84
1506	9.76	1,352.90	1,508.30	67.33
1512	7.29	1,352.48	1,509.14	67.88
714	4.92	1,349.85	1,507.09	68.13
1490	24.77	1,350.25	1,508.20	68.44
872	11.34	1,348.43	1,507.15	68.77
1488	2.74	1,349.40	1,508.13	68.78
1440	16.39	1,348.72	1,507.62	68.85
406	5.71	1,345.40	1,505.66	69.44
1514	6.08	1,347.49	1,507.84	69.48
1798	4.8	1,345.89	1,507.43	70
1516	16.38	1,345.95	1,507.71	70.09
598	10.78	1,341.50	1,503.47	70.18
1518	14.85	1,345.28	1,507.70	70.38
876	7.12	1,343.52	1,506.05	70.42
1492	6.29	1,345.22	1,508.20	70.62
1792	4.42	1,344.32	1,507.43	70.68
1480	4.71	1,344.14	1,507.79	70.91
1484	3.78	1,342.46	1,507.89	71.68
920	3.73	1,340.00	1,506.12	71.98
922	0.27	1,340.00	1,506.12	71.98
948	0.9	1,337.36	1,504.49	72.42

Tank Elevation: 1505 feet

ID	Demand (gpm)	Elevation (ft)	Head (ft)	Pressure (psi)
880	3.01	1,362.50	1,511.44	64.53
1768	35.06	1,373.62	1,522.65	64.57
1444	8.54	1,362.57	1,511.74	64.63
1522	16.48	1,361.89	1,511.90	65
68	1.05	1,360.00	1,510.50	65.21
702	7.32	1,357.85	1,509.06	65.52
1446	19.4	1,359.51	1,511.55	65.88
1454	17.71	1,358.53	1,511.68	66.36
1802	9.13	1,357.95	1,511.51	66.54
J24	479.3	1,367.49	1,521.33	66.66
1508	11.88	1,358.50	1,513.01	66.95
1458	1.36	1,356.87	1,511.53	67.01
1510	4.56	1,358.89	1,513.66	67.06
1450	4	1,355.64	1,511.88	67.7
1500	1.4	1,355.65	1,512.50	67.96
1478	8.29	1,354.74	1,511.89	68.09
1502	3.27	1,355.07	1,512.58	68.25
1448	5.21	1,354.15	1,511.86	68.34
1524	18.64	1,354.07	1,511.91	68.39
1526	13.87	1,353.94	1,511.90	68.45
1520	16.81	1,353.42	1,511.90	68.67
1506	9.76	1,352.90	1,512.64	69.21
1512	7.29	1,352.48	1,513.66	69.84
714	4.92	1,349.85	1,511.06	69.85
1490	24.77	1,350.25	1,512.50	70.3
872	11.34	1,348.43	1,511.12	70.49
1440	16.39	1,348.72	1,511.73	70.63
1488	2.74	1,349.40	1,512.41	70.63
406	5.71	1,345.40	1,509.52	71.11
1514	6.08	1,347.49	1,512.07	71.31
1798	4.8	1,345.89	1,511.55	71.78
598	10.78	1,341.50	1,507.42	71.89
1516	16.38	1,345.95	1,511.94	71.92
876	7.12	1,343.52	1,510.02	72.14
1518	14.85	1,345.28	1,511.93	72.21
1792	4.42	1,344.32	1,511.55	72.46
1492	6.29	1,345.22	1,512.49	72.48
1480	4.71	1,344.14	1,511.99	72.73
1484	3.78	1,342.46	1,512.12	73.51
920	3.73	1,340.00	1,510.02	73.67
922	0.27	1,340.00	1,510.02	73.67
948	0.9	1,337.36	1,508.30	74.07

Tank Elevation: 1510 feet

ID	Demand (gpm)	Elevation (ft)	Head (ft)	Pressure (psi)
J30	344.46	1,365.14	1,518.19	66.31
1444	8.54	1,362.57	1,515.78	66.38
1768	35.06	1,373.62	1,527.63	66.73
1522	16.48	1,361.89	1,516.07	66.8
68	1.05	1,360.00	1,514.34	66.88
702	7.32	1,357.85	1,512.85	67.16
1446	19.4	1,359.51	1,515.59	67.63
1454	17.71	1,358.53	1,515.71	68.1
1802	9.13	1,357.95	1,515.54	68.28
1458	1.36	1,356.87	1,515.56	68.76
J24	479.3	1,367.49	1,526.27	68.8
1508	11.88	1,358.50	1,517.38	68.84
1510	4.56	1,358.89	1,518.15	69
1450	4	1,355.64	1,515.97	69.47
1500	1.4	1,355.65	1,516.76	69.81
1478	8.29	1,354.74	1,515.98	69.87
1502	3.27	1,355.07	1,516.85	70.1
1448	5.21	1,354.15	1,515.95	70.11
1524	18.64	1,354.07	1,516.07	70.2
1526	13.87	1,353.94	1,516.07	70.25
1520	16.81	1,353.42	1,516.07	70.47
1506	9.76	1,352.90	1,516.93	71.07
714	4.92	1,349.85	1,514.98	71.55
1512	7.29	1,352.48	1,518.15	71.79
1490	24.77	1,350.25	1,516.74	72.14
872	11.34	1,348.43	1,515.03	72.19
1440	16.39	1,348.72	1,515.76	72.38
1488	2.74	1,349.40	1,516.64	72.47
406	5.71	1,345.40	1,513.34	72.77
1514	6.08	1,347.49	1,516.24	73.12
1798	4.8	1,345.89	1,515.58	73.53
598	10.78	1,341.50	1,511.31	73.58
1516	16.38	1,345.95	1,516.10	73.73
876	7.12	1,343.52	1,513.93	73.84
1518	14.85	1,345.28	1,516.10	74.02
1792	4.42	1,344.32	1,515.58	74.21
1492	6.29	1,345.22	1,516.73	74.32
1480	4.71	1,344.14	1,516.11	74.52
1484	3.78	1,342.46	1,516.28	75.32
920	3.73	1,340.00	1,513.87	75.34
922	0.27	1,340.00	1,513.87	75.34
948	0.9	1,337.36	1,512.06	75.7

2040 Higher Operating Range Junction Pressures - Bottom of Domestic Storage - Site B

Tank Elevation: 1500 feet

ID	Demand (gpm)	Elevation (ft)	Head (ft)	Pressure (psi)
730	0.13	1,336.34	1,504.49	72.86
950	2.6	1,336.24	1,504.49	72.9
1482	4.73	1,338.32	1,507.81	73.44
1486	3.61	1,337.49	1,507.93	73.85
1456	9.26	1,335.76	1,507.55	74.44
1262	5.89	1,334.83	1,507.23	74.7
1438	6.33	1,334.11	1,507.62	75.18
930	4.02	1,331.87	1,505.82	75.37
604	2.73	1,331.67	1,505.83	75.46
934	13.79	1,331.62	1,505.82	75.48
1338	11.75	1,330.00	1,504.77	75.73
1800	1.32	1,331.79	1,507.62	76.19
602	12.3	1,329.66	1,506.07	76.44
1528	11.95	1,330.39	1,507.54	76.76
874	1.54	1,329.63	1,507.27	76.97
1436	19.1	1,330.00	1,507.64	76.97
902	0	1,329.21	1,507.27	77.15
1796	4.69	1,329.31	1,507.58	77.25
904	1.05	1,328.81	1,507.27	77.33
284	8.97	1,326.11	1,504.61	77.34
470	3.16	1,326.72	1,506.12	77.73
612	14.48	1,327.24	1,507.05	77.91
732	8.29	1,325.91	1,506.08	78.07
1530	10.87	1,327.36	1,507.54	78.07
912	0	1,325.73	1,506.08	78.15
914	3.38	1,325.63	1,506.08	78.19
910	1.33	1,325.53	1,506.08	78.23
66	7.83	1,324.64	1,506.53	78.82
1090	4.98	1,322.47	1,504.72	78.97
1794	5.38	1,325.01	1,507.58	79.11
1494	10.09	1,325.22	1,508.19	79.28
286	4.63	1,318.03	1,504.72	80.89
932	10.47	1,316.98	1,505.57	81.71
868	7.11	1,314.40	1,504.59	82.41
908	3.33	1,315.73	1,506.65	82.72
906	1.48	1,315.58	1,506.65	82.79
734	11.25	1,312.32	1,505.17	83.56
618	4.31	1,312.84	1,506.35	83.85
936	5.69	1,310.00	1,505.88	84.87
938	5.17	1,310.00	1,505.88	84.87
506	8.08	1,310.00	1,505.88	84.88
926	2.42	1,310.00	1,505.94	84.9

Tank Elevation: 1505 feet

ID	Demand (gpm)	Elevation (ft)	Head (ft)	Pressure (psi)
730	0.13	1,336.34	1,508.30	74.51
950	2.6	1,336.24	1,508.30	74.55
1482	4.73	1,338.32	1,512.01	75.26
1486	3.61	1,337.49	1,512.17	75.69
1456	9.26	1,335.76	1,511.67	76.22
1262	5.89	1,334.83	1,511.20	76.42
1438	6.33	1,334.11	1,511.73	76.96
930	4.02	1,331.87	1,509.72	77.06
604	2.73	1,331.67	1,509.72	77.15
934	13.79	1,331.62	1,509.72	77.17
1338	11.75	1,330.00	1,508.59	77.38
1800	1.32	1,331.79	1,511.73	77.97
602	12.3	1,329.66	1,509.97	78.13
1528	11.95	1,330.39	1,511.66	78.54
874	1.54	1,329.63	1,511.24	78.69
1436	19.1	1,330.00	1,511.74	78.75
902	0	1,329.21	1,511.24	78.87
284	8.97	1,326.11	1,508.43	79
1796	4.69	1,329.31	1,511.69	79.03
904	1.05	1,328.81	1,511.24	79.05
470	3.16	1,326.72	1,510.06	79.44
612	14.48	1,327.24	1,511.01	79.62
732	8.29	1,325.91	1,509.99	79.76
912	0	1,325.73	1,509.99	79.84
1530	10.87	1,327.36	1,511.66	79.86
914	3.38	1,325.63	1,509.99	79.88
910	1.33	1,325.53	1,509.99	79.92
66	7.83	1,324.64	1,510.43	80.5
1090	4.98	1,322.47	1,508.66	80.68
1794	5.38	1,325.01	1,511.69	80.89
1494	10.09	1,325.22	1,512.49	81.14
286	4.63	1,318.03	1,508.55	82.55
932	10.47	1,316.98	1,509.45	83.4
868	7.11	1,314.40	1,508.41	84.06
908	3.33	1,315.73	1,510.59	84.43
906	1.48	1,315.58	1,510.59	84.5
734	11.25	1,312.32	1,509.02	85.23
618	4.31	1,312.84	1,510.28	85.55
936	5.69	1,310.00	1,509.78	86.56
938	5.17	1,310.00	1,509.78	86.56
506	8.08	1,310.00	1,509.78	86.57
926	2.42	1,310.00	1,509.87	86.6

Tank Elevation: 1510 feet

ID	Demand (gpm)	Elevation (ft)	Head (ft)	Pressure (psi)
730	0.13	1,336.34	1,512.05	76.14
950	2.6	1,336.24	1,512.06	76.18
1482	4.73	1,338.32	1,516.15	77.05
1486	3.61	1,337.49	1,516.35	77.5
1456	9.26	1,335.76	1,515.69	77.96
1262	5.89	1,334.83	1,515.12	78.12
1438	6.33	1,334.11	1,515.75	78.71
930	4.02	1,331.87	1,513.56	78.73
604	2.73	1,331.67	1,513.57	78.82
934	13.79	1,331.62	1,513.56	78.84
1338	11.75	1,330.00	1,512.36	79.02
1800	1.32	1,331.79	1,515.74	79.71
602	12.3	1,329.66	1,513.82	79.8
1528	11.95	1,330.39	1,515.68	80.29
874	1.54	1,329.63	1,515.15	80.39
1436	19.1	1,330.00	1,515.75	80.48
902	0	1,329.21	1,515.15	80.57
284	8.97	1,326.11	1,512.21	80.63
904	1.05	1,328.81	1,515.15	80.74
1796	4.69	1,329.31	1,515.71	80.77
470	3.16	1,326.72	1,513.95	81.13
612	14.48	1,327.24	1,514.91	81.32
732	8.29	1,325.91	1,513.84	81.43
912	0	1,325.73	1,513.84	81.51
914	3.38	1,325.63	1,513.84	81.55
910	1.33	1,325.53	1,513.84	81.59
1530	10.87	1,327.36	1,515.68	81.6
66	7.83	1,324.64	1,514.27	82.17
1090	4.98	1,322.47	1,512.54	82.36
1794	5.38	1,325.01	1,515.71	82.63
1494	10.09	1,325.22	1,516.73	82.98
286	4.63	1,318.03	1,512.32	84.19
932	10.47	1,316.98	1,513.27	85.05
868	7.11	1,314.40	1,512.18	85.69
908	3.33	1,315.73	1,514.47	86.12
906	1.48	1,315.58	1,514.47	86.18
734	11.25	1,312.32	1,512.82	86.88
618	4.31	1,312.84	1,514.15	87.23
506	8.08	1,310.00	1,513.63	88.23
936	5.69	1,310.00	1,513.63	88.23
938	5.17	1,310.00	1,513.63	88.23
926	2.42	1,310.00	1,513.75	88.28

2040 Higher Operating Range Junction Pressures - Bottom of Domestic Storage - Site B

Tank Elevation: 1500 feet

ID	Demand (gpm)	Elevation (ft)	Head (ft)	Pressure (psi)
946	5.85	1,309.18	1,505.40	85.02
620	4.1	1,310.00	1,506.24	85.03
916	2.31	1,310.00	1,506.23	85.03
918	1.63	1,310.00	1,506.23	85.03
742	0	1,310.00	1,506.35	85.08
1230	0	1,310.00	1,506.35	85.08
1232	0	1,310.00	1,506.35	85.08
1354	0	1,310.00	1,506.35	85.08
1766	0	1,310.00	1,506.35	85.08
726	7.37	1,309.50	1,506.06	85.17
944	6.22	1,308.69	1,505.40	85.23
666	5.73	1,308.46	1,505.96	85.57
472	3.85	1,308.52	1,506.35	85.72
1804	0.39	1,308.89	1,508.24	86.38
928	3.58	1,304.96	1,506.01	87.11
924	6	1,304.54	1,506.01	87.3
J120	0	1,302.61	1,504.66	87.55
1092	15.5	1,302.32	1,504.73	87.7
J116	0	1,271.14	1,474.85	88.27
504	7.22	1,301.51	1,505.88	88.55
1094	3.83	1,299.96	1,504.80	88.75
678	15.54	1,296.40	1,504.12	90
540	6	1,284.92	1,495.73	91.34
680	10.29	1,291.48	1,503.99	92.08
958	1.49	1,285.00	1,503.35	94.61
960	4.01	1,285.00	1,503.35	94.61
1760	2.97	1,285.00	1,503.35	94.61
J118	0	1,270.34	1,488.87	94.69
1762	8.54	1,270.00	1,489.92	95.29
952	0.2	1,281.68	1,503.68	96.2
956	0.21	1,281.23	1,503.68	96.39
542	8.13	1,272.65	1,495.83	96.7
724	4.8	1,280.00	1,503.35	96.78
560	2.35	1,277.96	1,503.68	97.81

Tank Elevation: 1505 feet

ID	Demand (gpm)	Elevation (ft)	Head (ft)	Pressure (psi)
946	5.85	1,309.18	1,509.27	86.7
620	4.1	1,310.00	1,510.16	86.73
916	2.31	1,310.00	1,510.15	86.73
918	1.63	1,310.00	1,510.15	86.73
742	0	1,310.00	1,510.28	86.78
1230	0	1,310.00	1,510.28	86.78
1232	0	1,310.00	1,510.28	86.78
1354	0	1,310.00	1,510.28	86.78
1766	0	1,310.00	1,510.28	86.78
726	7.37	1,309.50	1,509.97	86.86
944	6.22	1,308.69	1,509.27	86.91
666	5.73	1,308.46	1,509.89	87.28
472	3.85	1,308.52	1,510.29	87.43
1804	0.39	1,308.89	1,512.55	88.25
928	3.58	1,304.96	1,509.93	88.81
J116	0	1,271.14	1,476.39	88.93
924	6	1,304.54	1,509.93	89
J120	0	1,302.61	1,508.60	89.26
1092	15.5	1,302.32	1,508.66	89.41
504	7.22	1,301.51	1,509.78	90.24
1094	3.83	1,299.96	1,508.73	90.46
678	15.54	1,296.40	1,507.90	91.64
540	6	1,284.92	1,498.95	92.74
680	10.29	1,291.48	1,507.78	93.72
J118	0	1,270.34	1,491.53	95.84
958	1.49	1,285.00	1,507.09	96.23
960	4.01	1,285.00	1,507.09	96.23
1760	2.97	1,285.00	1,507.09	96.23
1762	8.54	1,270.00	1,492.66	96.48
952	0.2	1,281.68	1,507.44	97.82
956	0.21	1,281.23	1,507.44	98.02
542	8.13	1,272.65	1,499.05	98.1
724	4.8	1,280.00	1,507.09	98.4
560	2.35	1,277.96	1,507.44	99.44

Tank Elevation: 1510 feet

ID	Demand (gpm)	Elevation (ft)	Head (ft)	Pressure (psi)
946	5.85	1,309.18	1,513.08	88.35
620	4.1	1,310.00	1,514.02	88.4
916	2.31	1,310.00	1,514.02	88.4
918	1.63	1,310.00	1,514.02	88.4
742	0	1,310.00	1,514.15	88.46
1230	0	1,310.00	1,514.15	88.46
1232	0	1,310.00	1,514.15	88.46
1354	0	1,310.00	1,514.15	88.46
1766	0	1,310.00	1,514.15	88.46
726	7.37	1,309.50	1,513.82	88.53
944	6.22	1,308.69	1,513.08	88.56
666	5.73	1,308.46	1,513.78	88.96
472	3.85	1,308.52	1,514.19	89.12
J116	0	1,271.14	1,477.91	89.59
1804	0.39	1,308.89	1,516.82	90.1
928	3.58	1,304.96	1,513.81	90.49
924	6	1,304.54	1,513.81	90.68
J120	0	1,302.61	1,512.49	90.94
1092	15.5	1,302.32	1,512.55	91.09
504	7.22	1,301.51	1,513.62	91.91
1094	3.83	1,299.96	1,512.62	92.14
678	15.54	1,296.40	1,511.64	93.26
540	6	1,284.92	1,502.13	94.12
680	10.29	1,291.48	1,511.51	95.34
J118	0	1,270.34	1,494.16	96.98
1762	8.54	1,270.00	1,495.37	97.65
958	1.49	1,285.00	1,510.78	97.83
960	4.01	1,285.00	1,510.78	97.83
1760	2.97	1,285.00	1,510.78	97.83
952	0.2	1,281.68	1,511.16	99.43
542	8.13	1,272.65	1,502.23	99.48
956	0.21	1,281.23	1,511.16	99.63
724	4.8	1,280.00	1,510.78	100
560	2.35	1,277.96	1,511.16	101.04

2023 Higher Operating Range Junction Pressures - Top of Domestic Storage - Site B

Tank Elevation: 1500 feet

ID	Demand (gpm)	Elevation (ft)	Head (ft)	Pressure (psi)
1704	0	1,374.26	1,397.99	10.28
1710	0	1,373.99	1,397.97	10.39
1706	0	1,373.88	1,397.99	10.45
1708	0	1,373.51	1,397.99	10.61
1476	12.48	1,395.49	1,528.45	57.61
1816	61.3	1,394.50	1,528.76	58.18
1814	0	1,391.17	1,528.91	59.68
1474	13.04	1,390.00	1,528.45	59.99
1498	4.53	1,382.46	1,528.76	63.39
1812	13.97	1,380.00	1,528.95	64.54
1470	4.4	1,376.53	1,528.47	65.83
1204	1.82	1,377.46	1,530.13	66.15
878	6.86	1,377.11	1,530.07	66.28
1468	8.92	1,375.18	1,528.47	66.42
1466	5.76	1,374.44	1,528.48	66.75
1260	0	1,376.56	1,530.62	66.76
1472	4.49	1,374.25	1,528.47	66.82
1714	0	1,376.39	1,530.65	66.84
1712	0	1,376.22	1,530.66	66.92
J40	88.18	1,373.06	1,529.08	67.6
1768	91.77	1,373.62	1,529.98	67.75
1434	0.55	1,371.80	1,529.62	68.38
882	1.17	1,371.34	1,529.62	68.58
1462	17.24	1,369.96	1,528.51	68.7
884	9.22	1,370.00	1,529.14	68.95
1460	0.95	1,368.81	1,528.51	69.2
1504	22.33	1,368.53	1,528.58	69.35
1464	4.89	1,368.41	1,528.51	69.37
610	1.76	1,368.94	1,529.36	69.51
900	0.4	1,367.38	1,529.60	70.29
1356	5.04	1,367.27	1,529.59	70.34
870	2.59	1,366.82	1,529.37	70.43
408	4.6	1,366.42	1,529.07	70.47
898	0.27	1,366.94	1,529.60	70.48
1496	8.81	1,365.96	1,528.72	70.52
1452	6.66	1,365.32	1,528.66	70.78
1442	3.93	1,363.09	1,528.67	71.75
1444	4.75	1,362.57	1,528.67	71.97
940	4.03	1,362.55	1,528.88	72.07
1522	5.25	1,361.89	1,528.61	72.24
880	2.89	1,362.50	1,529.52	72.37
942	2.73	1,361.81	1,528.88	72.39
1446	6.54	1,359.51	1,528.61	73.27
68	6.35	1,360.00	1,529.39	73.39
1510	4.78	1,358.89	1,528.57	73.52
1508	31.43	1,358.50	1,528.57	73.69
1454	7.62	1,358.53	1,528.68	73.73

Tank Elevation: 1505 feet

ID	Demand (gpm)	Elevation (ft)	Head (ft)	Pressure (psi)
1704	0	1,374.26	1,398.00	10.28
1710	0	1,373.99	1,397.98	10.39
1706	0	1,373.88	1,397.99	10.45
1708	0	1,373.51	1,398.00	10.61
1476	12.48	1,395.49	1,533.09	59.62
1816	61.3	1,394.50	1,533.49	60.22
1814	0	1,391.17	1,533.68	61.75
1474	13.04	1,390.00	1,533.09	62
1498	4.53	1,382.46	1,533.48	65.43
1812	13.97	1,380.00	1,533.73	66.61
1470	4.4	1,376.53	1,533.10	67.84
1204	1.82	1,377.46	1,534.46	68.03
878	6.86	1,377.11	1,534.41	68.16
1468	8.92	1,375.18	1,533.11	68.43
1260	0	1,376.56	1,534.92	68.62
1714	0	1,376.39	1,534.94	68.7
1466	5.76	1,374.44	1,533.12	68.75
1712	0	1,376.22	1,534.96	68.78
1472	4.49	1,374.25	1,533.10	68.83
J40	88.18	1,373.06	1,533.89	69.69
1768	91.77	1,373.62	1,534.97	69.91
1434	0.55	1,371.80	1,534.02	70.29
882	1.17	1,371.34	1,534.01	70.49
1462	17.24	1,369.96	1,533.15	70.71
884	9.22	1,370.00	1,533.50	70.84
1460	0.95	1,368.81	1,533.15	71.21
1504	22.33	1,368.53	1,533.25	71.37
1464	4.89	1,368.41	1,533.15	71.38
610	1.76	1,368.94	1,533.75	71.41
900	0.4	1,367.38	1,534.00	72.19
1356	5.04	1,367.27	1,533.99	72.24
870	2.59	1,366.82	1,533.76	72.33
408	4.6	1,366.42	1,533.43	72.36
898	0.27	1,366.94	1,534.00	72.39
1496	8.81	1,365.96	1,533.42	72.56
1452	6.66	1,365.32	1,533.32	72.79
1442	3.93	1,363.09	1,533.32	73.76
940	4.03	1,362.55	1,533.25	73.96
1444	4.75	1,362.57	1,533.31	73.98
1522	5.25	1,361.89	1,533.27	74.26
880	2.89	1,362.50	1,533.91	74.27
942	2.73	1,361.81	1,533.25	74.28
68	6.35	1,360.00	1,533.74	75.28
1446	6.54	1,359.51	1,533.25	75.28
1510	4.78	1,358.89	1,533.24	75.54
1508	31.43	1,358.50	1,533.24	75.72
1454	7.62	1,358.53	1,533.32	75.74

Tank Elevation: 1510 feet

ID	Demand (gpm)	Elevation (ft)	Head (ft)	Pressure (psi)
1704	0	1,374.26	1,398.00	10.28
1710	0	1,373.99	1,397.98	10.39
1706	0	1,373.88	1,397.99	10.45
1708	0	1,373.51	1,398.00	10.61
1476	12.48	1,395.49	1,537.69	61.62
1816	61.3	1,394.50	1,538.19	62.26
1814	0	1,391.17	1,538.43	63.81
1474	13.04	1,390.00	1,537.69	63.99
1498	4.53	1,382.46	1,538.17	67.47
1812	13.97	1,380.00	1,538.49	68.67
1470	4.4	1,376.53	1,537.70	69.84
1204	1.82	1,377.46	1,538.80	69.91
878	6.86	1,377.11	1,538.74	70.04
1468	8.92	1,375.18	1,537.70	70.42
1260	0	1,376.56	1,539.21	70.48
1714	0	1,376.39	1,539.23	70.56
1712	0	1,376.22	1,539.24	70.64
1466	5.76	1,374.44	1,537.72	70.75
1472	4.49	1,374.25	1,537.70	70.82
J40	88.18	1,373.06	1,538.70	71.77
1768	91.77	1,373.62	1,539.97	72.08
1434	0.55	1,371.80	1,538.41	72.19
882	1.17	1,371.34	1,538.41	72.39
1462	17.24	1,369.96	1,537.74	72.7
884	9.22	1,370.00	1,537.85	72.73
1460	0.95	1,368.81	1,537.74	73.2
610	1.76	1,368.94	1,538.13	73.31
1464	4.89	1,368.41	1,537.74	73.37
1504	22.33	1,368.53	1,537.89	73.38
900	0.4	1,367.38	1,538.39	74.1
1356	5.04	1,367.27	1,538.38	74.14
870	2.59	1,366.82	1,538.14	74.23
408	4.6	1,366.42	1,537.78	74.25
898	0.27	1,366.94	1,538.39	74.29
1496	8.81	1,365.96	1,538.10	74.59
1452	6.66	1,365.32	1,537.92	74.79
1442	3.93	1,363.09	1,537.93	75.76
940	4.03	1,362.55	1,537.61	75.85
1444	4.75	1,362.57	1,537.92	75.98
880	2.89	1,362.50	1,538.29	76.17
942	2.73	1,361.81	1,537.61	76.17
1522	5.25	1,361.89	1,537.89	76.26
68	6.35	1,360.00	1,538.09	77.17
1446	6.54	1,359.51	1,537.85	77.27
1510	4.78	1,358.89	1,537.87	77.55
1508	31.43	1,358.50	1,537.87	77.72
1454	7.62	1,358.53	1,537.92	77.73

2023 Higher Operating Range Junction Pressures - Top of Domestic Storage - Site B

Tank Elevation: 1500 feet

ID	Demand (gpm)	Elevation (ft)	Head (ft)	Pressure (psi)
1802	3.69	1,357.95	1,528.59	73.94
702	7.79	1,357.85	1,528.89	74.11
1458	1.9	1,356.87	1,528.60	74.41
1500	1.96	1,355.65	1,528.63	74.95
1450	0.75	1,355.64	1,528.66	74.97
1502	1.45	1,355.07	1,528.60	75.19
1478	3.24	1,354.74	1,528.66	75.36
1448	3.52	1,354.15	1,528.66	75.62
1524	9.63	1,354.07	1,528.61	75.63
1526	9.73	1,353.94	1,528.60	75.68
1520	6.6	1,353.42	1,528.61	75.91
1506	3.86	1,352.90	1,528.60	76.13
1512	3.75	1,352.48	1,528.57	76.3
1490	4.68	1,350.25	1,528.68	77.31
1488	3.85	1,349.40	1,528.66	77.67
714	5.87	1,349.85	1,529.43	77.81
1440	6.13	1,348.72	1,528.70	77.98
872	10.21	1,348.43	1,529.25	78.35
1514	3.45	1,347.49	1,528.65	78.5
1516	6	1,345.95	1,528.62	79.15
1798	6.73	1,345.89	1,528.62	79.18
1518	4.96	1,345.28	1,528.62	79.44
1492	2.53	1,345.22	1,528.68	79.49
406	8.21	1,345.40	1,528.89	79.51
1792	6.21	1,344.32	1,528.62	79.86
1480	6.41	1,344.14	1,528.66	79.95
876	6.1	1,343.52	1,528.44	80.13
598	7.96	1,341.50	1,527.65	80.66
1484	3.68	1,342.46	1,528.66	80.68
920	4.78	1,340.00	1,529.02	81.9
922	2.52	1,340.00	1,529.02	81.9
1482	6.63	1,338.32	1,528.66	82.47
1486	4.11	1,337.49	1,528.66	82.83
948	1.47	1,337.36	1,528.75	82.93
730	1.75	1,336.34	1,528.75	83.37
950	5.31	1,336.24	1,528.75	83.41
1456	6.52	1,335.76	1,528.68	83.59
1262	3.25	1,334.83	1,529.35	84.28
1438	5.4	1,334.11	1,528.74	84.33
930	5.28	1,331.87	1,528.88	85.36
1800	2.32	1,331.79	1,528.79	85.36
604	3.29	1,331.67	1,528.88	85.45
934	4.34	1,331.62	1,528.88	85.47
1528	4.38	1,330.39	1,528.67	85.92
1338	9.95	1,330.00	1,528.80	86.14
1436	3.51	1,330.00	1,528.88	86.17
602	5.09	1,329.66	1,528.99	86.37

Tank Elevation: 1505 feet

ID	Demand (gpm)	Elevation (ft)	Head (ft)	Pressure (psi)
1802	3.69	1,357.95	1,533.23	75.95
702	7.79	1,357.85	1,533.26	76
1458	1.9	1,356.87	1,533.24	76.42
1500	1.96	1,355.65	1,533.30	76.98
1450	0.75	1,355.64	1,533.32	76.99
1502	1.45	1,355.07	1,533.27	77.22
1478	3.24	1,354.74	1,533.32	77.38
1448	3.52	1,354.15	1,533.32	77.64
1524	9.63	1,354.07	1,533.27	77.65
1526	9.73	1,353.94	1,533.27	77.7
1520	6.6	1,353.42	1,533.27	77.93
1506	3.86	1,352.90	1,533.27	78.15
1512	3.75	1,352.48	1,533.24	78.32
1490	4.68	1,350.25	1,533.36	79.34
1488	3.85	1,349.40	1,533.33	79.7
714	5.87	1,349.85	1,533.82	79.71
1440	6.13	1,348.72	1,533.34	79.99
872	10.21	1,348.43	1,533.64	80.25
1514	3.45	1,347.49	1,533.31	80.52
1516	6	1,345.95	1,533.28	81.17
1798	6.73	1,345.89	1,533.25	81.18
406	8.21	1,345.40	1,533.25	81.4
1518	4.96	1,345.28	1,533.28	81.46
1492	2.53	1,345.22	1,533.36	81.52
1792	6.21	1,344.32	1,533.25	81.87
1480	6.41	1,344.14	1,533.32	81.97
876	6.1	1,343.52	1,532.83	82.03
598	7.96	1,341.50	1,532.02	82.55
1484	3.68	1,342.46	1,533.32	82.7
920	4.78	1,340.00	1,533.39	83.8
922	2.52	1,340.00	1,533.39	83.8
1482	6.63	1,338.32	1,533.32	84.49
948	1.47	1,337.36	1,533.11	84.82
1486	4.11	1,337.49	1,533.32	84.85
730	1.75	1,336.34	1,533.11	85.26
950	5.31	1,336.24	1,533.11	85.3
1456	6.52	1,335.76	1,533.31	85.6
1262	3.25	1,334.83	1,533.74	86.19
1438	5.4	1,334.11	1,533.36	86.34
930	5.28	1,331.87	1,533.25	87.26
604	3.29	1,331.67	1,533.25	87.35
1800	2.32	1,331.79	1,533.39	87.36
934	4.34	1,331.62	1,533.25	87.37
1528	4.38	1,330.39	1,533.31	87.92
1338	9.95	1,330.00	1,533.17	88.03
1436	3.51	1,330.00	1,533.46	88.16
602	5.09	1,329.66	1,533.36	88.26

Tank Elevation: 1510 feet

ID	Demand (gpm)	Elevation (ft)	Head (ft)	Pressure (psi)
702	7.79	1,357.85	1,537.61	77.89
1802	3.69	1,357.95	1,537.83	77.94
1458	1.9	1,356.87	1,537.84	78.41
1500	1.96	1,355.65	1,537.93	78.98
1450	0.75	1,355.64	1,537.93	78.99
1502	1.45	1,355.07	1,537.91	79.22
1478	3.24	1,354.74	1,537.93	79.37
1448	3.52	1,354.15	1,537.93	79.63
1524	9.63	1,354.07	1,537.88	79.65
1526	9.73	1,353.94	1,537.88	79.7
1520	6.6	1,353.42	1,537.89	79.93
1506	3.86	1,352.90	1,537.90	80.16
1512	3.75	1,352.48	1,537.87	80.33
1490	4.68	1,350.25	1,538.01	81.36
714	5.87	1,349.85	1,538.20	81.61
1488	3.85	1,349.40	1,537.96	81.7
1440	6.13	1,348.72	1,537.93	81.98
872	10.21	1,348.43	1,538.03	82.15
1514	3.45	1,347.49	1,537.92	82.52
1516	6	1,345.95	1,537.90	83.17
1798	6.73	1,345.89	1,537.85	83.17
406	8.21	1,345.40	1,537.60	83.28
1518	4.96	1,345.28	1,537.89	83.46
1492	2.53	1,345.22	1,538.01	83.53
1792	6.21	1,344.32	1,537.85	83.86
876	6.1	1,343.52	1,537.22	83.93
1480	6.41	1,344.14	1,537.93	83.97
598	7.96	1,341.50	1,536.39	84.45
1484	3.68	1,342.46	1,537.93	84.7
920	4.78	1,340.00	1,537.75	85.69
922	2.52	1,340.00	1,537.75	85.69
1482	6.63	1,338.32	1,537.93	86.49
948	1.47	1,337.36	1,537.47	86.71
1486	4.11	1,337.49	1,537.94	86.86
730	1.75	1,336.34	1,537.47	87.15
950	5.31	1,336.24	1,537.47	87.19
1456	6.52	1,335.76	1,537.91	87.59
1262	3.25	1,334.83	1,538.12	88.09
1438	5.4	1,334.11	1,537.95	88.32
930	5.28	1,331.87	1,537.61	89.15
604	3.29	1,331.67	1,537.61	89.24
934	4.34	1,331.62	1,537.61	89.26
1800	2.32	1,331.79	1,537.97	89.34
1338	9.95	1,330.00	1,537.52	89.92
1528	4.38	1,330.39	1,537.91	89.92
1436	3.51	1,330.00	1,538.02	90.13
602	5.09	1,329.66	1,537.72	90.16

2023 Higher Operating Range Junction Pressures - Top of Domestic Storage - Site B

Tank Elevation: 1500 feet

ID	Demand (gpm)	Elevation (ft)	Head (ft)	Pressure (psi)
1796	6.72	1,329.31	1,528.75	86.42
874	1.61	1,329.63	1,529.36	86.54
902	0.04	1,329.21	1,529.36	86.72
904	1.98	1,328.81	1,529.36	86.9
1530	9.65	1,327.36	1,528.67	87.23
612	10.45	1,327.24	1,529.27	87.54
284	8.32	1,326.11	1,528.65	87.76
470	5.32	1,326.72	1,529.26	87.76
732	5.17	1,325.91	1,528.98	87.99
912	0.1	1,325.73	1,528.98	88.07
914	2.06	1,325.63	1,528.98	88.11
910	3.56	1,325.53	1,528.98	88.15
1494	10.73	1,325.22	1,528.67	88.16
1794	7.55	1,325.01	1,528.75	88.28
66	5.64	1,324.64	1,529.36	88.7
1090	0	1,322.47	1,529.22	89.59
286	9.28	1,318.03	1,528.75	91.31
932	12.91	1,316.98	1,528.82	91.79
908	4.35	1,315.73	1,529.10	92.45
906	4.12	1,315.58	1,529.10	92.52
868	5.74	1,314.40	1,528.75	92.88
618	9.72	1,312.84	1,528.99	93.66
734	18.99	1,312.32	1,528.78	93.79
506	6.28	1,310.00	1,528.87	94.83
936	10.91	1,310.00	1,528.87	94.83
938	3.26	1,310.00	1,528.87	94.83
620	5.45	1,310.00	1,528.96	94.87
916	2.09	1,310.00	1,528.95	94.87
918	4.27	1,310.00	1,528.95	94.87
742	0	1,310.00	1,528.99	94.89
1230	0	1,310.00	1,528.99	94.89
1232	0	1,310.00	1,528.99	94.89
1354	0	1,310.00	1,528.99	94.89
1766	0	1,310.00	1,528.99	94.89
926	3.36	1,310.00	1,529.26	95.01
726	8.6	1,309.50	1,528.93	95.08
946	4.71	1,309.18	1,528.80	95.16
1804	0	1,308.89	1,528.95	95.35
944	11.35	1,308.69	1,528.80	95.37
666	10.03	1,308.46	1,528.80	95.47
472	7.21	1,308.52	1,529.28	95.66
928	2.74	1,304.96	1,529.27	97.19
924	4.11	1,304.54	1,529.27	97.38
1092	6.65	1,302.32	1,529.22	98.32
504	9.62	1,301.51	1,528.87	98.51
1094	7.88	1,299.96	1,529.23	99.34
678	11.62	1,296.40	1,528.71	100.66

Tank Elevation: 1505 feet

ID	Demand (gpm)	Elevation (ft)	Head (ft)	Pressure (psi)
1796	6.72	1,329.31	1,533.36	88.42
874	1.61	1,329.63	1,533.75	88.45
902	0.04	1,329.21	1,533.75	88.62
904	1.98	1,328.81	1,533.75	88.8
1530	9.65	1,327.36	1,533.31	89.24
612	10.45	1,327.24	1,533.65	89.44
284	8.32	1,326.11	1,533.02	89.65
470	5.32	1,326.72	1,533.63	89.66
732	5.17	1,325.91	1,533.35	89.89
912	0.1	1,325.73	1,533.35	89.96
914	2.06	1,325.63	1,533.35	90.01
910	3.56	1,325.53	1,533.35	90.05
1494	10.73	1,325.22	1,533.36	90.19
1794	7.55	1,325.01	1,533.36	90.28
66	5.64	1,324.64	1,533.71	90.59
1090	0	1,322.47	1,533.59	91.48
286	9.28	1,318.03	1,533.12	93.2
932	12.91	1,316.98	1,533.19	93.68
908	4.35	1,315.73	1,533.48	94.35
906	4.12	1,315.58	1,533.48	94.42
868	5.74	1,314.40	1,533.11	94.77
618	9.72	1,312.84	1,533.37	95.56
734	18.99	1,312.32	1,533.15	95.69
506	6.28	1,310.00	1,533.24	96.73
936	10.91	1,310.00	1,533.24	96.73
938	3.26	1,310.00	1,533.24	96.73
620	5.45	1,310.00	1,533.33	96.77
916	2.09	1,310.00	1,533.33	96.77
918	4.27	1,310.00	1,533.33	96.77
742	0	1,310.00	1,533.37	96.79
1230	0	1,310.00	1,533.37	96.79
1232	0	1,310.00	1,533.37	96.79
1354	0	1,310.00	1,533.37	96.79
1766	0	1,310.00	1,533.37	96.79
926	3.36	1,310.00	1,533.63	96.9
726	8.6	1,309.50	1,533.30	96.97
946	4.71	1,309.18	1,533.16	97.05
944	11.35	1,308.69	1,533.16	97.26
666	10.03	1,308.46	1,533.17	97.36
1804	0	1,308.89	1,533.73	97.42
472	7.21	1,308.52	1,533.66	97.55
928	2.74	1,304.96	1,533.64	99.09
924	4.11	1,304.54	1,533.64	99.27
1092	6.65	1,302.32	1,533.59	100.21
504	9.62	1,301.51	1,533.24	100.41
1094	7.88	1,299.96	1,533.60	101.23
678	11.62	1,296.40	1,533.08	102.55

Tank Elevation: 1510 feet

ID	Demand (gpm)	Elevation (ft)	Head (ft)	Pressure (psi)
874	1.61	1,329.63	1,538.13	90.34
1796	6.72	1,329.31	1,537.94	90.4
902	0.04	1,329.21	1,538.13	90.52
904	1.98	1,328.81	1,538.13	90.7
1530	9.65	1,327.36	1,537.91	91.23
612	10.45	1,327.24	1,538.04	91.34
284	8.32	1,326.11	1,537.38	91.54
470	5.32	1,326.72	1,538.00	91.55
732	5.17	1,325.91	1,537.72	91.78
912	0.1	1,325.73	1,537.72	91.86
914	2.06	1,325.63	1,537.72	91.9
910	3.56	1,325.53	1,537.72	91.94
1494	10.73	1,325.22	1,538.00	92.2
1794	7.55	1,325.01	1,537.94	92.26
66	5.64	1,324.64	1,538.06	92.48
1090	0	1,322.47	1,537.95	93.37
286	9.28	1,318.03	1,537.47	95.09
932	12.91	1,316.98	1,537.55	95.57
908	4.35	1,315.73	1,537.86	96.25
906	4.12	1,315.58	1,537.86	96.31
868	5.74	1,314.40	1,537.47	96.66
618	9.72	1,312.84	1,537.74	97.45
734	18.99	1,312.32	1,537.51	97.58
506	6.28	1,310.00	1,537.60	98.62
936	10.91	1,310.00	1,537.60	98.62
938	3.26	1,310.00	1,537.60	98.62
620	5.45	1,310.00	1,537.70	98.66
916	2.09	1,310.00	1,537.70	98.66
918	4.27	1,310.00	1,537.70	98.66
742	0	1,310.00	1,537.74	98.68
1230	0	1,310.00	1,537.74	98.68
1232	0	1,310.00	1,537.74	98.68
1354	0	1,310.00	1,537.74	98.68
1766	0	1,310.00	1,537.74	98.68
926	3.36	1,310.00	1,538.00	98.79
726	8.6	1,309.50	1,537.67	98.86
946	4.71	1,309.18	1,537.53	98.94
944	11.35	1,308.69	1,537.53	99.15
666	10.03	1,308.46	1,537.53	99.25
472	7.21	1,308.52	1,538.02	99.45
1804	0	1,308.89	1,538.49	99.49
928	2.74	1,304.96	1,538.00	100.98
924	4.11	1,304.54	1,538.00	101.16
1092	6.65	1,302.32	1,537.95	102.1
504	9.62	1,301.51	1,537.60	102.3
1094	7.88	1,299.96	1,537.96	103.13
678	11.62	1,296.40	1,537.44	104.44

2023 Higher Operating Range Junction Pressures - Top of Domestic Storage - Site B

Tank Elevation: 1500 feet

ID	Demand (gpm)	Elevation (ft)	Head (ft)	Pressure (psi)
680	16.48	1,291.48	1,528.41	102.66
540	7.98	1,284.92	1,528.36	105.48
958	1.41	1,285.00	1,528.68	105.59
960	5.33	1,285.00	1,528.68	105.59
1760	0.47	1,285.00	1,528.68	105.59
952	0.58	1,281.68	1,528.69	107.03
956	0.64	1,281.23	1,528.69	107.22
724	5.89	1,280.00	1,528.68	107.75
560	4.11	1,277.96	1,528.69	108.64
558	11.3	1,276.35	1,528.69	109.34
542	7.66	1,272.65	1,528.53	110.87
1762	8.77	1,270.00	1,528.54	112.03

Tank Elevation: 1505 feet

ID	Demand (gpm)	Elevation (ft)	Head (ft)	Pressure (psi)
680	16.48	1,291.48	1,532.78	104.55
540	7.98	1,284.92	1,532.73	107.37
958	1.41	1,285.00	1,533.05	107.48
960	5.33	1,285.00	1,533.05	107.48
1760	0.47	1,285.00	1,533.05	107.48
952	0.58	1,281.68	1,533.06	108.92
956	0.64	1,281.23	1,533.06	109.12
724	5.89	1,280.00	1,533.05	109.64
560	4.11	1,277.96	1,533.06	110.54
558	11.3	1,276.35	1,533.05	111.23
542	7.66	1,272.65	1,532.90	112.76
1762	8.77	1,270.00	1,532.91	113.92

Tank Elevation: 1510 feet

ID	Demand (gpm)	Elevation (ft)	Head (ft)	Pressure (psi)
680	16.48	1,291.48	1,537.14	106.44
540	7.98	1,284.92	1,537.09	109.26
958	1.41	1,285.00	1,537.40	109.37
960	5.33	1,285.00	1,537.40	109.37
1760	0.47	1,285.00	1,537.40	109.37
952	0.58	1,281.68	1,537.42	110.81
956	0.64	1,281.23	1,537.42	111
724	5.89	1,280.00	1,537.40	111.53
560	4.11	1,277.96	1,537.42	112.42
558	11.3	1,276.35	1,537.41	113.12
542	7.66	1,272.65	1,537.25	114.65
1762	8.77	1,270.00	1,537.27	115.81

2040 Higher Operating Range Junction Pressures - Top of Domestic Storage - Site B

Tank Elevation: 1500 feet

ID	Demand (gpm)	Elevation (ft)	Head (ft)	Pressure (psi)
1704	0	1,374.26	1,397.99	10.28
1710	0	1,373.99	1,397.97	10.39
1706	0	1,373.88	1,397.99	10.45
1708	0	1,373.51	1,397.99	10.61
J28	43.4	1,420.00	1,521.98	44.19
1776	3.65	1,420.12	1,524.19	45.09
1476	18.63	1,395.49	1,516.83	52.58
J122	0	1,398.33	1,521.19	53.24
1816	24.58	1,394.50	1,518.84	53.88
1474	12.68	1,390.00	1,516.83	54.96
1814	6.94	1,391.17	1,519.24	55.49
1498	3.73	1,382.46	1,518.80	59.07
1812	304.52	1,380.00	1,519.34	60.38
1204	1.03	1,377.46	1,517.72	60.77
1470	19.2	1,376.53	1,516.82	60.79
878	4.73	1,377.11	1,517.59	60.87
1468	10.43	1,375.18	1,516.85	61.38
1260	0	1,376.56	1,518.34	61.44
1714	0	1,376.39	1,518.37	61.52
1712	0	1,376.22	1,518.40	61.61
1466	8.47	1,374.44	1,516.89	61.72
1472	16.96	1,374.25	1,516.82	61.78
884	7.14	1,370.00	1,515.18	62.91
1434	0.07	1,371.80	1,517.34	63.06
882	2.24	1,371.34	1,517.34	63.26
1462	15.01	1,369.96	1,516.97	63.7
610	0.38	1,368.94	1,516.72	64.03
1460	0.68	1,368.81	1,516.97	64.2
J40	27.78	1,373.06	1,521.43	64.29
408	4.47	1,366.42	1,514.95	64.36
1464	3.48	1,368.41	1,516.97	64.37
870	2.88	1,366.82	1,516.75	64.96
900	0.05	1,367.38	1,517.30	64.96
1504	29.46	1,368.53	1,518.52	64.99
1356	3.96	1,367.27	1,517.29	65
898	0.04	1,366.94	1,517.30	65.15
940	2.23	1,362.55	1,514.37	65.78
1452	4.75	1,365.32	1,517.59	65.98
942	1.29	1,361.81	1,514.37	66.1
1496	22.13	1,365.96	1,518.62	66.15
1442	12.93	1,363.09	1,517.40	66.86
880	3.01	1,362.50	1,516.93	66.91
1444	8.54	1,362.57	1,517.38	67.08
J30	344.46	1,365.14	1,519.98	67.09
1522	16.48	1,361.89	1,517.73	67.52
68	1.05	1,360.00	1,515.88	67.54
1768	35.06	1,373.62	1,529.62	67.59
702	7.32	1,357.85	1,514.37	67.82
1446	19.4	1,359.51	1,517.19	68.32
1454	17.71	1,358.53	1,517.31	68.8
1802	9.13	1,357.95	1,517.14	68.98

Tank Elevation: 1505 feet

ID	Demand (gpm)	Elevation (ft)	Head (ft)	Pressure (psi)
1704	0	1,374.26	1,397.99	10.28
1710	0	1,373.99	1,397.97	10.39
1706	0	1,373.88	1,397.99	10.45
1708	0	1,373.51	1,397.99	10.61
J28	43.4	1,420.00	1,526.59	46.18
1776	3.65	1,420.12	1,528.91	47.14
1476	18.63	1,395.49	1,520.80	54.3
J122	0	1,398.33	1,525.75	55.21
1816	24.58	1,394.50	1,523.11	55.73
1474	12.68	1,390.00	1,520.80	56.67
1814	6.94	1,391.17	1,523.55	57.36
1498	3.73	1,382.46	1,523.06	60.92
1812	304.52	1,380.00	1,523.67	62.25
1204	1.03	1,377.46	1,521.58	62.45
1470	19.2	1,376.53	1,520.79	62.51
878	4.73	1,377.11	1,521.45	62.54
1260	0	1,376.56	1,522.16	63.09
1468	10.43	1,375.18	1,520.82	63.1
1714	0	1,376.39	1,522.19	63.18
1712	0	1,376.22	1,522.21	63.26
1466	8.47	1,374.44	1,520.86	63.44
1472	16.96	1,374.25	1,520.79	63.5
884	7.14	1,370.00	1,518.99	64.56
1434	0.07	1,371.80	1,521.27	64.76
882	2.24	1,371.34	1,521.26	64.96
1462	15.01	1,369.96	1,520.94	65.42
610	0.38	1,368.94	1,520.62	65.72
1460	0.68	1,368.81	1,520.94	65.92
408	4.47	1,366.42	1,518.76	66.01
1464	3.48	1,368.41	1,520.94	66.09
J40	27.78	1,373.06	1,525.89	66.22
870	2.88	1,366.82	1,520.65	66.65
900	0.05	1,367.38	1,521.22	66.66
1356	3.96	1,367.27	1,521.21	66.7
1504	29.46	1,368.53	1,522.78	66.83
898	0.04	1,366.94	1,521.22	66.85
940	2.23	1,362.55	1,518.15	67.42
1452	4.75	1,365.32	1,521.63	67.73
942	1.29	1,361.81	1,518.15	67.74
1496	22.13	1,365.96	1,522.87	67.99
1442	12.93	1,363.09	1,521.38	68.59
880	3.01	1,362.50	1,520.84	68.61
1444	8.54	1,362.57	1,521.37	68.81
J30	344.46	1,365.14	1,524.48	69.04
68	1.05	1,360.00	1,519.72	69.21
1522	16.48	1,361.89	1,521.86	69.31
702	7.32	1,357.85	1,518.16	69.46
1768	35.06	1,373.62	1,534.60	69.75
1446	19.4	1,359.51	1,521.16	70.04
1454	17.71	1,358.53	1,521.27	70.51
1802	9.13	1,357.95	1,521.11	70.7

Tank Elevation: 1510 feet

ID	Demand (gpm)	Elevation (ft)	Head (ft)	Pressure (psi)
1704	0	1,374.26	1,397.99	10.28
1710	0	1,373.99	1,397.97	10.39
1706	0	1,373.88	1,397.99	10.45
1708	0	1,373.51	1,397.99	10.61
J28	43.4	1,420.00	1,531.20	48.18
1776	3.65	1,420.12	1,533.64	49.19
1476	18.63	1,395.49	1,524.74	56.01
J122	0	1,398.33	1,530.32	57.19
1816	24.58	1,394.50	1,527.37	57.57
1474	12.68	1,390.00	1,524.75	58.39
1814	6.94	1,391.17	1,527.86	59.23
1498	3.73	1,382.46	1,527.32	62.77
1204	1.03	1,377.46	1,525.39	64.1
1812	304.52	1,380.00	1,527.99	64.12
878	4.73	1,377.11	1,525.25	64.19
1470	19.2	1,376.53	1,524.74	64.22
1260	0	1,376.56	1,525.93	64.72
1468	10.43	1,375.18	1,524.77	64.81
1714	0	1,376.39	1,525.96	64.81
1712	0	1,376.22	1,525.98	64.89
1466	8.47	1,374.44	1,524.81	65.15
1472	16.96	1,374.25	1,524.74	65.21
884	7.14	1,370.00	1,522.76	66.19
1434	0.07	1,371.80	1,525.13	66.44
882	2.24	1,371.34	1,525.12	66.64
1462	15.01	1,369.96	1,524.89	67.13
610	0.38	1,368.94	1,524.47	67.39
1460	0.68	1,368.81	1,524.89	67.63
408	4.47	1,366.42	1,522.52	67.64
1464	3.48	1,368.41	1,524.89	67.8
J40	27.78	1,373.06	1,530.35	68.15
870	2.88	1,366.82	1,524.50	68.32
900	0.05	1,367.38	1,525.09	68.33
1356	3.96	1,367.27	1,525.07	68.38
898	0.04	1,366.94	1,525.09	68.53
1504	29.46	1,368.53	1,527.03	68.68
940	2.23	1,362.55	1,521.89	69.04
942	1.29	1,361.81	1,521.89	69.36
1452	4.75	1,365.32	1,525.66	69.48
1496	22.13	1,365.96	1,527.11	69.82
880	3.01	1,362.50	1,524.70	70.28
1442	12.93	1,363.09	1,525.35	70.31
1444	8.54	1,362.57	1,525.34	70.53
68	1.05	1,360.00	1,523.50	70.85
J30	344.46	1,365.14	1,528.98	70.99
702	7.32	1,357.85	1,521.89	71.08
1522	16.48	1,361.89	1,525.99	71.1
1446	19.4	1,359.51	1,525.11	71.76
1768	35.06	1,373.62	1,539.58	71.91
1454	17.71	1,358.53	1,525.22	72.22
1802	9.13	1,357.95	1,525.05	72.41

2040 Higher Operating Range Junction Pressures - Top of Domestic Storage - Site B

Tank Elevation: 1500 feet

ID	Demand (gpm)	Elevation (ft)	Head (ft)	Pressure (psi)
1458	1.36	1,356.87	1,517.16	69.45
1508	11.88	1,358.50	1,519.12	69.6
J24	479.3	1,367.49	1,528.24	69.65
1510	4.56	1,358.89	1,519.94	69.78
1450	4	1,355.64	1,517.59	70.18
1500	1.4	1,355.65	1,518.45	70.54
1478	8.29	1,354.74	1,517.61	70.57
1448	5.21	1,354.15	1,517.57	70.81
1502	3.27	1,355.07	1,518.56	70.84
1524	18.64	1,354.07	1,517.73	70.92
1526	13.87	1,353.94	1,517.73	70.97
1520	16.81	1,353.42	1,517.73	71.19
1506	9.76	1,352.90	1,518.64	71.81
714	4.92	1,349.85	1,516.54	72.23
1512	7.29	1,352.48	1,519.94	72.56
872	11.34	1,348.43	1,516.60	72.87
1490	24.77	1,350.25	1,518.43	72.87
1440	16.39	1,348.72	1,517.35	73.07
1488	2.74	1,349.40	1,518.33	73.2
406	5.71	1,345.40	1,514.86	73.43
1514	6.08	1,347.49	1,517.90	73.84
1798	4.8	1,345.89	1,517.17	74.22
598	10.78	1,341.50	1,512.87	74.26
1516	16.38	1,345.95	1,517.76	74.45
876	7.12	1,343.52	1,515.50	74.52
1518	14.85	1,345.28	1,517.76	74.74
1792	4.42	1,344.32	1,517.17	74.9
1492	6.29	1,345.22	1,518.43	75.05
1480	4.71	1,344.14	1,517.76	75.23
920	3.73	1,340.00	1,515.41	76
922	0.27	1,340.00	1,515.41	76
1484	3.78	1,342.46	1,517.94	76.04
948	0.9	1,337.36	1,513.57	76.35
730	0.13	1,336.34	1,513.56	76.79
950	2.6	1,336.24	1,513.57	76.83
1482	4.73	1,338.32	1,517.79	77.77
1486	3.61	1,337.49	1,518.02	78.22
1456	9.26	1,335.76	1,517.29	78.66
1262	5.89	1,334.83	1,516.68	78.8
930	4.02	1,331.87	1,515.10	79.39
1438	6.33	1,334.11	1,517.34	79.4
604	2.73	1,331.67	1,515.10	79.48
934	13.79	1,331.62	1,515.09	79.5
1338	11.75	1,330.00	1,513.87	79.67
1800	1.32	1,331.79	1,517.34	80.4
602	12.3	1,329.66	1,515.36	80.46
1528	11.95	1,330.39	1,517.28	80.98
874	1.54	1,329.63	1,516.72	81.07
1436	19.1	1,330.00	1,517.34	81.17
902	0	1,329.21	1,516.72	81.25
284	8.97	1,326.11	1,513.72	81.29

Tank Elevation: 1505 feet

ID	Demand (gpm)	Elevation (ft)	Head (ft)	Pressure (psi)
1458	1.36	1,356.87	1,521.13	71.17
1508	11.88	1,358.50	1,523.47	71.48
1510	4.56	1,358.89	1,524.43	71.73
J24	479.3	1,367.49	1,533.18	71.79
1450	4	1,355.64	1,521.63	71.93
1478	8.29	1,354.74	1,521.66	72.33
1500	1.4	1,355.65	1,522.69	72.38
1448	5.21	1,354.15	1,521.61	72.56
1502	3.27	1,355.07	1,522.81	72.68
1524	18.64	1,354.07	1,521.87	72.71
1526	13.87	1,353.94	1,521.87	72.76
1520	16.81	1,353.42	1,521.86	72.99
1506	9.76	1,352.90	1,522.91	73.66
714	4.92	1,349.85	1,520.45	73.92
1512	7.29	1,352.48	1,524.43	74.51
872	11.34	1,348.43	1,520.50	74.56
1490	24.77	1,350.25	1,522.65	74.7
1440	16.39	1,348.72	1,521.32	74.78
1488	2.74	1,349.40	1,522.54	75.02
406	5.71	1,345.40	1,518.67	75.08
1514	6.08	1,347.49	1,522.03	75.63
1798	4.8	1,345.89	1,521.14	75.93
598	10.78	1,341.50	1,516.75	75.94
876	7.12	1,343.52	1,519.40	76.21
1516	16.38	1,345.95	1,521.90	76.24
1518	14.85	1,345.28	1,521.89	76.53
1792	4.42	1,344.32	1,521.14	76.62
1492	6.29	1,345.22	1,522.65	76.88
1480	4.71	1,344.14	1,521.84	77
920	3.73	1,340.00	1,519.24	77.67
922	0.27	1,340.00	1,519.24	77.67
1484	3.78	1,342.46	1,522.08	77.83
948	0.9	1,337.36	1,517.32	77.98
730	0.13	1,336.34	1,517.31	78.41
950	2.6	1,336.24	1,517.32	78.46
1482	4.73	1,338.32	1,521.89	79.54
1486	3.61	1,337.49	1,522.17	80.02
1456	9.26	1,335.76	1,521.25	80.37
1262	5.89	1,334.83	1,520.59	80.49
930	4.02	1,331.87	1,518.93	81.05
1438	6.33	1,334.11	1,521.30	81.11
604	2.73	1,331.67	1,518.93	81.14
934	13.79	1,331.62	1,518.93	81.16
1338	11.75	1,330.00	1,517.64	81.3
1800	1.32	1,331.79	1,521.28	82.11
602	12.3	1,329.66	1,519.19	82.13
1528	11.95	1,330.39	1,521.25	82.7
874	1.54	1,329.63	1,520.62	82.76
1436	19.1	1,330.00	1,521.27	82.88
284	8.97	1,326.11	1,517.48	82.92
902	0	1,329.21	1,520.62	82.94

Tank Elevation: 1510 feet

ID	Demand (gpm)	Elevation (ft)	Head (ft)	Pressure (psi)
1458	1.36	1,356.87	1,525.08	72.89
1508	11.88	1,358.50	1,527.83	73.37
1450	4	1,355.64	1,525.66	73.67
1510	4.56	1,358.89	1,528.92	73.67
J24	479.3	1,367.49	1,538.12	73.93
1478	8.29	1,354.74	1,525.70	74.07
1500	1.4	1,355.65	1,526.92	74.21
1448	5.21	1,354.15	1,525.63	74.31
1524	18.64	1,354.07	1,526.00	74.5
1502	3.27	1,355.07	1,527.07	74.53
1526	13.87	1,353.94	1,525.99	74.55
1520	16.81	1,353.42	1,525.99	74.77
1506	9.76	1,352.90	1,527.18	75.51
714	4.92	1,349.85	1,524.30	75.59
872	11.34	1,348.43	1,524.35	76.22
1512	7.29	1,352.48	1,528.92	76.46
1440	16.39	1,348.72	1,525.26	76.5
1490	24.77	1,350.25	1,526.87	76.53
406	5.71	1,345.40	1,522.43	76.71
1488	2.74	1,349.40	1,526.73	76.84
1514	6.08	1,347.49	1,526.16	77.42
598	10.78	1,341.50	1,520.58	77.6
1798	4.8	1,345.89	1,525.08	77.64
876	7.12	1,343.52	1,523.24	77.87
1516	16.38	1,345.95	1,526.03	78.03
1518	14.85	1,345.28	1,526.02	78.32
1792	4.42	1,344.32	1,525.08	78.32
1492	6.29	1,345.22	1,526.86	78.7
1480	4.71	1,344.14	1,525.92	78.77
920	3.73	1,340.00	1,523.03	79.31
922	0.27	1,340.00	1,523.03	79.31
948	0.9	1,337.36	1,521.02	79.58
1484	3.78	1,342.46	1,526.21	79.62
730	0.13	1,336.34	1,521.01	80.02
950	2.6	1,336.24	1,521.02	80.06
1482	4.73	1,338.32	1,525.97	81.31
1486	3.61	1,337.49	1,526.31	81.82
1456	9.26	1,335.76	1,525.20	82.08
1262	5.89	1,334.83	1,524.43	82.15
930	4.02	1,331.87	1,522.71	82.69
604	2.73	1,331.67	1,522.71	82.78
934	13.79	1,331.62	1,522.71	82.8
1438	6.33	1,334.11	1,525.23	82.81
1338	11.75	1,330.00	1,521.36	82.91
602	12.3	1,329.66	1,522.98	83.77
1800	1.32	1,331.79	1,525.20	83.8
1528	11.95	1,330.39	1,525.19	84.41
874	1.54	1,329.63	1,524.46	84.42
284	8.97	1,326.11	1,521.20	84.53
1436	19.1	1,330.00	1,525.19	84.57
902	0	1,329.21	1,524.46	84.6

2040 Higher Operating Range Junction Pressures - Top of Domestic Storage - Site B

Tank Elevation: 1500 feet

ID	Demand (gpm)	Elevation (ft)	Head (ft)	Pressure (psi)
904	1.05	1,328.81	1,516.72	81.42
1796	4.69	1,329.31	1,517.30	81.46
470	3.16	1,326.72	1,515.50	81.8
612	14.48	1,327.24	1,516.47	81.99
732	8.29	1,325.91	1,515.38	82.1
912	0	1,325.73	1,515.38	82.18
914	3.38	1,325.63	1,515.38	82.22
910	1.33	1,325.53	1,515.38	82.26
1530	10.87	1,327.36	1,517.28	82.29
66	7.83	1,324.64	1,515.81	82.84
1090	4.98	1,322.47	1,514.10	83.03
1794	5.38	1,325.01	1,517.30	83.32
1494	10.09	1,325.22	1,518.42	83.72
286	4.63	1,318.03	1,513.83	84.84
932	10.47	1,316.98	1,514.80	85.72
868	7.11	1,314.40	1,513.68	86.35
908	3.33	1,315.73	1,516.03	86.79
906	1.48	1,315.58	1,516.03	86.85
734	11.25	1,312.32	1,514.34	87.54
618	4.31	1,312.84	1,515.70	87.9
506	8.08	1,310.00	1,515.17	88.9
936	5.69	1,310.00	1,515.16	88.9
938	5.17	1,310.00	1,515.16	88.9
926	2.42	1,310.00	1,515.30	88.96
946	5.85	1,309.18	1,514.61	89.01
620	4.1	1,310.00	1,515.57	89.07
916	2.31	1,310.00	1,515.56	89.07
918	1.63	1,310.00	1,515.56	89.07
742	0	1,310.00	1,515.70	89.13
1230	0	1,310.00	1,515.70	89.13
1232	0	1,310.00	1,515.70	89.13
1354	0	1,310.00	1,515.70	89.13
1766	0	1,310.00	1,515.70	89.13
726	7.37	1,309.50	1,515.36	89.2
944	6.22	1,308.69	1,514.61	89.22
666	5.73	1,308.46	1,515.33	89.64
472	3.85	1,308.52	1,515.75	89.79
J116	0	1,271.14	1,478.51	89.85
1804	0.39	1,308.89	1,518.53	90.84
928	3.58	1,304.96	1,515.36	91.16
924	6	1,304.54	1,515.36	91.35
J120	0	1,302.61	1,514.04	91.62
1092	15.5	1,302.32	1,514.10	91.77
504	7.22	1,301.51	1,515.16	92.58
1094	3.83	1,299.96	1,514.17	92.82
678	15.54	1,296.40	1,513.14	93.91
540	6	1,284.92	1,503.40	94.67
680	10.29	1,291.48	1,513.01	95.99
J118	0	1,270.34	1,495.21	97.43
1762	8.54	1,270.00	1,496.46	98.12
958	1.49	1,285.00	1,512.25	98.47

Tank Elevation: 1505 feet

ID	Demand (gpm)	Elevation (ft)	Head (ft)	Pressure (psi)
904	1.05	1,328.81	1,520.62	83.11
1796	4.69	1,329.31	1,521.25	83.17
470	3.16	1,326.72	1,519.37	83.48
612	14.48	1,327.24	1,520.37	83.68
732	8.29	1,325.91	1,519.22	83.76
912	0	1,325.73	1,519.22	83.84
914	3.38	1,325.63	1,519.22	83.88
910	1.33	1,325.53	1,519.22	83.93
1530	10.87	1,327.36	1,521.25	84.01
66	7.83	1,324.64	1,519.65	84.5
1090	4.98	1,322.47	1,517.97	84.71
1794	5.38	1,325.01	1,521.25	85.03
1494	10.09	1,325.22	1,522.64	85.54
286	4.63	1,318.03	1,517.60	86.47
932	10.47	1,316.98	1,518.62	87.37
868	7.11	1,314.40	1,517.44	87.98
908	3.33	1,315.73	1,519.90	88.47
906	1.48	1,315.58	1,519.90	88.53
734	11.25	1,312.32	1,518.13	89.18
618	4.31	1,312.84	1,519.56	89.57
J116	0	1,271.14	1,480.02	90.51
506	8.08	1,310.00	1,519.01	90.56
936	5.69	1,310.00	1,519.00	90.56
938	5.17	1,310.00	1,519.00	90.56
926	2.42	1,310.00	1,519.16	90.63
946	5.85	1,309.18	1,518.41	90.66
620	4.1	1,310.00	1,519.42	90.74
916	2.31	1,310.00	1,519.42	90.74
918	1.63	1,310.00	1,519.42	90.74
742	0	1,310.00	1,519.56	90.8
1230	0	1,310.00	1,519.56	90.8
1232	0	1,310.00	1,519.56	90.8
1354	0	1,310.00	1,519.56	90.8
1766	0	1,310.00	1,519.56	90.8
726	7.37	1,309.50	1,519.21	90.87
944	6.22	1,308.69	1,518.41	90.87
666	5.73	1,308.46	1,519.21	91.32
472	3.85	1,308.52	1,519.63	91.47
1804	0.39	1,308.89	1,522.78	92.68
928	3.58	1,304.96	1,519.22	92.84
924	6	1,304.54	1,519.22	93.02
J120	0	1,302.61	1,517.92	93.29
1092	15.5	1,302.32	1,517.98	93.44
504	7.22	1,301.51	1,519.00	94.24
1094	3.83	1,299.96	1,518.05	94.5
678	15.54	1,296.40	1,516.87	95.53
540	6	1,284.92	1,506.57	96.04
680	10.29	1,291.48	1,516.74	97.6
J118	0	1,270.34	1,497.82	98.57
1762	8.54	1,270.00	1,499.16	99.29
958	1.49	1,285.00	1,515.93	100.06

Tank Elevation: 1510 feet

ID	Demand (gpm)	Elevation (ft)	Head (ft)	Pressure (psi)
904	1.05	1,328.81	1,524.46	84.78
1796	4.69	1,329.31	1,525.17	84.87
470	3.16	1,326.72	1,523.20	85.14
612	14.48	1,327.24	1,524.20	85.34
732	8.29	1,325.91	1,523.01	85.4
912	0	1,325.73	1,523.01	85.48
914	3.38	1,325.63	1,523.01	85.53
910	1.33	1,325.53	1,523.01	85.57
1530	10.87	1,327.36	1,525.19	85.72
66	7.83	1,324.64	1,523.43	86.14
1090	4.98	1,322.47	1,521.81	86.38
1794	5.38	1,325.01	1,525.17	86.73
1494	10.09	1,325.22	1,526.86	87.37
286	4.63	1,318.03	1,521.31	88.08
932	10.47	1,316.98	1,522.39	89
868	7.11	1,314.40	1,521.15	89.58
908	3.33	1,315.73	1,523.72	90.12
906	1.48	1,315.58	1,523.72	90.19
734	11.25	1,312.32	1,521.88	90.8
J116	0	1,271.14	1,481.51	91.16
618	4.31	1,312.84	1,523.36	91.22
506	8.08	1,310.00	1,522.79	92.2
936	5.69	1,310.00	1,522.79	92.2
938	5.17	1,310.00	1,522.79	92.2
926	2.42	1,310.00	1,522.99	92.29
946	5.85	1,309.18	1,522.17	92.29
620	4.1	1,310.00	1,523.22	92.39
916	2.31	1,310.00	1,523.22	92.39
918	1.63	1,310.00	1,523.22	92.39
742	0	1,310.00	1,523.36	92.45
1230	0	1,310.00	1,523.36	92.45
1232	0	1,310.00	1,523.36	92.45
1354	0	1,310.00	1,523.36	92.45
1766	0	1,310.00	1,523.36	92.45
944	6.22	1,308.69	1,522.17	92.5
726	7.37	1,309.50	1,523.00	92.51
666	5.73	1,308.46	1,523.04	92.97
472	3.85	1,308.52	1,523.46	93.14
928	3.58	1,304.96	1,523.04	94.49
1804	0.39	1,308.89	1,527.03	94.52
924	6	1,304.54	1,523.04	94.67
J120	0	1,302.61	1,521.76	94.96
1092	15.5	1,302.32	1,521.82	95.11
504	7.22	1,301.51	1,522.78	95.88
1094	3.83	1,299.96	1,521.89	96.16
678	15.54	1,296.40	1,520.55	97.12
540	6	1,284.92	1,509.71	97.4
680	10.29	1,291.48	1,520.42	99.2
J118	0	1,270.34	1,500.42	99.69
1762	8.54	1,270.00	1,501.83	100.45
958	1.49	1,285.00	1,519.57	101.64

2040 Higher Operating Range Junction Pressures - Top of Domestic Storage - Site B

Tank Elevation: 1500 feet

ID	Demand (gpm)	Elevation (ft)	Head (ft)	Pressure (psi)
960	4.01	1,285.00	1,512.25	98.47
1760	2.97	1,285.00	1,512.25	98.47
542	8.13	1,272.65	1,503.50	100.03
952	0.2	1,281.68	1,512.64	100.08
956	0.21	1,281.23	1,512.64	100.27
724	4.8	1,280.00	1,512.25	100.63
560	2.35	1,277.96	1,512.64	101.69

Tank Elevation: 1505 feet

ID	Demand (gpm)	Elevation (ft)	Head (ft)	Pressure (psi)
960	4.01	1,285.00	1,515.93	100.06
1760	2.97	1,285.00	1,515.93	100.06
542	8.13	1,272.65	1,506.67	101.4
952	0.2	1,281.68	1,516.34	101.68
956	0.21	1,281.23	1,516.34	101.87
724	4.8	1,280.00	1,515.93	102.23
560	2.35	1,277.96	1,516.34	103.29

Tank Elevation: 1510 feet

ID	Demand (gpm)	Elevation (ft)	Head (ft)	Pressure (psi)
960	4.01	1,285.00	1,519.57	101.64
1760	2.97	1,285.00	1,519.57	101.64
542	8.13	1,272.65	1,509.81	102.76
952	0.2	1,281.68	1,520.00	103.26
956	0.21	1,281.23	1,520.00	103.46
724	4.8	1,280.00	1,519.57	103.8
560	2.35	1,277.96	1,520.00	104.88

2023 Lower Operating Range Junction Pressures - Bottom of Domestic Storage - Site B

Tank Elevation: 1490 feet

ID	Demand (gpm)	Elevation (ft)	Head (ft)	Pressure (psi)
1704	0	1,374.26	1,397.99	10.28
1710	0	1,373.99	1,397.96	10.39
1706	0	1,373.88	1,397.99	10.44
1708	0	1,373.51	1,397.99	10.61
1476	12.48	1,395.49	1,507.78	48.66
1816	61.3	1,394.50	1,507.66	49.03
1814	0	1,391.17	1,507.67	50.48
1474	13.04	1,390.00	1,507.78	51.03
1498	4.53	1,382.46	1,507.66	54.25
1812	13.97	1,380.00	1,507.68	55.32
1470	4.4	1,376.53	1,507.79	56.88
1468	8.92	1,375.18	1,507.79	57.46
1466	5.76	1,374.44	1,507.81	57.79
1472	4.49	1,374.25	1,507.79	57.86
1204	1.82	1,377.46	1,511.23	57.96
878	6.86	1,377.11	1,511.17	58.09
1768	91.77	1,373.62	1,507.99	58.22
J40	88.18	1,373.06	1,507.70	58.34
1260	0	1,376.56	1,511.93	58.66
1714	0	1,376.39	1,511.96	58.74
1712	0	1,376.22	1,511.99	58.83
1462	17.24	1,369.96	1,507.84	59.74
1434	0.55	1,371.80	1,510.41	60.06
1460	0.95	1,368.81	1,507.84	60.24
1504	22.33	1,368.53	1,507.58	60.25
882	1.17	1,371.34	1,510.40	60.26
1464	4.89	1,368.41	1,507.84	60.41
884	9.22	1,370.00	1,510.12	60.71
610	1.76	1,368.94	1,510.18	61.2
1496	8.81	1,365.96	1,507.66	61.4
1452	6.66	1,365.32	1,507.83	61.75
900	0.4	1,367.38	1,510.39	61.97
1356	5.04	1,367.27	1,510.38	62.01
870	2.59	1,366.82	1,510.19	62.12
898	0.27	1,366.94	1,510.39	62.16
408	4.6	1,366.42	1,510.04	62.23
1442	3.93	1,363.09	1,507.94	62.77

Tank Elevation: 1495 feet

ID	Demand (gpm)	Elevation (ft)	Head (ft)	Pressure (psi)
1704	0	1,374.26	1,397.99	10.28
1710	0	1,373.99	1,397.97	10.39
1706	0	1,373.88	1,397.99	10.45
1708	0	1,373.51	1,397.99	10.61
1476	12.48	1,395.49	1,512.52	50.71
1816	61.3	1,394.50	1,512.50	51.13
1814	0	1,391.17	1,512.54	52.59
1474	13.04	1,390.00	1,512.52	53.09
1498	4.53	1,382.46	1,512.50	56.35
1812	13.97	1,380.00	1,512.55	57.43
1470	4.4	1,376.53	1,512.53	58.93
1468	8.92	1,375.18	1,512.53	59.51
1204	1.82	1,377.46	1,515.50	59.81
1466	5.76	1,374.44	1,512.55	59.84
1472	4.49	1,374.25	1,512.53	59.92
878	6.86	1,377.11	1,515.44	59.94
1768	91.77	1,373.62	1,512.99	60.39
J40	88.18	1,373.06	1,512.58	60.45
1260	0	1,376.56	1,516.15	60.49
1714	0	1,376.39	1,516.18	60.57
1712	0	1,376.22	1,516.21	60.66
1462	17.24	1,369.96	1,512.57	61.79
1434	0.55	1,371.80	1,514.75	61.94
882	1.17	1,371.34	1,514.75	62.14
1460	0.95	1,368.81	1,512.57	62.29
1504	22.33	1,368.53	1,512.42	62.35
1464	4.89	1,368.41	1,512.57	62.46
884	9.22	1,370.00	1,514.42	62.58
610	1.76	1,368.94	1,514.52	63.08
1496	8.81	1,365.96	1,512.50	63.5
1452	6.66	1,365.32	1,512.61	63.82
900	0.4	1,367.38	1,514.74	63.85
1356	5.04	1,367.27	1,514.73	63.9
870	2.59	1,366.82	1,514.53	64
898	0.27	1,366.94	1,514.74	64.04
408	4.6	1,366.42	1,514.34	64.09
1442	3.93	1,363.09	1,512.69	64.82

Tank Elevation: 1500 feet

ID	Demand (gpm)	Elevation (ft)	Head (ft)	Pressure (psi)
1704	0	1,374.26	1,397.99	10.28
1710	0	1,373.99	1,397.97	10.39
1706	0	1,373.88	1,397.99	10.45
1708	0	1,373.51	1,397.99	10.61
1476	12.48	1,395.49	1,517.23	52.75
1816	61.3	1,394.50	1,517.32	53.22
1814	0	1,391.17	1,517.38	54.69
1474	13.04	1,390.00	1,517.23	55.13
1498	4.53	1,382.46	1,517.32	58.43
1812	13.97	1,380.00	1,517.40	59.53
1470	4.4	1,376.53	1,517.24	60.97
1468	8.92	1,375.18	1,517.24	61.55
1204	1.82	1,377.46	1,519.78	61.67
878	6.86	1,377.11	1,519.72	61.79
1466	5.76	1,374.44	1,517.26	61.88
1472	4.49	1,374.25	1,517.24	61.96
1260	0	1,376.56	1,520.38	62.32
1714	0	1,376.39	1,520.41	62.41
1712	0	1,376.22	1,520.44	62.49
1768	91.77	1,373.62	1,517.98	62.55
J40	88.18	1,373.06	1,517.45	62.56
1434	0.55	1,371.80	1,519.11	63.83
1462	17.24	1,369.96	1,517.28	63.84
882	1.17	1,371.34	1,519.11	64.03
1460	0.95	1,368.81	1,517.29	64.34
1504	22.33	1,368.53	1,517.22	64.43
884	9.22	1,370.00	1,518.73	64.44
1464	4.89	1,368.41	1,517.29	64.51
610	1.76	1,368.94	1,518.86	64.96
1496	8.81	1,365.96	1,517.31	65.58
900	0.4	1,367.38	1,519.09	65.74
1356	5.04	1,367.27	1,519.09	65.78
1452	6.66	1,365.32	1,517.36	65.88
870	2.59	1,366.82	1,518.88	65.89
898	0.27	1,366.94	1,519.09	65.93
408	4.6	1,366.42	1,518.65	65.96
1442	3.93	1,363.09	1,517.42	66.87

2023 Lower Operating Range Junction Pressures - Bottom of Domestic Storage - Site B

Tank Elevation: 1490 feet

ID	Demand (gpm)	Elevation (ft)	Head (ft)	Pressure (psi)
1444	4.75	1,362.57	1,507.94	62.99
1522	5.25	1,361.89	1,507.65	63.16
940	4.03	1,362.55	1,509.84	63.82
880	2.89	1,362.50	1,510.34	64.06
942	2.73	1,361.81	1,509.84	64.14
1446	6.54	1,359.51	1,507.92	64.31
1510	4.78	1,358.89	1,507.57	64.42
1508	31.43	1,358.50	1,507.57	64.59
1454	7.62	1,358.53	1,508.04	64.78
1802	3.69	1,357.95	1,507.92	64.98
68	6.35	1,360.00	1,510.38	65.16
1458	1.9	1,356.87	1,507.92	65.45
1500	1.96	1,355.65	1,507.63	65.85
702	7.79	1,357.85	1,509.85	65.86
1450	0.75	1,355.64	1,507.83	65.95
1502	1.45	1,355.07	1,507.60	66.09
1478	3.24	1,354.74	1,507.82	66.33
1524	9.63	1,354.07	1,507.64	66.54
1448	3.52	1,354.15	1,507.84	66.6
1526	9.73	1,353.94	1,507.64	66.6
1520	6.6	1,353.42	1,507.65	66.83
1506	3.86	1,352.90	1,507.60	67.03
1512	3.75	1,352.48	1,507.57	67.2
1490	4.68	1,350.25	1,507.66	68.2
1488	3.85	1,349.40	1,507.66	68.57
1440	6.13	1,348.72	1,508.06	69.04
1514	3.45	1,347.49	1,507.68	69.41
714	5.87	1,349.85	1,510.28	69.51
872	10.21	1,348.43	1,510.08	70.04
1516	6	1,345.95	1,507.66	70.07
1798	6.73	1,345.89	1,507.99	70.24
1518	4.96	1,345.28	1,507.66	70.36
1492	2.53	1,345.22	1,507.65	70.38
1480	6.41	1,344.14	1,507.76	70.9
1792	6.21	1,344.32	1,507.99	70.92
406	8.21	1,345.40	1,509.86	71.26
1484	3.68	1,342.46	1,507.69	71.6

Tank Elevation: 1495 feet

ID	Demand (gpm)	Elevation (ft)	Head (ft)	Pressure (psi)
1444	4.75	1,362.57	1,512.69	65.04
1522	5.25	1,361.89	1,512.47	65.25
940	4.03	1,362.55	1,514.15	65.69
880	2.89	1,362.50	1,514.67	65.94
942	2.73	1,361.81	1,514.15	66.01
1446	6.54	1,359.51	1,512.66	66.36
1510	4.78	1,358.89	1,512.41	66.52
1508	31.43	1,358.50	1,512.41	66.69
1454	7.62	1,358.53	1,512.76	66.83
68	6.35	1,360.00	1,514.68	67.02
1802	3.69	1,357.95	1,512.65	67.03
1458	1.9	1,356.87	1,512.66	67.5
702	7.79	1,357.85	1,514.16	67.73
1500	1.96	1,355.65	1,512.47	67.95
1450	0.75	1,355.64	1,512.61	68.02
1502	1.45	1,355.07	1,512.44	68.19
1478	3.24	1,354.74	1,512.60	68.4
1524	9.63	1,354.07	1,512.47	68.63
1448	3.52	1,354.15	1,512.62	68.67
1526	9.73	1,353.94	1,512.47	68.69
1520	6.6	1,353.42	1,512.47	68.92
1506	3.86	1,352.90	1,512.44	69.13
1512	3.75	1,352.48	1,512.41	69.3
1490	4.68	1,350.25	1,512.50	70.3
1488	3.85	1,349.40	1,512.50	70.67
1440	6.13	1,348.72	1,512.78	71.09
714	5.87	1,349.85	1,514.61	71.39
1514	3.45	1,347.49	1,512.51	71.5
872	10.21	1,348.43	1,514.41	71.92
1516	6	1,345.95	1,512.48	72.16
1798	6.73	1,345.89	1,512.72	72.29
1518	4.96	1,345.28	1,512.48	72.45
1492	2.53	1,345.22	1,512.50	72.48
1792	6.21	1,344.32	1,512.72	72.97
1480	6.41	1,344.14	1,512.56	72.98
406	8.21	1,345.40	1,514.16	73.13
1484	3.68	1,342.46	1,512.52	73.69

Tank Elevation: 1500 feet

ID	Demand (gpm)	Elevation (ft)	Head (ft)	Pressure (psi)
1444	4.75	1,362.57	1,517.41	67.09
1522	5.25	1,361.89	1,517.26	67.32
940	4.03	1,362.55	1,518.46	67.56
880	2.89	1,362.50	1,519.02	67.82
942	2.73	1,361.81	1,518.46	67.88
1446	6.54	1,359.51	1,517.38	68.4
1510	4.78	1,358.89	1,517.21	68.6
1508	31.43	1,358.50	1,517.21	68.77
1454	7.62	1,358.53	1,517.47	68.87
68	6.35	1,360.00	1,518.99	68.89
1802	3.69	1,357.95	1,517.37	69.08
1458	1.9	1,356.87	1,517.37	69.54
702	7.79	1,357.85	1,518.47	69.6
1500	1.96	1,355.65	1,517.27	70.03
1450	0.75	1,355.64	1,517.36	70.08
1502	1.45	1,355.07	1,517.24	70.27
1478	3.24	1,354.74	1,517.36	70.46
1524	9.63	1,354.07	1,517.26	70.71
1448	3.52	1,354.15	1,517.37	70.72
1526	9.73	1,353.94	1,517.25	70.76
1520	6.6	1,353.42	1,517.26	70.99
1506	3.86	1,352.90	1,517.24	71.21
1512	3.75	1,352.48	1,517.21	71.38
1490	4.68	1,350.25	1,517.30	72.38
1488	3.85	1,349.40	1,517.30	72.75
1440	6.13	1,348.72	1,517.48	73.12
714	5.87	1,349.85	1,518.95	73.27
1514	3.45	1,347.49	1,517.30	73.58
872	10.21	1,348.43	1,518.76	73.8
1516	6	1,345.95	1,517.27	74.23
1798	6.73	1,345.89	1,517.42	74.32
1518	4.96	1,345.28	1,517.27	74.52
1492	2.53	1,345.22	1,517.30	74.56
406	8.21	1,345.40	1,518.48	74.99
1792	6.21	1,344.32	1,517.42	75
1480	6.41	1,344.14	1,517.33	75.05
876	6.1	1,343.52	1,517.95	75.58

2023 Lower Operating Range Junction Pressures - Bottom of Domestic Storage - Site B

Tank Elevation: 1490 feet					Tank Elevation: 1495 feet					Tank Elevation: 1500 feet				
ID	Demand (gpm)	Elevation (ft)	Head (ft)	Pressure (psi)	ID	Demand (gpm)	Elevation (ft)	Head (ft)	Pressure (psi)	ID	Demand (gpm)	Elevation (ft)	Head (ft)	Pressure (psi)
876	6.1	1,343.52	1,509.26	71.82	876	6.1	1,343.52	1,513.60	73.7	1484	3.68	1,342.46	1,517.31	75.76
598	7.96	1,341.50	1,508.55	72.38	598	7.96	1,341.50	1,512.87	74.26	598	7.96	1,341.50	1,517.20	76.13
1482	6.63	1,338.32	1,507.75	73.41	1482	6.63	1,338.32	1,512.55	75.5	920	4.78	1,340.00	1,518.59	77.38
920	4.78	1,340.00	1,509.96	73.64	920	4.78	1,340.00	1,514.27	75.51	922	2.52	1,340.00	1,518.59	77.38
922	2.52	1,340.00	1,509.96	73.64	922	2.52	1,340.00	1,514.27	75.51	1482	6.63	1,338.32	1,517.33	77.56
1486	4.11	1,337.49	1,507.69	73.75	1486	4.11	1,337.49	1,512.51	75.84	1486	4.11	1,337.49	1,517.30	77.91
1456	6.52	1,335.76	1,508.03	74.65	948	1.47	1,337.36	1,514.01	76.54	948	1.47	1,337.36	1,518.32	78.41
948	1.47	1,337.36	1,509.70	74.68	1456	6.52	1,335.76	1,512.76	76.69	1456	6.52	1,335.76	1,517.46	78.73
730	1.75	1,336.34	1,509.70	75.11	730	1.75	1,336.34	1,514.00	76.98	730	1.75	1,336.34	1,518.32	78.85
950	5.31	1,336.24	1,509.70	75.16	950	5.31	1,336.24	1,514.01	77.02	950	5.31	1,336.24	1,518.32	78.9
1438	5.4	1,334.11	1,508.17	75.42	1438	5.4	1,334.11	1,512.88	77.46	1438	5.4	1,334.11	1,517.56	79.49
1262	3.25	1,334.83	1,510.17	75.97	1262	3.25	1,334.83	1,514.51	77.85	1262	3.25	1,334.83	1,518.85	79.74
1800	2.32	1,331.79	1,508.31	76.49	1800	2.32	1,331.79	1,512.99	78.52	1800	2.32	1,331.79	1,517.65	80.54
1528	4.38	1,330.39	1,508.03	76.97	930	5.28	1,331.87	1,514.12	78.97	930	5.28	1,331.87	1,518.44	80.84
930	5.28	1,331.87	1,509.80	77.1	1528	4.38	1,330.39	1,512.75	79.02	604	3.29	1,331.67	1,518.44	80.93
604	3.29	1,331.67	1,509.81	77.19	604	3.29	1,331.67	1,514.12	79.06	934	4.34	1,331.62	1,518.44	80.95
934	4.34	1,331.62	1,509.80	77.21	934	4.34	1,331.62	1,514.12	79.08	1528	4.38	1,330.39	1,517.46	81.06
1436	3.51	1,330.00	1,508.55	77.36	1436	3.51	1,330.00	1,513.19	79.37	1436	3.51	1,330.00	1,517.81	81.38
1796	6.72	1,329.31	1,508.25	77.54	1796	6.72	1,329.31	1,512.94	79.57	1796	6.72	1,329.31	1,517.60	81.59
1338	9.95	1,330.00	1,509.75	77.89	1338	9.95	1,330.00	1,514.06	79.75	1338	9.95	1,330.00	1,518.38	81.62
602	5.09	1,329.66	1,509.92	78.11	602	5.09	1,329.66	1,514.23	79.98	602	5.09	1,329.66	1,518.56	81.85
874	1.61	1,329.63	1,510.18	78.23	874	1.61	1,329.63	1,514.52	80.11	874	1.61	1,329.63	1,518.86	82
1530	9.65	1,327.36	1,508.03	78.28	902	0.04	1,329.21	1,514.52	80.29	902	0.04	1,329.21	1,518.86	82.18
902	0.04	1,329.21	1,510.18	78.41	1530	9.65	1,327.36	1,512.75	80.33	904	1.98	1,328.81	1,518.86	82.35
904	1.98	1,328.81	1,510.18	78.59	904	1.98	1,328.81	1,514.52	80.47	1530	9.65	1,327.36	1,517.46	82.37
1494	10.73	1,325.22	1,507.65	79.05	612	10.45	1,327.24	1,514.44	81.11	612	10.45	1,327.24	1,518.78	82.99
612	10.45	1,327.24	1,510.11	79.23	1494	10.73	1,325.22	1,512.49	81.15	1494	10.73	1,325.22	1,517.29	83.23
1794	7.55	1,325.01	1,508.25	79.4	470	5.32	1,326.72	1,514.50	81.36	284	8.32	1,326.11	1,518.22	83.24
470	5.32	1,326.72	1,510.18	79.49	284	8.32	1,326.11	1,513.91	81.37	470	5.32	1,326.72	1,518.82	83.24
284	8.32	1,326.11	1,509.60	79.5	1794	7.55	1,325.01	1,512.94	81.43	1794	7.55	1,325.01	1,517.61	83.45
732	5.17	1,325.91	1,509.90	79.73	732	5.17	1,325.91	1,514.22	81.59	732	5.17	1,325.91	1,518.54	83.47
912	0.1	1,325.73	1,509.90	79.8	912	0.1	1,325.73	1,514.22	81.67	912	0.1	1,325.73	1,518.54	83.55
914	2.06	1,325.63	1,509.90	79.85	914	2.06	1,325.63	1,514.22	81.72	914	2.06	1,325.63	1,518.54	83.59
910	3.56	1,325.53	1,509.90	79.89	910	3.56	1,325.53	1,514.22	81.76	910	3.56	1,325.53	1,518.54	83.63
66	5.64	1,324.64	1,510.35	80.47	66	5.64	1,324.64	1,514.65	82.33	66	5.64	1,324.64	1,518.95	84.2
1090	0	1,322.47	1,510.14	81.32	1090	0	1,322.47	1,514.46	83.19	1090	0	1,322.47	1,518.78	85.06
286	9.28	1,318.03	1,509.70	83.05	286	9.28	1,318.03	1,514.00	84.92	286	9.28	1,318.03	1,518.32	86.79

2023 Lower Operating Range Junction Pressures - Bottom of Domestic Storage - Site B

Tank Elevation: 1490 feet

ID	Demand (gpm)	Elevation (ft)	Head (ft)	Pressure (psi)
932	12.91	1,316.98	1,509.74	83.52
908	4.35	1,315.73	1,509.97	84.16
906	4.12	1,315.58	1,509.97	84.23
868	5.74	1,314.40	1,509.70	84.62
618	9.72	1,312.84	1,509.88	85.38
734	18.99	1,312.32	1,509.72	85.53
1804	0	1,308.89	1,507.68	86.14
506	6.28	1,310.00	1,509.78	86.56
936	10.91	1,310.00	1,509.78	86.56
938	3.26	1,310.00	1,509.78	86.56
620	5.45	1,310.00	1,509.85	86.59
916	2.09	1,310.00	1,509.85	86.59
918	4.27	1,310.00	1,509.85	86.59
742	0	1,310.00	1,509.88	86.61
1230	0	1,310.00	1,509.88	86.61
1232	0	1,310.00	1,509.88	86.61
1354	0	1,310.00	1,509.88	86.61
1766	0	1,310.00	1,509.88	86.61
926	3.36	1,310.00	1,510.18	86.74
726	8.6	1,309.50	1,509.83	86.8
946	4.71	1,309.18	1,509.73	86.9
944	11.35	1,308.69	1,509.73	87.11
666	10.03	1,308.46	1,509.71	87.2
472	7.21	1,308.52	1,510.19	87.38
928	2.74	1,304.96	1,510.20	88.93
924	4.11	1,304.54	1,510.20	89.11
1092	6.65	1,302.32	1,510.14	90.05
504	9.62	1,301.51	1,509.78	90.24
1094	7.88	1,299.96	1,510.15	91.07
678	11.62	1,296.40	1,509.66	92.41
680	16.48	1,291.48	1,509.36	94.41
540	7.98	1,284.92	1,509.31	97.23
958	1.41	1,285.00	1,509.63	97.33
960	5.33	1,285.00	1,509.63	97.33
1760	0.47	1,285.00	1,509.63	97.33
952	0.58	1,281.68	1,509.64	98.78
956	0.64	1,281.23	1,509.64	98.97

Tank Elevation: 1495 feet

ID	Demand (gpm)	Elevation (ft)	Head (ft)	Pressure (psi)
932	12.91	1,316.98	1,514.06	85.39
908	4.35	1,315.73	1,514.29	86.04
906	4.12	1,315.58	1,514.29	86.1
868	5.74	1,314.40	1,514.00	86.49
618	9.72	1,312.84	1,514.20	87.25
734	18.99	1,312.32	1,514.03	87.4
1804	0	1,308.89	1,512.55	88.25
506	6.28	1,310.00	1,514.10	88.43
936	10.91	1,310.00	1,514.09	88.43
938	3.26	1,310.00	1,514.09	88.43
620	5.45	1,310.00	1,514.17	88.47
916	2.09	1,310.00	1,514.17	88.47
918	4.27	1,310.00	1,514.17	88.47
742	0	1,310.00	1,514.20	88.48
1230	0	1,310.00	1,514.20	88.48
1232	0	1,310.00	1,514.20	88.48
1354	0	1,310.00	1,514.20	88.48
1766	0	1,310.00	1,514.20	88.48
926	3.36	1,310.00	1,514.50	88.61
726	8.6	1,309.50	1,514.15	88.67
946	4.71	1,309.18	1,514.04	88.77
944	11.35	1,308.69	1,514.04	88.98
666	10.03	1,308.46	1,514.03	89.07
472	7.21	1,308.52	1,514.51	89.25
928	2.74	1,304.96	1,514.51	90.8
924	4.11	1,304.54	1,514.51	90.98
1092	6.65	1,302.32	1,514.46	91.92
504	9.62	1,301.51	1,514.10	92.11
1094	7.88	1,299.96	1,514.46	92.94
678	11.62	1,296.40	1,513.97	94.27
680	16.48	1,291.48	1,513.67	96.27
540	7.98	1,284.92	1,513.62	99.09
958	1.41	1,285.00	1,513.94	99.2
960	5.33	1,285.00	1,513.94	99.2
1760	0.47	1,285.00	1,513.94	99.2
952	0.58	1,281.68	1,513.95	100.64
956	0.64	1,281.23	1,513.95	100.84

Tank Elevation: 1500 feet

ID	Demand (gpm)	Elevation (ft)	Head (ft)	Pressure (psi)
932	12.91	1,316.98	1,518.38	87.27
908	4.35	1,315.73	1,518.63	87.92
906	4.12	1,315.58	1,518.63	87.98
868	5.74	1,314.40	1,518.32	88.36
618	9.72	1,312.84	1,518.53	89.13
734	18.99	1,312.32	1,518.35	89.27
506	6.28	1,310.00	1,518.42	90.31
936	10.91	1,310.00	1,518.42	90.31
938	3.26	1,310.00	1,518.42	90.31
620	5.45	1,310.00	1,518.50	90.34
916	2.09	1,310.00	1,518.50	90.34
918	4.27	1,310.00	1,518.50	90.34
1804	0	1,308.89	1,517.40	90.35
742	0	1,310.00	1,518.53	90.36
1230	0	1,310.00	1,518.53	90.36
1232	0	1,310.00	1,518.53	90.36
1354	0	1,310.00	1,518.53	90.36
1766	0	1,310.00	1,518.53	90.36
926	3.36	1,310.00	1,518.82	90.48
726	8.6	1,309.50	1,518.48	90.55
946	4.71	1,309.18	1,518.36	90.64
944	11.35	1,308.69	1,518.36	90.85
666	10.03	1,308.46	1,518.36	90.95
472	7.21	1,308.52	1,518.84	91.13
928	2.74	1,304.96	1,518.84	92.67
924	4.11	1,304.54	1,518.84	92.86
1092	6.65	1,302.32	1,518.78	93.79
504	9.62	1,301.51	1,518.42	93.99
1094	7.88	1,299.96	1,518.79	94.82
678	11.62	1,296.40	1,518.29	96.14
680	16.48	1,291.48	1,517.99	98.14
540	7.98	1,284.92	1,517.94	100.97
958	1.41	1,285.00	1,518.25	101.07
960	5.33	1,285.00	1,518.25	101.07
1760	0.47	1,285.00	1,518.25	101.07
952	0.58	1,281.68	1,518.27	102.51
956	0.64	1,281.23	1,518.27	102.71

2023 Lower Operating Range Junction Pressures - Bottom of Domestic Storage - Site B

Tank Elevation: 1490 feet

ID	Demand (gpm)	Elevation (ft)	Head (ft)	Pressure (psi)
724	5.89	1,280.00	1,509.63	99.5
560	4.11	1,277.96	1,509.64	100.39
558	11.3	1,276.35	1,509.63	101.08
542	7.66	1,272.65	1,509.48	102.62
1762	8.77	1,270.00	1,509.49	103.77

Tank Elevation: 1495 feet

ID	Demand (gpm)	Elevation (ft)	Head (ft)	Pressure (psi)
724	5.89	1,280.00	1,513.94	101.36
560	4.11	1,277.96	1,513.95	102.26
558	11.3	1,276.35	1,513.94	102.95
542	7.66	1,272.65	1,513.79	104.48
1762	8.77	1,270.00	1,513.80	105.64

Tank Elevation: 1500 feet

ID	Demand (gpm)	Elevation (ft)	Head (ft)	Pressure (psi)
724	5.89	1,280.00	1,518.25	103.24
560	4.11	1,277.96	1,518.27	104.13
558	11.3	1,276.35	1,518.26	104.82
542	7.66	1,272.65	1,518.10	106.35
1762	8.77	1,270.00	1,518.12	107.51

2040 Lower Operating Range Junction Pressures - Bottom of Domestic Storage - Site B

Tank Elevation: 1490 feet

ID	Demand (gpm)	Elevation (ft)	Head (ft)	Pressure (psi)
1704	0	1,374.26	1,397.99	10.28
1710	0	1,373.99	1,397.96	10.39
1706	0	1,373.88	1,397.99	10.44
1708	0	1,373.51	1,397.99	10.61
J28	43.4	1,420.00	1,501.57	35.35
1776	3.65	1,420.12	1,503.30	36.04
J122	0	1,398.33	1,500.97	44.47
1476	18.63	1,395.49	1,498.57	44.67
1816	24.58	1,394.50	1,499.68	45.57
1474	12.68	1,390.00	1,498.57	47.04
1814	6.94	1,391.17	1,499.93	47.12
1498	3.73	1,382.46	1,499.65	50.78
1812	304.52	1,380.00	1,500.00	51.99
1470	19.2	1,376.53	1,498.57	52.88
1204	1.03	1,377.46	1,500.31	53.23
878	4.73	1,377.11	1,500.19	53.33
1468	10.43	1,375.18	1,498.59	53.47
1466	8.47	1,374.44	1,498.64	53.81
1472	16.96	1,374.25	1,498.56	53.87
1260	0	1,376.56	1,501.12	53.97
1714	0	1,376.39	1,501.16	54.06
1712	0	1,376.22	1,501.19	54.15
1434	0.07	1,371.80	1,499.66	55.4
884	7.14	1,370.00	1,498.01	55.47
882	2.24	1,371.34	1,499.65	55.6
J40	27.78	1,373.06	1,501.55	55.67
1462	15.01	1,369.96	1,498.71	55.79
1460	0.68	1,368.81	1,498.71	56.29
610	0.38	1,368.94	1,499.13	56.41
1464	3.48	1,368.41	1,498.71	56.46
1504	29.46	1,368.53	1,499.41	56.71
408	4.47	1,366.42	1,497.82	56.93
900	0.05	1,367.38	1,499.62	57.3
870	2.88	1,366.82	1,499.16	57.34
1356	3.96	1,367.27	1,499.61	57.34
898	0.04	1,366.94	1,499.62	57.49
1496	22.13	1,365.96	1,499.55	57.88
1452	4.75	1,365.32	1,499.14	57.98
1768	35.06	1,373.62	1,507.70	58.1
940	2.23	1,362.55	1,497.32	58.4
J30	344.46	1,365.14	1,500.04	58.45

Tank Elevation: 1495 feet

ID	Demand (gpm)	Elevation (ft)	Head (ft)	Pressure (psi)
1704	0	1,374.26	1,397.99	10.28
1710	0	1,373.99	1,397.96	10.39
1706	0	1,373.88	1,397.99	10.44
1708	0	1,373.51	1,397.99	10.61
J28	43.4	1,420.00	1,506.23	37.37
1776	3.65	1,420.12	1,508.07	38.11
J122	0	1,398.33	1,505.59	46.48
1476	18.63	1,395.49	1,502.84	46.52
1816	24.58	1,394.50	1,504.09	47.49
1474	12.68	1,390.00	1,502.84	48.89
1814	6.94	1,391.17	1,504.38	49.05
1498	3.73	1,382.46	1,504.07	52.69
1812	304.52	1,380.00	1,504.45	53.92
1470	19.2	1,376.53	1,502.83	54.73
1204	1.03	1,377.46	1,504.34	54.98
878	4.73	1,377.11	1,504.22	55.08
1468	10.43	1,375.18	1,502.86	55.32
1466	8.47	1,374.44	1,502.90	55.66
1260	0	1,376.56	1,505.11	55.7
1472	16.96	1,374.25	1,502.83	55.71
1714	0	1,376.39	1,505.15	55.79
1712	0	1,376.22	1,505.18	55.88
1434	0.07	1,371.80	1,503.75	57.17
884	7.14	1,370.00	1,501.98	57.19
882	2.24	1,371.34	1,503.74	57.37
1462	15.01	1,369.96	1,502.98	57.64
J40	27.78	1,373.06	1,506.11	57.65
1460	0.68	1,368.81	1,502.98	58.14
610	0.38	1,368.94	1,503.20	58.17
1464	3.48	1,368.41	1,502.98	58.31
1504	29.46	1,368.53	1,503.82	58.62
408	4.47	1,366.42	1,501.78	58.65
900	0.05	1,367.38	1,503.71	59.07
870	2.88	1,366.82	1,503.22	59.1
1356	3.96	1,367.27	1,503.70	59.12
898	0.04	1,366.94	1,503.71	59.26
1496	22.13	1,365.96	1,503.95	59.79
1452	4.75	1,365.32	1,503.44	59.85
940	2.23	1,362.55	1,501.26	60.1
1768	35.06	1,373.62	1,512.68	60.26
942	1.29	1,361.81	1,501.26	60.42

Tank Elevation: 1500 feet

ID	Demand (gpm)	Elevation (ft)	Head (ft)	Pressure (psi)
1704	0	1,374.26	1,397.99	10.28
1710	0	1,373.99	1,397.96	10.39
1706	0	1,373.88	1,397.99	10.44
1708	0	1,373.51	1,397.99	10.61
J28	43.4	1,420.00	1,510.90	39.39
1776	3.65	1,420.12	1,512.83	40.17
1476	18.63	1,395.49	1,507.08	48.35
J122	0	1,398.33	1,510.21	48.48
1816	24.58	1,394.50	1,508.50	49.4
1474	12.68	1,390.00	1,507.08	50.73
1814	6.94	1,391.17	1,508.81	50.97
1498	3.73	1,382.46	1,508.47	54.6
1812	304.52	1,380.00	1,508.89	55.85
1470	19.2	1,376.53	1,507.07	56.57
1204	1.03	1,377.46	1,508.37	56.72
878	4.73	1,377.11	1,508.25	56.82
1468	10.43	1,375.18	1,507.10	57.16
1260	0	1,376.56	1,509.11	57.43
1466	8.47	1,374.44	1,507.14	57.5
1714	0	1,376.39	1,509.14	57.52
1472	16.96	1,374.25	1,507.07	57.55
1712	0	1,376.22	1,509.17	57.61
884	7.14	1,370.00	1,505.95	58.91
1434	0.07	1,371.80	1,507.84	58.95
882	2.24	1,371.34	1,507.83	59.14
1462	15.01	1,369.96	1,507.22	59.48
J40	27.78	1,373.06	1,510.67	59.62
610	0.38	1,368.94	1,507.27	59.94
1460	0.68	1,368.81	1,507.22	59.97
1464	3.48	1,368.41	1,507.22	60.14
408	4.47	1,366.42	1,505.75	60.37
1504	29.46	1,368.53	1,508.22	60.53
900	0.05	1,367.38	1,507.80	60.84
870	2.88	1,366.82	1,507.30	60.87
1356	3.96	1,367.27	1,507.79	60.89
898	0.04	1,366.94	1,507.80	61.04
1496	22.13	1,365.96	1,508.34	61.69
1452	4.75	1,365.32	1,507.71	61.7
940	2.23	1,362.55	1,505.21	61.81
942	1.29	1,361.81	1,505.21	62.13
J30	344.46	1,365.14	1,509.17	62.41

2040 Lower Operating Range Junction Pressures - Bottom of Domestic Storage - Site B

Tank Elevation: 1490 feet

ID	Demand (gpm)	Elevation (ft)	Head (ft)	Pressure (psi)
942	1.29	1,361.81	1,497.32	58.72
1442	12.93	1,363.09	1,499.10	58.93
1444	8.54	1,362.57	1,499.09	59.15
880	3.01	1,362.50	1,499.30	59.27
1522	16.48	1,361.89	1,499.01	59.41
68	1.05	1,360.00	1,498.61	60.06
J24	479.3	1,367.49	1,506.49	60.23
1446	19.4	1,359.51	1,498.92	60.41
702	7.32	1,357.85	1,497.32	60.43
1454	17.71	1,358.53	1,499.05	60.89
1802	9.13	1,357.95	1,498.88	61.06
1510	4.56	1,358.89	1,500.02	61.15
1508	11.88	1,358.50	1,499.67	61.17
1458	1.36	1,356.87	1,498.90	61.54
1450	4	1,355.64	1,499.14	62.18
1500	1.4	1,355.65	1,499.42	62.29
1502	3.27	1,355.07	1,499.44	62.56
1478	8.29	1,354.74	1,499.14	62.57
1524	18.64	1,354.07	1,499.01	62.8
1448	5.21	1,354.15	1,499.14	62.82
1526	13.87	1,353.94	1,499.01	62.86
1520	16.81	1,353.42	1,499.01	63.08
1506	9.76	1,352.90	1,499.47	63.51
1512	7.29	1,352.48	1,500.02	63.93
714	4.92	1,349.85	1,498.96	64.61
1490	24.77	1,350.25	1,499.44	64.64
1488	2.74	1,349.40	1,499.38	64.99
1440	16.39	1,348.72	1,499.10	65.16
872	11.34	1,348.43	1,499.01	65.25
1514	6.08	1,347.49	1,499.18	65.73
406	5.71	1,345.40	1,497.73	66
1798	4.8	1,345.89	1,498.93	66.31
1516	16.38	1,345.95	1,499.04	66.33
1518	14.85	1,345.28	1,499.04	66.62
598	10.78	1,341.50	1,495.39	66.68
1492	6.29	1,345.22	1,499.43	66.82
876	7.12	1,343.52	1,497.91	66.9
1792	4.42	1,344.32	1,498.93	66.99
1480	4.71	1,344.14	1,499.18	67.18
1484	3.78	1,342.46	1,499.22	67.93
920	3.73	1,340.00	1,498.12	68.52

Tank Elevation: 1495 feet

ID	Demand (gpm)	Elevation (ft)	Head (ft)	Pressure (psi)
J30	344.46	1,365.14	1,504.60	60.43
1442	12.93	1,363.09	1,503.38	60.79
1444	8.54	1,362.57	1,503.37	61.01
880	3.01	1,362.50	1,503.37	61.04
1522	16.48	1,361.89	1,503.35	61.29
68	1.05	1,360.00	1,502.60	61.79
702	7.32	1,357.85	1,501.27	62.14
1446	19.4	1,359.51	1,503.19	62.26
J24	479.3	1,367.49	1,511.44	62.37
1454	17.71	1,358.53	1,503.33	62.74
1802	9.13	1,357.95	1,503.15	62.91
1508	11.88	1,358.50	1,504.14	63.11
1510	4.56	1,358.89	1,504.58	63.13
1458	1.36	1,356.87	1,503.17	63.39
1450	4	1,355.64	1,503.44	64.04
1500	1.4	1,355.65	1,503.81	64.2
1478	8.29	1,354.74	1,503.45	64.43
1502	3.27	1,355.07	1,503.85	64.47
1448	5.21	1,354.15	1,503.43	64.69
1524	18.64	1,354.07	1,503.35	64.69
1526	13.87	1,353.94	1,503.35	64.74
1520	16.81	1,353.42	1,503.35	64.96
1506	9.76	1,352.90	1,503.89	65.42
1512	7.29	1,352.48	1,504.58	65.91
714	4.92	1,349.85	1,503.02	66.37
1490	24.77	1,350.25	1,503.83	66.54
1488	2.74	1,349.40	1,503.76	66.89
872	11.34	1,348.43	1,503.08	67.01
1440	16.39	1,348.72	1,503.38	67.01
1514	6.08	1,347.49	1,503.52	67.61
406	5.71	1,345.40	1,501.69	67.72
1798	4.8	1,345.89	1,503.19	68.16
1516	16.38	1,345.95	1,503.38	68.21
598	10.78	1,341.50	1,499.43	68.43
1518	14.85	1,345.28	1,503.38	68.51
876	7.12	1,343.52	1,501.98	68.66
1492	6.29	1,345.22	1,503.82	68.72
1792	4.42	1,344.32	1,503.19	68.84
1480	4.71	1,344.14	1,503.50	69.05
1484	3.78	1,342.46	1,503.56	69.81
920	3.73	1,340.00	1,502.12	70.25

Tank Elevation: 1500 feet

ID	Demand (gpm)	Elevation (ft)	Head (ft)	Pressure (psi)
1768	35.06	1,373.62	1,517.67	62.42
1442	12.93	1,363.09	1,507.62	62.63
880	3.01	1,362.50	1,507.45	62.81
1444	8.54	1,362.57	1,507.61	62.85
1522	16.48	1,361.89	1,507.67	63.17
68	1.05	1,360.00	1,506.60	63.52
702	7.32	1,357.85	1,505.21	63.85
1446	19.4	1,359.51	1,507.43	64.09
J24	479.3	1,367.49	1,516.39	64.51
1454	17.71	1,358.53	1,507.57	64.58
1802	9.13	1,357.95	1,507.39	64.75
1508	11.88	1,358.50	1,508.61	65.04
1510	4.56	1,358.89	1,509.14	65.1
1458	1.36	1,356.87	1,507.41	65.23
1450	4	1,355.64	1,507.71	65.89
1500	1.4	1,355.65	1,508.20	66.1
1478	8.29	1,354.74	1,507.72	66.29
1502	3.27	1,355.07	1,508.25	66.37
1448	5.21	1,354.15	1,507.70	66.54
1524	18.64	1,354.07	1,507.68	66.56
1526	13.87	1,353.94	1,507.68	66.61
1520	16.81	1,353.42	1,507.67	66.84
1506	9.76	1,352.90	1,508.30	67.33
1512	7.29	1,352.48	1,509.14	67.88
714	4.92	1,349.85	1,507.09	68.13
1490	24.77	1,350.25	1,508.20	68.44
872	11.34	1,348.43	1,507.15	68.77
1488	2.74	1,349.40	1,508.13	68.78
1440	16.39	1,348.72	1,507.62	68.85
406	5.71	1,345.40	1,505.66	69.44
1514	6.08	1,347.49	1,507.84	69.48
1798	4.8	1,345.89	1,507.43	70
1516	16.38	1,345.95	1,507.71	70.09
598	10.78	1,341.50	1,503.47	70.18
1518	14.85	1,345.28	1,507.70	70.38
876	7.12	1,343.52	1,506.05	70.42
1492	6.29	1,345.22	1,508.20	70.62
1792	4.42	1,344.32	1,507.43	70.68
1480	4.71	1,344.14	1,507.79	70.91
1484	3.78	1,342.46	1,507.89	71.68
920	3.73	1,340.00	1,506.12	71.98

2040 Lower Operating Range Junction Pressures - Bottom of Domestic Storage - Site B

Tank Elevation: 1490 feet

ID	Demand (gpm)	Elevation (ft)	Head (ft)	Pressure (psi)
922	0.27	1,340.00	1,498.12	68.52
948	0.9	1,337.36	1,496.69	69.04
730	0.13	1,336.34	1,496.68	69.47
950	2.6	1,336.24	1,496.69	69.52
1482	4.73	1,338.32	1,499.19	69.7
1486	3.61	1,337.49	1,499.25	70.09
1456	9.26	1,335.76	1,499.04	70.75
1262	5.89	1,334.83	1,499.09	71.18
1438	6.33	1,334.11	1,499.12	71.5
930	4.02	1,331.87	1,497.84	71.92
604	2.73	1,331.67	1,497.85	72.01
934	13.79	1,331.62	1,497.84	72.03
1338	11.75	1,330.00	1,496.93	72.33
1800	1.32	1,331.79	1,499.13	72.51
602	12.3	1,329.66	1,498.07	72.98
1528	11.95	1,330.39	1,499.03	73.07
1436	19.1	1,330.00	1,499.18	73.31
874	1.54	1,329.63	1,499.13	73.45
1796	4.69	1,329.31	1,499.09	73.57
902	0	1,329.21	1,499.13	73.63
904	1.05	1,328.81	1,499.13	73.8
284	8.97	1,326.11	1,496.77	73.94
470	3.16	1,326.72	1,498.06	74.24
612	14.48	1,327.24	1,498.93	74.39
1530	10.87	1,327.36	1,499.03	74.39
732	8.29	1,325.91	1,498.08	74.6
912	0	1,325.73	1,498.08	74.68
914	3.38	1,325.63	1,498.08	74.72
910	1.33	1,325.53	1,498.08	74.77
66	7.83	1,324.64	1,498.55	75.36
1794	5.38	1,325.01	1,499.09	75.43
1494	10.09	1,325.22	1,499.43	75.48
1090	4.98	1,322.47	1,496.68	75.49
286	4.63	1,318.03	1,496.88	77.5
932	10.47	1,316.98	1,497.62	78.27
868	7.11	1,314.40	1,496.77	79.02
908	3.33	1,315.73	1,498.57	79.23
906	1.48	1,315.58	1,498.57	79.29
734	11.25	1,312.32	1,497.28	80.14
618	4.31	1,312.84	1,498.31	80.37
506	8.08	1,310.00	1,497.89	81.41

Tank Elevation: 1495 feet

ID	Demand (gpm)	Elevation (ft)	Head (ft)	Pressure (psi)
922	0.27	1,340.00	1,502.12	70.25
948	0.9	1,337.36	1,500.59	70.73
730	0.13	1,336.34	1,500.58	71.16
950	2.6	1,336.24	1,500.59	71.21
1482	4.73	1,338.32	1,503.51	71.58
1486	3.61	1,337.49	1,503.60	71.98
1456	9.26	1,335.76	1,503.31	72.6
1262	5.89	1,334.83	1,503.16	72.94
1438	6.33	1,334.11	1,503.38	73.35
930	4.02	1,331.87	1,501.83	73.64
604	2.73	1,331.67	1,501.84	73.73
934	13.79	1,331.62	1,501.83	73.75
1338	11.75	1,330.00	1,500.85	74.03
1800	1.32	1,331.79	1,503.39	74.35
602	12.3	1,329.66	1,502.07	74.71
1528	11.95	1,330.39	1,503.31	74.92
1436	19.1	1,330.00	1,503.42	75.14
874	1.54	1,329.63	1,503.20	75.21
902	0	1,329.21	1,503.20	75.39
1796	4.69	1,329.31	1,503.35	75.41
904	1.05	1,328.81	1,503.20	75.56
284	8.97	1,326.11	1,500.69	75.64
470	3.16	1,326.72	1,502.09	75.99
612	14.48	1,327.24	1,502.99	76.15
1530	10.87	1,327.36	1,503.30	76.24
732	8.29	1,325.91	1,502.08	76.34
912	0	1,325.73	1,502.08	76.41
914	3.38	1,325.63	1,502.08	76.46
910	1.33	1,325.53	1,502.08	76.5
66	7.83	1,324.64	1,502.54	77.09
1090	4.98	1,322.47	1,500.70	77.23
1794	5.38	1,325.01	1,503.35	77.28
1494	10.09	1,325.22	1,503.82	77.39
286	4.63	1,318.03	1,500.80	79.19
932	10.47	1,316.98	1,501.59	79.99
868	7.11	1,314.40	1,500.68	80.71
908	3.33	1,315.73	1,502.61	80.98
906	1.48	1,315.58	1,502.61	81.04
734	11.25	1,312.32	1,501.22	81.85
618	4.31	1,312.84	1,502.33	82.11
506	8.08	1,310.00	1,501.89	83.14

Tank Elevation: 1500 feet

ID	Demand (gpm)	Elevation (ft)	Head (ft)	Pressure (psi)
922	0.27	1,340.00	1,506.12	71.98
948	0.9	1,337.36	1,504.49	72.42
730	0.13	1,336.34	1,504.49	72.86
950	2.6	1,336.24	1,504.49	72.9
1482	4.73	1,338.32	1,507.81	73.44
1486	3.61	1,337.49	1,507.93	73.85
1456	9.26	1,335.76	1,507.55	74.44
1262	5.89	1,334.83	1,507.23	74.7
1438	6.33	1,334.11	1,507.62	75.18
930	4.02	1,331.87	1,505.82	75.37
604	2.73	1,331.67	1,505.83	75.46
934	13.79	1,331.62	1,505.82	75.48
1338	11.75	1,330.00	1,504.77	75.73
1800	1.32	1,331.79	1,507.62	76.19
602	12.3	1,329.66	1,506.07	76.44
1528	11.95	1,330.39	1,507.54	76.76
874	1.54	1,329.63	1,507.27	76.97
1436	19.1	1,330.00	1,507.64	76.97
902	0	1,329.21	1,507.27	77.15
1796	4.69	1,329.31	1,507.58	77.25
904	1.05	1,328.81	1,507.27	77.33
284	8.97	1,326.11	1,504.61	77.34
470	3.16	1,326.72	1,506.12	77.73
612	14.48	1,327.24	1,507.05	77.91
732	8.29	1,325.91	1,506.08	78.07
1530	10.87	1,327.36	1,507.54	78.07
912	0	1,325.73	1,506.08	78.15
914	3.38	1,325.63	1,506.08	78.19
910	1.33	1,325.53	1,506.08	78.23
66	7.83	1,324.64	1,506.53	78.82
1090	4.98	1,322.47	1,504.72	78.97
1794	5.38	1,325.01	1,507.58	79.11
1494	10.09	1,325.22	1,508.19	79.28
286	4.63	1,318.03	1,504.72	80.89
932	10.47	1,316.98	1,505.57	81.71
868	7.11	1,314.40	1,504.59	82.41
908	3.33	1,315.73	1,506.65	82.72
906	1.48	1,315.58	1,506.65	82.79
734	11.25	1,312.32	1,505.17	83.56
618	4.31	1,312.84	1,506.35	83.85
936	5.69	1,310.00	1,505.88	84.87

2040 Lower Operating Range Junction Pressures - Bottom of Domestic Storage - Site B

Tank Elevation: 1490 feet

ID	Demand (gpm)	Elevation (ft)	Head (ft)	Pressure (psi)
926	2.42	1,310.00	1,497.89	81.41
936	5.69	1,310.00	1,497.89	81.41
938	5.17	1,310.00	1,497.89	81.41
620	4.1	1,310.00	1,498.21	81.55
916	2.31	1,310.00	1,498.20	81.55
918	1.63	1,310.00	1,498.20	81.55
946	5.85	1,309.18	1,497.47	81.58
742	0	1,310.00	1,498.31	81.59
1230	0	1,310.00	1,498.31	81.59
1232	0	1,310.00	1,498.31	81.59
1354	0	1,310.00	1,498.31	81.59
1766	0	1,310.00	1,498.31	81.59
726	7.37	1,309.50	1,498.06	81.7
944	6.22	1,308.69	1,497.47	81.8
666	5.73	1,308.46	1,497.89	82.08
472	3.85	1,308.52	1,498.26	82.22
1804	0.39	1,308.89	1,499.48	82.58
928	3.58	1,304.96	1,497.97	83.63
924	6	1,304.54	1,497.97	83.81
J120	0	1,302.61	1,496.63	84.07
1092	15.5	1,302.32	1,496.69	84.22
504	7.22	1,301.51	1,497.89	85.09
1094	3.83	1,299.96	1,496.76	85.27
678	15.54	1,296.40	1,496.35	86.64
J116	0	1,271.14	1,471.69	86.9
540	6	1,284.92	1,489.14	88.49
680	10.29	1,291.48	1,496.23	88.72
958	1.49	1,285.00	1,495.69	91.29
960	4.01	1,285.00	1,495.69	91.29
1760	2.97	1,285.00	1,495.69	91.29
J118	0	1,270.34	1,483.42	92.33
952	0.2	1,281.68	1,495.98	92.86
1762	8.54	1,270.00	1,484.30	92.86
956	0.21	1,281.23	1,495.98	93.05
724	4.8	1,280.00	1,495.69	93.46
542	8.13	1,272.65	1,489.24	93.85
560	2.35	1,277.96	1,495.98	94.47

Tank Elevation: 1495 feet

ID	Demand (gpm)	Elevation (ft)	Head (ft)	Pressure (psi)
936	5.69	1,310.00	1,501.88	83.14
938	5.17	1,310.00	1,501.88	83.14
926	2.42	1,310.00	1,501.92	83.16
620	4.1	1,310.00	1,502.22	83.29
916	2.31	1,310.00	1,502.22	83.29
918	1.63	1,310.00	1,502.22	83.29
946	5.85	1,309.18	1,501.43	83.3
742	0	1,310.00	1,502.33	83.34
1230	0	1,310.00	1,502.33	83.34
1232	0	1,310.00	1,502.33	83.34
1354	0	1,310.00	1,502.33	83.34
1766	0	1,310.00	1,502.33	83.34
726	7.37	1,309.50	1,502.06	83.44
944	6.22	1,308.69	1,501.43	83.51
666	5.73	1,308.46	1,501.92	83.83
472	3.85	1,308.52	1,502.30	83.97
1804	0.39	1,308.89	1,503.86	84.48
928	3.58	1,304.96	1,501.99	85.37
924	6	1,304.54	1,501.99	85.55
J120	0	1,302.61	1,500.65	85.81
1092	15.5	1,302.32	1,500.71	85.96
504	7.22	1,301.51	1,501.88	86.82
1094	3.83	1,299.96	1,500.78	87.01
J116	0	1,271.14	1,473.28	87.59
678	15.54	1,296.40	1,500.23	88.32
540	6	1,284.92	1,492.44	89.92
680	10.29	1,291.48	1,500.11	90.4
958	1.49	1,285.00	1,499.52	92.95
960	4.01	1,285.00	1,499.52	92.95
1760	2.97	1,285.00	1,499.52	92.95
J118	0	1,270.34	1,486.15	93.51
1762	8.54	1,270.00	1,487.11	94.07
952	0.2	1,281.68	1,499.83	94.53
956	0.21	1,281.23	1,499.83	94.72
724	4.8	1,280.00	1,499.52	95.12
542	8.13	1,272.65	1,492.54	95.28
560	2.35	1,277.96	1,499.83	96.14

Tank Elevation: 1500 feet

ID	Demand (gpm)	Elevation (ft)	Head (ft)	Pressure (psi)
938	5.17	1,310.00	1,505.88	84.87
506	8.08	1,310.00	1,505.88	84.88
926	2.42	1,310.00	1,505.94	84.9
946	5.85	1,309.18	1,505.40	85.02
620	4.1	1,310.00	1,506.24	85.03
916	2.31	1,310.00	1,506.23	85.03
918	1.63	1,310.00	1,506.23	85.03
742	0	1,310.00	1,506.35	85.08
1230	0	1,310.00	1,506.35	85.08
1232	0	1,310.00	1,506.35	85.08
1354	0	1,310.00	1,506.35	85.08
1766	0	1,310.00	1,506.35	85.08
726	7.37	1,309.50	1,506.06	85.17
944	6.22	1,308.69	1,505.40	85.23
666	5.73	1,308.46	1,505.96	85.57
472	3.85	1,308.52	1,506.35	85.72
1804	0.39	1,308.89	1,508.24	86.38
928	3.58	1,304.96	1,506.01	87.11
924	6	1,304.54	1,506.01	87.3
J120	0	1,302.61	1,504.66	87.55
1092	15.5	1,302.32	1,504.73	87.7
J116	0	1,271.14	1,474.85	88.27
504	7.22	1,301.51	1,505.88	88.55
1094	3.83	1,299.96	1,504.80	88.75
678	15.54	1,296.40	1,504.12	90
540	6	1,284.92	1,495.73	91.34
680	10.29	1,291.48	1,503.99	92.08
958	1.49	1,285.00	1,503.35	94.61
960	4.01	1,285.00	1,503.35	94.61
1760	2.97	1,285.00	1,503.35	94.61
J118	0	1,270.34	1,488.87	94.69
1762	8.54	1,270.00	1,489.92	95.29
952	0.2	1,281.68	1,503.68	96.2
956	0.21	1,281.23	1,503.68	96.39
542	8.13	1,272.65	1,495.83	96.7
724	4.8	1,280.00	1,503.35	96.78
560	2.35	1,277.96	1,503.68	97.81

2023 Lower Operating Range Junction Pressures - Top of Domestic Storage - Site B

Tank Elevation: 1490 feet

ID	Demand (gpm)	Elevation (ft)	Head (ft)	Pressure (psi)
1704	0	1,374.26	1,397.99	10.28
1710	0	1,373.99	1,397.97	10.39
1706	0	1,373.88	1,397.99	10.45
1708	0	1,373.51	1,397.99	10.61
1476	12.48	1,395.49	1,519.11	53.56
1816	61.3	1,394.50	1,519.24	54.05
1814	0	1,391.17	1,519.31	55.52
1474	13.04	1,390.00	1,519.11	55.94
1498	4.53	1,382.46	1,519.23	59.26
1812	13.97	1,380.00	1,519.33	60.37
1470	4.4	1,376.53	1,519.12	61.78
1468	8.92	1,375.18	1,519.12	62.37
1204	1.82	1,377.46	1,521.50	62.41
878	6.86	1,377.11	1,521.44	62.54
1466	5.76	1,374.44	1,519.14	62.7
1472	4.49	1,374.25	1,519.12	62.77
1260	0	1,376.56	1,522.08	63.06
1714	0	1,376.39	1,522.11	63.14
1712	0	1,376.22	1,522.13	63.22
J40	88.18	1,373.06	1,519.40	63.41
1768	91.77	1,373.62	1,519.98	63.42
1434	0.55	1,371.80	1,520.85	64.58
1462	17.24	1,369.96	1,519.16	64.65
882	1.17	1,371.34	1,520.85	64.78
1460	0.95	1,368.81	1,519.16	65.15
884	9.22	1,370.00	1,520.46	65.19
1504	22.33	1,368.53	1,519.13	65.25
1464	4.89	1,368.41	1,519.16	65.32
610	1.76	1,368.94	1,520.61	65.72
1496	8.81	1,365.96	1,519.22	66.41
900	0.4	1,367.38	1,520.84	66.49
1356	5.04	1,367.27	1,520.83	66.54
870	2.59	1,366.82	1,520.62	66.64
898	0.27	1,366.94	1,520.84	66.68
1452	6.66	1,365.32	1,519.25	66.7
408	4.6	1,366.42	1,520.38	66.71
1442	3.93	1,363.09	1,519.30	67.69
1444	4.75	1,362.57	1,519.30	67.91
1522	5.25	1,361.89	1,519.17	68.15
940	4.03	1,362.55	1,520.19	68.31
880	2.89	1,362.50	1,520.77	68.58
942	2.73	1,361.81	1,520.19	68.63
1446	6.54	1,359.51	1,519.26	69.22
1510	4.78	1,358.89	1,519.12	69.42
1508	31.43	1,358.50	1,519.12	69.6
68	6.35	1,360.00	1,520.71	69.64

Tank Elevation: 1495 feet

ID	Demand (gpm)	Elevation (ft)	Head (ft)	Pressure (psi)
1704	0	1,374.26	1,397.99	10.28
1710	0	1,373.99	1,397.97	10.39
1706	0	1,373.88	1,397.99	10.45
1708	0	1,373.51	1,397.99	10.61
1476	12.48	1,395.49	1,523.79	55.59
1816	61.3	1,394.50	1,524.01	56.12
1814	0	1,391.17	1,524.12	57.61
1474	13.04	1,390.00	1,523.79	57.97
1498	4.53	1,382.46	1,524.01	61.33
1812	13.97	1,380.00	1,524.15	62.46
1470	4.4	1,376.53	1,523.80	63.81
1204	1.82	1,377.46	1,525.80	64.28
878	6.86	1,377.11	1,525.74	64.4
1468	8.92	1,375.18	1,523.80	64.4
1466	5.76	1,374.44	1,523.82	64.72
1472	4.49	1,374.25	1,523.80	64.8
1260	0	1,376.56	1,526.34	64.9
1714	0	1,376.39	1,526.36	64.98
1712	0	1,376.22	1,526.38	65.07
J40	88.18	1,373.06	1,524.24	65.51
1768	91.77	1,373.62	1,524.98	65.58
1434	0.55	1,371.80	1,525.23	66.48
882	1.17	1,371.34	1,525.22	66.68
1462	17.24	1,369.96	1,523.85	66.68
884	9.22	1,370.00	1,524.79	67.07
1460	0.95	1,368.81	1,523.85	67.18
1504	22.33	1,368.53	1,523.87	67.31
1464	4.89	1,368.41	1,523.85	67.35
610	1.76	1,368.94	1,524.97	67.61
900	0.4	1,367.38	1,525.21	68.39
1356	5.04	1,367.27	1,525.20	68.43
1496	8.81	1,365.96	1,523.99	68.47
870	2.59	1,366.82	1,524.98	68.53
898	0.27	1,366.94	1,525.21	68.58
408	4.6	1,366.42	1,524.71	68.59
1452	6.66	1,365.32	1,523.97	68.74
1442	3.93	1,363.09	1,523.99	69.72
1444	4.75	1,362.57	1,523.99	69.94
940	4.03	1,362.55	1,524.53	70.18
1522	5.25	1,361.89	1,523.91	70.2
880	2.89	1,362.50	1,525.13	70.47
942	2.73	1,361.81	1,524.53	70.5
1446	6.54	1,359.51	1,523.94	71.25
1510	4.78	1,358.89	1,523.86	71.48
68	6.35	1,360.00	1,525.04	71.51
1508	31.43	1,358.50	1,523.86	71.65

Tank Elevation: 1500 feet

ID	Demand (gpm)	Elevation (ft)	Head (ft)	Pressure (psi)
1704	0	1,374.26	1,397.99	10.28
1710	0	1,373.99	1,397.97	10.39
1706	0	1,373.88	1,397.99	10.45
1708	0	1,373.51	1,397.99	10.61
1476	12.48	1,395.49	1,528.45	57.61
1816	61.3	1,394.50	1,528.76	58.18
1814	0	1,391.17	1,528.91	59.68
1474	13.04	1,390.00	1,528.45	59.99
1498	4.53	1,382.46	1,528.76	63.39
1812	13.97	1,380.00	1,528.95	64.54
1470	4.4	1,376.53	1,528.47	65.83
1204	1.82	1,377.46	1,530.13	66.15
878	6.86	1,377.11	1,530.07	66.28
1468	8.92	1,375.18	1,528.47	66.42
1466	5.76	1,374.44	1,528.48	66.75
1260	0	1,376.56	1,530.62	66.76
1472	4.49	1,374.25	1,528.47	66.82
1714	0	1,376.39	1,530.65	66.84
1712	0	1,376.22	1,530.66	66.92
J40	88.18	1,373.06	1,529.08	67.6
1768	91.77	1,373.62	1,529.98	67.75
1434	0.55	1,371.80	1,529.62	68.38
882	1.17	1,371.34	1,529.62	68.58
1462	17.24	1,369.96	1,528.51	68.7
884	9.22	1,370.00	1,529.14	68.95
1460	0.95	1,368.81	1,528.51	69.2
1504	22.33	1,368.53	1,528.58	69.35
1464	4.89	1,368.41	1,528.51	69.37
610	1.76	1,368.94	1,529.36	69.51
900	0.4	1,367.38	1,529.60	70.29
1356	5.04	1,367.27	1,529.59	70.34
870	2.59	1,366.82	1,529.37	70.43
408	4.6	1,366.42	1,529.07	70.47
898	0.27	1,366.94	1,529.60	70.48
1496	8.81	1,365.96	1,528.72	70.52
1452	6.66	1,365.32	1,528.66	70.78
1442	3.93	1,363.09	1,528.67	71.75
1444	4.75	1,362.57	1,528.67	71.97
940	4.03	1,362.55	1,528.88	72.07
1522	5.25	1,361.89	1,528.61	72.24
880	2.89	1,362.50	1,529.52	72.37
942	2.73	1,361.81	1,528.88	72.39
1446	6.54	1,359.51	1,528.61	73.27
68	6.35	1,360.00	1,529.39	73.39
1510	4.78	1,358.89	1,528.57	73.52
1508	31.43	1,358.50	1,528.57	73.69

2023 Lower Operating Range Junction Pressures - Top of Domestic Storage - Site B

Tank Elevation: 1490 feet

ID	Demand (gpm)	Elevation (ft)	Head (ft)	Pressure (psi)
1454	7.62	1,358.53	1,519.34	69.68
1802	3.69	1,357.95	1,519.25	69.89
702	7.79	1,357.85	1,520.20	70.35
1458	1.9	1,356.87	1,519.25	70.36
1500	1.96	1,355.65	1,519.18	70.86
1450	0.75	1,355.64	1,519.26	70.9
1502	1.45	1,355.07	1,519.15	71.1
1478	3.24	1,354.74	1,519.25	71.28
1524	9.63	1,354.07	1,519.16	71.53
1448	3.52	1,354.15	1,519.26	71.54
1526	9.73	1,353.94	1,519.16	71.59
1520	6.6	1,353.42	1,519.17	71.82
1506	3.86	1,352.90	1,519.15	72.03
1512	3.75	1,352.48	1,519.12	72.2
1490	4.68	1,350.25	1,519.21	73.21
1488	3.85	1,349.40	1,519.21	73.58
1440	6.13	1,348.72	1,519.36	73.94
714	5.87	1,349.85	1,520.69	74.03
1514	3.45	1,347.49	1,519.20	74.4
872	10.21	1,348.43	1,520.50	74.56
1516	6	1,345.95	1,519.17	75.06
1798	6.73	1,345.89	1,519.29	75.13
1518	4.96	1,345.28	1,519.17	75.35
1492	2.53	1,345.22	1,519.21	75.39
406	8.21	1,345.40	1,520.20	75.74
1792	6.21	1,344.32	1,519.29	75.82
1480	6.41	1,344.14	1,519.23	75.87
876	6.1	1,343.52	1,519.69	76.33
1484	3.68	1,342.46	1,519.21	76.59
598	7.96	1,341.50	1,518.93	76.88
920	4.78	1,340.00	1,520.32	78.13
922	2.52	1,340.00	1,520.32	78.13
1482	6.63	1,338.32	1,519.23	78.39
1486	4.11	1,337.49	1,519.21	78.74
948	1.47	1,337.36	1,520.05	79.16
1456	6.52	1,335.76	1,519.34	79.54
730	1.75	1,336.34	1,520.05	79.6
950	5.31	1,336.24	1,520.05	79.64
1438	5.4	1,334.11	1,519.43	80.3
1262	3.25	1,334.83	1,520.60	80.49
1800	2.32	1,331.79	1,519.51	81.34
930	5.28	1,331.87	1,520.17	81.59
604	3.29	1,331.67	1,520.17	81.68
934	4.34	1,331.62	1,520.17	81.7
1528	4.38	1,330.39	1,519.33	81.87
1436	3.51	1,330.00	1,519.66	82.18

Tank Elevation: 1495 feet

ID	Demand (gpm)	Elevation (ft)	Head (ft)	Pressure (psi)
1454	7.62	1,358.53	1,524.02	71.71
1802	3.69	1,357.95	1,523.93	71.92
702	7.79	1,357.85	1,524.54	72.22
1458	1.9	1,356.87	1,523.93	72.39
1500	1.96	1,355.65	1,523.92	72.91
1450	0.75	1,355.64	1,523.97	72.94
1502	1.45	1,355.07	1,523.89	73.15
1478	3.24	1,354.74	1,523.97	73.33
1448	3.52	1,354.15	1,523.97	73.59
1524	9.63	1,354.07	1,523.90	73.59
1526	9.73	1,353.94	1,523.90	73.64
1520	6.6	1,353.42	1,523.91	73.87
1506	3.86	1,352.90	1,523.89	74.09
1512	3.75	1,352.48	1,523.86	74.26
1490	4.68	1,350.25	1,523.96	75.27
1488	3.85	1,349.40	1,523.95	75.63
714	5.87	1,349.85	1,525.05	75.91
1440	6.13	1,348.72	1,524.04	75.96
872	10.21	1,348.43	1,524.87	76.45
1514	3.45	1,347.49	1,523.94	76.46
1516	6	1,345.95	1,523.91	77.11
1798	6.73	1,345.89	1,523.97	77.16
1518	4.96	1,345.28	1,523.91	77.4
1492	2.53	1,345.22	1,523.96	77.45
406	8.21	1,345.40	1,524.54	77.62
1792	6.21	1,344.32	1,523.97	77.84
1480	6.41	1,344.14	1,523.96	77.92
876	6.1	1,343.52	1,524.05	78.23
1484	3.68	1,342.46	1,523.95	78.64
598	7.96	1,341.50	1,523.28	78.77
920	4.78	1,340.00	1,524.66	80.01
922	2.52	1,340.00	1,524.66	80.01
1482	6.63	1,338.32	1,523.96	80.44
1486	4.11	1,337.49	1,523.95	80.79
948	1.47	1,337.36	1,524.39	81.04
730	1.75	1,336.34	1,524.39	81.48
950	5.31	1,336.24	1,524.39	81.52
1456	6.52	1,335.76	1,524.01	81.57
1438	5.4	1,334.11	1,524.09	82.32
1262	3.25	1,334.83	1,524.96	82.38
1800	2.32	1,331.79	1,524.16	83.35
930	5.28	1,331.87	1,524.52	83.47
604	3.29	1,331.67	1,524.52	83.56
934	4.34	1,331.62	1,524.52	83.58
1528	4.38	1,330.39	1,524.01	83.9
1436	3.51	1,330.00	1,524.27	84.18

Tank Elevation: 1500 feet

ID	Demand (gpm)	Elevation (ft)	Head (ft)	Pressure (psi)
1454	7.62	1,358.53	1,528.68	73.73
1802	3.69	1,357.95	1,528.59	73.94
702	7.79	1,357.85	1,528.89	74.11
1458	1.9	1,356.87	1,528.60	74.41
1500	1.96	1,355.65	1,528.63	74.95
1450	0.75	1,355.64	1,528.66	74.97
1502	1.45	1,355.07	1,528.60	75.19
1478	3.24	1,354.74	1,528.66	75.36
1448	3.52	1,354.15	1,528.66	75.62
1524	9.63	1,354.07	1,528.61	75.63
1526	9.73	1,353.94	1,528.60	75.68
1520	6.6	1,353.42	1,528.61	75.91
1506	3.86	1,352.90	1,528.60	76.13
1512	3.75	1,352.48	1,528.57	76.3
1490	4.68	1,350.25	1,528.68	77.31
1488	3.85	1,349.40	1,528.66	77.67
714	5.87	1,349.85	1,529.43	77.81
1440	6.13	1,348.72	1,528.70	77.98
872	10.21	1,348.43	1,529.25	78.35
1514	3.45	1,347.49	1,528.65	78.5
1516	6	1,345.95	1,528.62	79.15
1798	6.73	1,345.89	1,528.62	79.18
1518	4.96	1,345.28	1,528.62	79.44
1492	2.53	1,345.22	1,528.68	79.49
406	8.21	1,345.40	1,528.89	79.51
1792	6.21	1,344.32	1,528.62	79.86
1480	6.41	1,344.14	1,528.66	79.95
876	6.1	1,343.52	1,528.44	80.13
598	7.96	1,341.50	1,527.65	80.66
1484	3.68	1,342.46	1,528.66	80.68
920	4.78	1,340.00	1,529.02	81.9
922	2.52	1,340.00	1,529.02	81.9
1482	6.63	1,338.32	1,528.66	82.47
1486	4.11	1,337.49	1,528.66	82.83
948	1.47	1,337.36	1,528.75	82.93
730	1.75	1,336.34	1,528.75	83.37
950	5.31	1,336.24	1,528.75	83.41
1456	6.52	1,335.76	1,528.68	83.59
1262	3.25	1,334.83	1,529.35	84.28
1438	5.4	1,334.11	1,528.74	84.33
930	5.28	1,331.87	1,528.88	85.36
1800	2.32	1,331.79	1,528.79	85.36
604	3.29	1,331.67	1,528.88	85.45
934	4.34	1,331.62	1,528.88	85.47
1528	4.38	1,330.39	1,528.67	85.92
1338	9.95	1,330.00	1,528.80	86.14

2023 Lower Operating Range Junction Pressures - Top of Domestic Storage - Site B

Tank Elevation: 1490 feet

ID	Demand (gpm)	Elevation (ft)	Head (ft)	Pressure (psi)
1338	9.95	1,330.00	1,520.11	82.37
1796	6.72	1,329.31	1,519.47	82.4
602	5.09	1,329.66	1,520.29	82.6
874	1.61	1,329.63	1,520.60	82.75
902	0.04	1,329.21	1,520.60	82.93
904	1.98	1,328.81	1,520.60	83.11
1530	9.65	1,327.36	1,519.33	83.18
612	10.45	1,327.24	1,520.52	83.75
284	8.32	1,326.11	1,519.95	83.99
470	5.32	1,326.72	1,520.56	83.99
1494	10.73	1,325.22	1,519.20	84.05
732	5.17	1,325.91	1,520.28	84.22
1794	7.55	1,325.01	1,519.47	84.26
912	0.1	1,325.73	1,520.27	84.3
914	2.06	1,325.63	1,520.27	84.34
910	3.56	1,325.53	1,520.27	84.38
66	5.64	1,324.64	1,520.68	84.95
1090	0	1,322.47	1,520.51	85.81
286	9.28	1,318.03	1,520.05	87.54
932	12.91	1,316.98	1,520.11	88.02
908	4.35	1,315.73	1,520.37	88.67
906	4.12	1,315.58	1,520.37	88.73
868	5.74	1,314.40	1,520.05	89.11
618	9.72	1,312.84	1,520.27	89.88
734	18.99	1,312.32	1,520.08	90.02
506	6.28	1,310.00	1,520.16	91.06
936	10.91	1,310.00	1,520.15	91.06
938	3.26	1,310.00	1,520.15	91.06
916	2.09	1,310.00	1,520.24	91.09
918	4.27	1,310.00	1,520.23	91.09
620	5.45	1,310.00	1,520.24	91.1
742	0	1,310.00	1,520.27	91.11
1230	0	1,310.00	1,520.27	91.11
1232	0	1,310.00	1,520.27	91.11
1354	0	1,310.00	1,520.27	91.11
1766	0	1,310.00	1,520.27	91.11
1804	0	1,308.89	1,519.33	91.18
926	3.36	1,310.00	1,520.56	91.23
726	8.6	1,309.50	1,520.21	91.3
946	4.71	1,309.18	1,520.09	91.39
944	11.35	1,308.69	1,520.09	91.6
666	10.03	1,308.46	1,520.09	91.7
472	7.21	1,308.52	1,520.57	91.88
928	2.74	1,304.96	1,520.57	93.42
924	4.11	1,304.54	1,520.57	93.61
1092	6.65	1,302.32	1,520.51	94.54

Tank Elevation: 1495 feet

ID	Demand (gpm)	Elevation (ft)	Head (ft)	Pressure (psi)
1338	9.95	1,330.00	1,524.44	84.25
1796	6.72	1,329.31	1,524.11	84.41
602	5.09	1,329.66	1,524.63	84.48
874	1.61	1,329.63	1,524.97	84.64
902	0.04	1,329.21	1,524.97	84.82
904	1.98	1,328.81	1,524.97	85
1530	9.65	1,327.36	1,524.01	85.21
612	10.45	1,327.24	1,524.88	85.64
284	8.32	1,326.11	1,524.29	85.87
470	5.32	1,326.72	1,524.90	85.87
732	5.17	1,325.91	1,524.62	86.1
1494	10.73	1,325.22	1,523.95	86.11
912	0.1	1,325.73	1,524.62	86.18
914	2.06	1,325.63	1,524.62	86.22
910	3.56	1,325.53	1,524.62	86.26
1794	7.55	1,325.01	1,524.11	86.27
66	5.64	1,324.64	1,525.01	86.82
1090	0	1,322.47	1,524.86	87.7
286	9.28	1,318.03	1,524.39	89.42
932	12.91	1,316.98	1,524.45	89.9
908	4.35	1,315.73	1,524.72	90.56
906	4.12	1,315.58	1,524.72	90.62
868	5.74	1,314.40	1,524.39	90.99
618	9.72	1,312.84	1,524.62	91.77
734	18.99	1,312.32	1,524.42	91.9
506	6.28	1,310.00	1,524.50	92.94
936	10.91	1,310.00	1,524.50	92.94
938	3.26	1,310.00	1,524.50	92.94
620	5.45	1,310.00	1,524.59	92.98
916	2.09	1,310.00	1,524.58	92.98
918	4.27	1,310.00	1,524.58	92.98
742	0	1,310.00	1,524.62	93
1230	0	1,310.00	1,524.62	93
1232	0	1,310.00	1,524.62	93
1354	0	1,310.00	1,524.62	93
1766	0	1,310.00	1,524.62	93
926	3.36	1,310.00	1,524.90	93.12
726	8.6	1,309.50	1,524.56	93.18
946	4.71	1,309.18	1,524.43	93.27
1804	0	1,308.89	1,524.15	93.27
944	11.35	1,308.69	1,524.43	93.48
666	10.03	1,308.46	1,524.43	93.58
472	7.21	1,308.52	1,524.92	93.77
928	2.74	1,304.96	1,524.91	95.3
924	4.11	1,304.54	1,524.91	95.49
1092	6.65	1,302.32	1,524.86	96.43

Tank Elevation: 1500 feet

ID	Demand (gpm)	Elevation (ft)	Head (ft)	Pressure (psi)
1436	3.51	1,330.00	1,528.88	86.17
602	5.09	1,329.66	1,528.99	86.37
1796	6.72	1,329.31	1,528.75	86.42
874	1.61	1,329.63	1,529.36	86.54
902	0.04	1,329.21	1,529.36	86.72
904	1.98	1,328.81	1,529.36	86.9
1530	9.65	1,327.36	1,528.67	87.23
612	10.45	1,327.24	1,529.27	87.54
284	8.32	1,326.11	1,528.65	87.76
470	5.32	1,326.72	1,529.26	87.76
732	5.17	1,325.91	1,528.98	87.99
912	0.1	1,325.73	1,528.98	88.07
914	2.06	1,325.63	1,528.98	88.11
910	3.56	1,325.53	1,528.98	88.15
1494	10.73	1,325.22	1,528.67	88.16
1794	7.55	1,325.01	1,528.75	88.28
66	5.64	1,324.64	1,529.36	88.7
1090	0	1,322.47	1,529.22	89.59
286	9.28	1,318.03	1,528.75	91.31
932	12.91	1,316.98	1,528.82	91.79
908	4.35	1,315.73	1,529.10	92.45
906	4.12	1,315.58	1,529.10	92.52
868	5.74	1,314.40	1,528.75	92.88
618	9.72	1,312.84	1,528.99	93.66
734	18.99	1,312.32	1,528.78	93.79
506	6.28	1,310.00	1,528.87	94.83
936	10.91	1,310.00	1,528.87	94.83
938	3.26	1,310.00	1,528.87	94.83
620	5.45	1,310.00	1,528.96	94.87
916	2.09	1,310.00	1,528.95	94.87
918	4.27	1,310.00	1,528.95	94.87
742	0	1,310.00	1,528.99	94.89
1230	0	1,310.00	1,528.99	94.89
1232	0	1,310.00	1,528.99	94.89
1354	0	1,310.00	1,528.99	94.89
1766	0	1,310.00	1,528.99	94.89
926	3.36	1,310.00	1,529.26	95.01
726	8.6	1,309.50	1,528.93	95.08
946	4.71	1,309.18	1,528.80	95.16
1804	0	1,308.89	1,528.95	95.35
944	11.35	1,308.69	1,528.80	95.37
666	10.03	1,308.46	1,528.80	95.47
472	7.21	1,308.52	1,529.28	95.66
928	2.74	1,304.96	1,529.27	97.19
924	4.11	1,304.54	1,529.27	97.38
1092	6.65	1,302.32	1,529.22	98.32

2023 Lower Operating Range Junction Pressures - Top of Domestic Storage - Site B

Tank Elevation: 1490 feet

ID	Demand (gpm)	Elevation (ft)	Head (ft)	Pressure (psi)
504	9.62	1,301.51	1,520.16	94.74
1094	7.88	1,299.96	1,520.52	95.57
678	11.62	1,296.40	1,520.02	96.89
680	16.48	1,291.48	1,519.72	98.89
540	7.98	1,284.92	1,519.67	101.72
958	1.41	1,285.00	1,519.98	101.82
960	5.33	1,285.00	1,519.98	101.82
1760	0.47	1,285.00	1,519.98	101.82
952	0.58	1,281.68	1,520.00	103.26
956	0.64	1,281.23	1,520.00	103.46
724	5.89	1,280.00	1,519.98	103.99
560	4.11	1,277.96	1,520.00	104.88
558	11.3	1,276.35	1,519.99	105.57
542	7.66	1,272.65	1,519.83	107.1
1762	8.77	1,270.00	1,519.85	108.26

Tank Elevation: 1495 feet

ID	Demand (gpm)	Elevation (ft)	Head (ft)	Pressure (psi)
504	9.62	1,301.51	1,524.50	96.62
1094	7.88	1,299.96	1,524.87	97.45
678	11.62	1,296.40	1,524.36	98.77
680	16.48	1,291.48	1,524.05	100.77
540	7.98	1,284.92	1,524.00	103.59
958	1.41	1,285.00	1,524.32	103.7
960	5.33	1,285.00	1,524.32	103.7
1760	0.47	1,285.00	1,524.32	103.7
952	0.58	1,281.68	1,524.33	105.14
956	0.64	1,281.23	1,524.33	105.34
724	5.89	1,280.00	1,524.32	105.86
560	4.11	1,277.96	1,524.33	106.76
558	11.3	1,276.35	1,524.33	107.45
542	7.66	1,272.65	1,524.17	108.98
1762	8.77	1,270.00	1,524.19	110.14

Tank Elevation: 1500 feet

ID	Demand (gpm)	Elevation (ft)	Head (ft)	Pressure (psi)
504	9.62	1,301.51	1,528.87	98.51
1094	7.88	1,299.96	1,529.23	99.34
678	11.62	1,296.40	1,528.71	100.66
680	16.48	1,291.48	1,528.41	102.66
540	7.98	1,284.92	1,528.36	105.48
958	1.41	1,285.00	1,528.68	105.59
960	5.33	1,285.00	1,528.68	105.59
1760	0.47	1,285.00	1,528.68	105.59
952	0.58	1,281.68	1,528.69	107.03
956	0.64	1,281.23	1,528.69	107.22
724	5.89	1,280.00	1,528.68	107.75
560	4.11	1,277.96	1,528.69	108.64
558	11.3	1,276.35	1,528.69	109.34
542	7.66	1,272.65	1,528.53	110.87
1762	8.77	1,270.00	1,528.54	112.03

2040 Lower Operating Range Junction Pressures - Top of Domestic Storage -Site B

Tank Elevation: 1490 feet

ID	Demand (gpm)	Elevation (ft)	Head (ft)	Pressure (psi)
1704	0	1,374.26	1,397.99	10.28
1710	0	1,373.99	1,397.96	10.39
1706	0	1,373.88	1,397.99	10.44
1708	0	1,373.51	1,397.99	10.61
J28	43.4	1,420.00	1,512.76	40.19
1776	3.65	1,420.12	1,514.73	41
1476	18.63	1,395.49	1,508.75	49.08
J122	0	1,398.33	1,512.06	49.28
1816	24.58	1,394.50	1,510.26	50.16
1474	12.68	1,390.00	1,508.76	51.46
1814	6.94	1,391.17	1,510.58	51.74
1498	3.73	1,382.46	1,510.22	55.36
1812	304.52	1,380.00	1,510.66	56.62
1470	19.2	1,376.53	1,508.75	57.29
1204	1.03	1,377.46	1,509.98	57.42
878	4.73	1,377.11	1,509.85	57.52
1468	10.43	1,375.18	1,508.78	57.89
1260	0	1,376.56	1,510.69	58.12
1714	0	1,376.39	1,510.73	58.21
1466	8.47	1,374.44	1,508.82	58.23
1472	16.96	1,374.25	1,508.75	58.28
1712	0	1,376.22	1,510.76	58.3
884	7.14	1,370.00	1,507.53	59.59
1434	0.07	1,371.80	1,509.47	59.65
882	2.24	1,371.34	1,509.46	59.85
1462	15.01	1,369.96	1,508.90	60.2
J40	27.78	1,373.06	1,512.48	60.41
610	0.38	1,368.94	1,508.89	60.64
1460	0.68	1,368.81	1,508.90	60.7
1464	3.48	1,368.41	1,508.90	60.87
408	4.47	1,366.42	1,507.32	61.05
1504	29.46	1,368.53	1,509.97	61.28
900	0.05	1,367.38	1,509.43	61.55
870	2.88	1,366.82	1,508.91	61.57
1356	3.96	1,367.27	1,509.41	61.59
898	0.04	1,366.94	1,509.43	61.74
1452	4.75	1,365.32	1,509.40	62.43
1496	22.13	1,365.96	1,510.09	62.45
940	2.23	1,362.55	1,506.77	62.49
942	1.29	1,361.81	1,506.77	62.81
J30	344.46	1,365.14	1,510.99	63.2
1768	35.06	1,373.62	1,519.66	63.28
1442	12.93	1,363.09	1,509.30	63.35
880	3.01	1,362.50	1,509.08	63.51
1444	8.54	1,362.57	1,509.29	63.57
1522	16.48	1,361.89	1,509.39	63.91
68	1.05	1,360.00	1,508.19	64.21
702	7.32	1,357.85	1,506.78	64.53
1446	19.4	1,359.51	1,509.11	64.82
1454	17.71	1,358.53	1,509.24	65.3
J24	479.3	1,367.49	1,518.36	65.37

Tank Elevation: 1495 feet

ID	Demand (gpm)	Elevation (ft)	Head (ft)	Pressure (psi)
1704	0	1,374.26	1,397.99	10.28
1710	0	1,373.99	1,397.97	10.39
1706	0	1,373.88	1,397.99	10.45
1708	0	1,373.51	1,397.99	10.61
J28	43.4	1,420.00	1,517.37	42.19
1776	3.65	1,420.12	1,519.46	43.04
1476	18.63	1,395.49	1,512.81	50.84
J122	0	1,398.33	1,516.63	51.26
1816	24.58	1,394.50	1,514.56	52.02
1474	12.68	1,390.00	1,512.82	53.22
1814	6.94	1,391.17	1,514.92	53.62
1498	3.73	1,382.46	1,514.52	57.22
1812	304.52	1,380.00	1,515.01	58.5
1470	19.2	1,376.53	1,512.81	59.05
1204	1.03	1,377.46	1,513.85	59.1
878	4.73	1,377.11	1,513.72	59.19
1468	10.43	1,375.18	1,512.84	59.65
1260	0	1,376.56	1,514.52	59.78
1714	0	1,376.39	1,514.55	59.87
1712	0	1,376.22	1,514.58	59.95
1466	8.47	1,374.44	1,512.88	59.98
1472	16.96	1,374.25	1,512.81	60.04
884	7.14	1,370.00	1,511.36	61.25
1434	0.07	1,371.80	1,513.41	61.36
882	2.24	1,371.34	1,513.40	61.56
1462	15.01	1,369.96	1,512.96	61.96
610	0.38	1,368.94	1,512.81	62.34
J40	27.78	1,373.06	1,516.96	62.35
1460	0.68	1,368.81	1,512.96	62.46
1464	3.48	1,368.41	1,512.96	62.63
408	4.47	1,366.42	1,511.14	62.71
1504	29.46	1,368.53	1,514.25	63.14
900	0.05	1,367.38	1,513.37	63.26
870	2.88	1,366.82	1,512.83	63.27
1356	3.96	1,367.27	1,513.35	63.3
898	0.04	1,366.94	1,513.37	63.45
940	2.23	1,362.55	1,510.57	64.14
1452	4.75	1,365.32	1,513.51	64.21
1496	22.13	1,365.96	1,514.36	64.3
942	1.29	1,361.81	1,510.57	64.46
1442	12.93	1,363.09	1,513.37	65.12
J30	344.46	1,365.14	1,515.49	65.15
880	3.01	1,362.50	1,513.01	65.21
1444	8.54	1,362.57	1,513.36	65.34
1768	35.06	1,373.62	1,524.64	65.44
1522	16.48	1,361.89	1,513.57	65.72
68	1.05	1,360.00	1,512.04	65.88
702	7.32	1,357.85	1,510.57	66.17
1446	19.4	1,359.51	1,513.17	66.58
1454	17.71	1,358.53	1,513.30	67.06
1802	9.13	1,357.95	1,513.13	67.24

Tank Elevation: 1500 feet

ID	Demand (gpm)	Elevation (ft)	Head (ft)	Pressure (psi)
1704	0	1,374.26	1,397.99	10.28
1710	0	1,373.99	1,397.97	10.39
1706	0	1,373.88	1,397.99	10.45
1708	0	1,373.51	1,397.99	10.61
J28	43.4	1,420.00	1,521.98	44.19
1776	3.65	1,420.12	1,524.19	45.09
1476	18.63	1,395.49	1,516.83	52.58
J122	0	1,398.33	1,521.19	53.24
1816	24.58	1,394.50	1,518.84	53.88
1474	12.68	1,390.00	1,516.83	54.96
1814	6.94	1,391.17	1,519.24	55.49
1498	3.73	1,382.46	1,518.80	59.07
1812	304.52	1,380.00	1,519.34	60.38
1204	1.03	1,377.46	1,517.72	60.77
1470	19.2	1,376.53	1,516.82	60.79
878	4.73	1,377.11	1,517.59	60.87
1468	10.43	1,375.18	1,516.85	61.38
1260	0	1,376.56	1,518.34	61.44
1714	0	1,376.39	1,518.37	61.52
1712	0	1,376.22	1,518.40	61.61
1466	8.47	1,374.44	1,516.89	61.72
1472	16.96	1,374.25	1,516.82	61.78
884	7.14	1,370.00	1,515.18	62.91
1434	0.07	1,371.80	1,517.34	63.06
882	2.24	1,371.34	1,517.34	63.26
1462	15.01	1,369.96	1,516.97	63.7
610	0.38	1,368.94	1,516.72	64.03
1460	0.68	1,368.81	1,516.97	64.2
J40	27.78	1,373.06	1,521.43	64.29
408	4.47	1,366.42	1,514.95	64.36
1464	3.48	1,368.41	1,516.97	64.37
870	2.88	1,366.82	1,516.75	64.96
900	0.05	1,367.38	1,517.30	64.96
1504	29.46	1,368.53	1,518.52	64.99
1356	3.96	1,367.27	1,517.29	65
898	0.04	1,366.94	1,517.30	65.15
940	2.23	1,362.55	1,514.37	65.78
1452	4.75	1,365.32	1,517.59	65.98
942	1.29	1,361.81	1,514.37	66.1
1496	22.13	1,365.96	1,518.62	66.15
1442	12.93	1,363.09	1,517.40	66.86
880	3.01	1,362.50	1,516.93	66.91
1444	8.54	1,362.57	1,517.38	67.08
J30	344.46	1,365.14	1,519.98	67.09
1522	16.48	1,361.89	1,517.73	67.52
68	1.05	1,360.00	1,515.88	67.54
1768	35.06	1,373.62	1,529.62	67.59
702	7.32	1,357.85	1,514.37	67.82
1446	19.4	1,359.51	1,517.19	68.32
1454	17.71	1,358.53	1,517.31	68.8
1802	9.13	1,357.95	1,517.14	68.98

2040 Lower Operating Range Junction Pressures - Top of Domestic Storage -Site B

Tank Elevation: 1490 feet

ID	Demand (gpm)	Elevation (ft)	Head (ft)	Pressure (psi)
1802	9.13	1,357.95	1,509.06	65.48
1508	11.88	1,358.50	1,510.39	65.81
1510	4.56	1,358.89	1,510.96	65.89
1458	1.36	1,356.87	1,509.08	65.95
1450	4	1,355.64	1,509.41	66.63
1500	1.4	1,355.65	1,509.94	66.85
1478	8.29	1,354.74	1,509.42	67.02
1502	3.27	1,355.07	1,510.00	67.13
1448	5.21	1,354.15	1,509.39	67.27
1524	18.64	1,354.07	1,509.39	67.3
1526	13.87	1,353.94	1,509.39	67.36
1520	16.81	1,353.42	1,509.39	67.58
1506	9.76	1,352.90	1,510.06	68.09
1512	7.29	1,352.48	1,510.96	68.67
714	4.92	1,349.85	1,508.71	68.83
1490	24.77	1,350.25	1,509.94	69.19
872	11.34	1,348.43	1,508.77	69.47
1488	2.74	1,349.40	1,509.87	69.53
1440	16.39	1,348.72	1,509.29	69.57
406	5.71	1,345.40	1,507.23	70.12
1514	6.08	1,347.49	1,509.56	70.22
1798	4.8	1,345.89	1,509.11	70.72
1516	16.38	1,345.95	1,509.42	70.83
598	10.78	1,341.50	1,505.08	70.88
876	7.12	1,343.52	1,507.67	71.12
1518	14.85	1,345.28	1,509.42	71.12
1492	6.29	1,345.22	1,509.94	71.37
1792	4.42	1,344.32	1,509.11	71.4
1480	4.71	1,344.14	1,509.50	71.65
1484	3.78	1,342.46	1,509.60	72.42
920	3.73	1,340.00	1,507.71	72.67
922	0.27	1,340.00	1,507.71	72.67
948	0.9	1,337.36	1,506.05	73.09
730	0.13	1,336.34	1,506.04	73.53
950	2.6	1,336.24	1,506.05	73.58
1482	4.73	1,338.32	1,509.52	74.18
1486	3.61	1,337.49	1,509.65	74.6
1456	9.26	1,335.76	1,509.23	75.16
1262	5.89	1,334.83	1,508.85	75.4
1438	6.33	1,334.11	1,509.29	75.91
930	4.02	1,331.87	1,507.41	76.06
604	2.73	1,331.67	1,507.42	76.15
934	13.79	1,331.62	1,507.41	76.17
1338	11.75	1,330.00	1,506.33	76.4
1800	1.32	1,331.79	1,509.29	76.91
602	12.3	1,329.66	1,507.66	77.13
1528	11.95	1,330.39	1,509.22	77.49
874	1.54	1,329.63	1,508.89	77.67
1436	19.1	1,330.00	1,509.31	77.69
902	0	1,329.21	1,508.89	77.85
1796	4.69	1,329.31	1,509.26	77.97

Tank Elevation: 1495 feet

ID	Demand (gpm)	Elevation (ft)	Head (ft)	Pressure (psi)
J24	479.3	1,367.49	1,523.30	67.51
1458	1.36	1,356.87	1,513.15	67.71
1508	11.88	1,358.50	1,514.76	67.71
1510	4.56	1,358.89	1,515.45	67.84
1450	4	1,355.64	1,513.52	68.41
1500	1.4	1,355.65	1,514.21	68.7
1478	8.29	1,354.74	1,513.53	68.8
1502	3.27	1,355.07	1,514.29	68.99
1448	5.21	1,354.15	1,513.50	69.05
1524	18.64	1,354.07	1,513.58	69.11
1526	13.87	1,353.94	1,513.57	69.17
1520	16.81	1,353.42	1,513.57	69.39
1506	9.76	1,352.90	1,514.35	69.96
714	4.92	1,349.85	1,512.63	70.53
1512	7.29	1,352.48	1,515.45	70.62
1490	24.77	1,350.25	1,514.20	71.04
872	11.34	1,348.43	1,512.69	71.17
1440	16.39	1,348.72	1,513.35	71.33
1488	2.74	1,349.40	1,514.11	71.37
406	5.71	1,345.40	1,511.05	71.78
1514	6.08	1,347.49	1,513.74	72.04
1798	4.8	1,345.89	1,513.17	72.48
598	10.78	1,341.50	1,508.98	72.57
1516	16.38	1,345.95	1,513.61	72.64
876	7.12	1,343.52	1,511.58	72.82
1518	14.85	1,345.28	1,513.60	72.93
1792	4.42	1,344.32	1,513.17	73.16
1492	6.29	1,345.22	1,514.19	73.21
1480	4.71	1,344.14	1,513.64	73.45
1484	3.78	1,342.46	1,513.79	74.24
920	3.73	1,340.00	1,511.56	74.34
922	0.27	1,340.00	1,511.56	74.34
948	0.9	1,337.36	1,509.81	74.72
730	0.13	1,336.34	1,509.80	75.16
950	2.6	1,336.24	1,509.81	75.21
1482	4.73	1,338.32	1,513.67	75.98
1486	3.61	1,337.49	1,513.85	76.42
1456	9.26	1,335.76	1,513.28	76.92
1262	5.89	1,334.83	1,512.77	77.1
1438	6.33	1,334.11	1,513.34	77.66
930	4.02	1,331.87	1,511.26	77.73
604	2.73	1,331.67	1,511.26	77.82
934	13.79	1,331.62	1,511.26	77.84
1338	11.75	1,330.00	1,510.10	78.04
1800	1.32	1,331.79	1,513.34	78.67
602	12.3	1,329.66	1,511.51	78.8
1528	11.95	1,330.39	1,513.27	79.24
874	1.54	1,329.63	1,512.80	79.37
1436	19.1	1,330.00	1,513.35	79.44
902	0	1,329.21	1,512.80	79.55
284	8.97	1,326.11	1,509.94	79.65

Tank Elevation: 1500 feet

ID	Demand (gpm)	Elevation (ft)	Head (ft)	Pressure (psi)
1458	1.36	1,356.87	1,517.16	69.45
1508	11.88	1,358.50	1,519.12	69.6
J24	479.3	1,367.49	1,528.24	69.65
1510	4.56	1,358.89	1,519.94	69.78
1450	4	1,355.64	1,517.59	70.18
1500	1.4	1,355.65	1,518.45	70.54
1478	8.29	1,354.74	1,517.61	70.57
1448	5.21	1,354.15	1,517.57	70.81
1502	3.27	1,355.07	1,518.56	70.84
1524	18.64	1,354.07	1,517.73	70.92
1526	13.87	1,353.94	1,517.73	70.97
1520	16.81	1,353.42	1,517.73	71.19
1506	9.76	1,352.90	1,518.64	71.81
714	4.92	1,349.85	1,516.54	72.23
1512	7.29	1,352.48	1,519.94	72.56
872	11.34	1,348.43	1,516.60	72.87
1490	24.77	1,350.25	1,518.43	72.87
1440	16.39	1,348.72	1,517.35	73.07
1488	2.74	1,349.40	1,518.33	73.2
406	5.71	1,345.40	1,514.86	73.43
1514	6.08	1,347.49	1,517.90	73.84
1798	4.8	1,345.89	1,517.17	74.22
598	10.78	1,341.50	1,512.87	74.26
1516	16.38	1,345.95	1,517.76	74.45
876	7.12	1,343.52	1,515.50	74.52
1518	14.85	1,345.28	1,517.76	74.74
1792	4.42	1,344.32	1,517.17	74.9
1492	6.29	1,345.22	1,518.43	75.05
1480	4.71	1,344.14	1,517.76	75.23
920	3.73	1,340.00	1,515.41	76
922	0.27	1,340.00	1,515.41	76
1484	3.78	1,342.46	1,517.94	76.04
948	0.9	1,337.36	1,513.57	76.35
730	0.13	1,336.34	1,513.56	76.79
950	2.6	1,336.24	1,513.57	76.83
1482	4.73	1,338.32	1,517.79	77.77
1486	3.61	1,337.49	1,518.02	78.22
1456	9.26	1,335.76	1,517.29	78.66
1262	5.89	1,334.83	1,516.68	78.8
930	4.02	1,331.87	1,515.10	79.39
1438	6.33	1,334.11	1,517.34	79.4
604	2.73	1,331.67	1,515.10	79.48
934	13.79	1,331.62	1,515.09	79.5
1338	11.75	1,330.00	1,513.87	79.67
1800	1.32	1,331.79	1,517.34	80.4
602	12.3	1,329.66	1,515.36	80.46
1528	11.95	1,330.39	1,517.28	80.98
874	1.54	1,329.63	1,516.72	81.07
1436	19.1	1,330.00	1,517.34	81.17
902	0	1,329.21	1,516.72	81.25
284	8.97	1,326.11	1,513.72	81.29

2040 Lower Operating Range Junction Pressures - Top of Domestic Storage -Site B

Tank Elevation: 1490 feet

ID	Demand (gpm)	Elevation (ft)	Head (ft)	Pressure (psi)
284	8.97	1,326.11	1,506.17	78.02
904	1.05	1,328.81	1,508.89	78.03
470	3.16	1,326.72	1,507.72	78.43
612	14.48	1,327.24	1,508.66	78.61
732	8.29	1,325.91	1,507.68	78.76
1530	10.87	1,327.36	1,509.22	78.8
912	0	1,325.73	1,507.68	78.84
914	3.38	1,325.63	1,507.68	78.88
910	1.33	1,325.53	1,507.68	78.92
66	7.83	1,324.64	1,508.12	79.5
1090	4.98	1,322.47	1,506.32	79.66
1794	5.38	1,325.01	1,509.26	79.83
1494	10.09	1,325.22	1,509.93	80.04
286	4.63	1,318.03	1,506.28	81.57
932	10.47	1,316.98	1,507.15	82.4
868	7.11	1,314.40	1,506.15	83.08
908	3.33	1,315.73	1,508.25	83.42
906	1.48	1,315.58	1,508.25	83.48
734	11.25	1,312.32	1,506.74	84.24
618	4.31	1,312.84	1,507.95	84.54
936	5.69	1,310.00	1,507.47	85.56
938	5.17	1,310.00	1,507.47	85.56
506	8.08	1,310.00	1,507.47	85.57
926	2.42	1,310.00	1,507.54	85.59
946	5.85	1,309.18	1,506.97	85.7
620	4.1	1,310.00	1,507.84	85.72
916	2.31	1,310.00	1,507.83	85.72
918	1.63	1,310.00	1,507.83	85.72
742	0	1,310.00	1,507.95	85.77
1230	0	1,310.00	1,507.95	85.77
1232	0	1,310.00	1,507.95	85.77
1354	0	1,310.00	1,507.95	85.77
1766	0	1,310.00	1,507.95	85.77
726	7.37	1,309.50	1,507.66	85.86
944	6.22	1,308.69	1,506.97	85.92
666	5.73	1,308.46	1,507.56	86.27
472	3.85	1,308.52	1,507.95	86.42
1804	0.39	1,308.89	1,509.98	87.14
928	3.58	1,304.96	1,507.60	87.8
924	6	1,304.54	1,507.60	87.99
J120	0	1,302.61	1,506.26	88.24
1092	15.5	1,302.32	1,506.32	88.39
J116	0	1,271.14	1,475.48	88.54
504	7.22	1,301.51	1,507.47	89.24
1094	3.83	1,299.96	1,506.39	89.45
678	15.54	1,296.40	1,505.66	90.67
540	6	1,284.92	1,497.04	91.91
680	10.29	1,291.48	1,505.53	92.75
J118	0	1,270.34	1,489.95	95.15
958	1.49	1,285.00	1,504.87	95.27
960	4.01	1,285.00	1,504.87	95.27

Tank Elevation: 1495 feet

ID	Demand (gpm)	Elevation (ft)	Head (ft)	Pressure (psi)
904	1.05	1,328.81	1,512.80	79.73
1796	4.69	1,329.31	1,513.31	79.73
470	3.16	1,326.72	1,511.61	80.12
612	14.48	1,327.24	1,512.57	80.3
732	8.29	1,325.91	1,511.53	80.43
912	0	1,325.73	1,511.53	80.51
914	3.38	1,325.63	1,511.53	80.55
1530	10.87	1,327.36	1,513.27	80.56
910	1.33	1,325.53	1,511.53	80.59
66	7.83	1,324.64	1,511.97	81.17
1090	4.98	1,322.47	1,510.21	81.35
1794	5.38	1,325.01	1,513.31	81.59
1494	10.09	1,325.22	1,514.19	81.88
286	4.63	1,318.03	1,510.06	83.21
932	10.47	1,316.98	1,510.98	84.06
868	7.11	1,314.40	1,509.92	84.72
908	3.33	1,315.73	1,512.14	85.11
906	1.48	1,315.58	1,512.14	85.17
734	11.25	1,312.32	1,510.55	85.89
618	4.31	1,312.84	1,511.83	86.22
506	8.08	1,310.00	1,511.32	87.23
936	5.69	1,310.00	1,511.32	87.23
938	5.17	1,310.00	1,511.32	87.23
926	2.42	1,310.00	1,511.42	87.28
946	5.85	1,309.18	1,510.79	87.36
620	4.1	1,310.00	1,511.70	87.4
916	2.31	1,310.00	1,511.70	87.4
918	1.63	1,310.00	1,511.70	87.4
742	0	1,310.00	1,511.83	87.45
1230	0	1,310.00	1,511.83	87.45
1232	0	1,310.00	1,511.83	87.45
1354	0	1,310.00	1,511.83	87.45
1766	0	1,310.00	1,511.83	87.45
726	7.37	1,309.50	1,511.51	87.53
944	6.22	1,308.69	1,510.79	87.57
666	5.73	1,308.46	1,511.45	87.95
472	3.85	1,308.52	1,511.85	88.11
1804	0.39	1,308.89	1,514.26	88.99
J116	0	1,271.14	1,477.00	89.2
928	3.58	1,304.96	1,511.48	89.49
924	6	1,304.54	1,511.48	89.67
J120	0	1,302.61	1,510.16	89.93
1092	15.5	1,302.32	1,510.22	90.08
504	7.22	1,301.51	1,511.32	90.91
1094	3.83	1,299.96	1,510.29	91.13
678	15.54	1,296.40	1,509.40	92.29
540	6	1,284.92	1,500.22	93.29
680	10.29	1,291.48	1,509.27	94.37
J118	0	1,270.34	1,492.58	96.29
958	1.49	1,285.00	1,508.56	96.87
960	4.01	1,285.00	1,508.56	96.87

Tank Elevation: 1500 feet

ID	Demand (gpm)	Elevation (ft)	Head (ft)	Pressure (psi)
904	1.05	1,328.81	1,516.72	81.42
1796	4.69	1,329.31	1,517.30	81.46
470	3.16	1,326.72	1,515.50	81.8
612	14.48	1,327.24	1,516.47	81.99
732	8.29	1,325.91	1,515.38	82.1
912	0	1,325.73	1,515.38	82.18
914	3.38	1,325.63	1,515.38	82.22
910	1.33	1,325.53	1,515.38	82.26
1530	10.87	1,327.36	1,517.28	82.29
66	7.83	1,324.64	1,515.81	82.84
1090	4.98	1,322.47	1,514.10	83.03
1794	5.38	1,325.01	1,517.30	83.32
1494	10.09	1,325.22	1,518.42	83.72
286	4.63	1,318.03	1,513.83	84.84
932	10.47	1,316.98	1,514.80	85.72
868	7.11	1,314.40	1,513.68	86.35
908	3.33	1,315.73	1,516.03	86.79
906	1.48	1,315.58	1,516.03	86.85
734	11.25	1,312.32	1,514.34	87.54
618	4.31	1,312.84	1,515.70	87.9
506	8.08	1,310.00	1,515.17	88.9
936	5.69	1,310.00	1,515.16	88.9
938	5.17	1,310.00	1,515.16	88.9
926	2.42	1,310.00	1,515.30	88.96
946	5.85	1,309.18	1,514.61	89.01
620	4.1	1,310.00	1,515.57	89.07
916	2.31	1,310.00	1,515.56	89.07
918	1.63	1,310.00	1,515.56	89.07
742	0	1,310.00	1,515.70	89.13
1230	0	1,310.00	1,515.70	89.13
1232	0	1,310.00	1,515.70	89.13
1354	0	1,310.00	1,515.70	89.13
1766	0	1,310.00	1,515.70	89.13
726	7.37	1,309.50	1,515.36	89.2
944	6.22	1,308.69	1,514.61	89.22
666	5.73	1,308.46	1,515.33	89.64
472	3.85	1,308.52	1,515.75	89.79
J116	0	1,271.14	1,478.51	89.85
1804	0.39	1,308.89	1,518.53	90.84
928	3.58	1,304.96	1,515.36	91.16
924	6	1,304.54	1,515.36	91.35
J120	0	1,302.61	1,514.04	91.62
1092	15.5	1,302.32	1,514.10	91.77
504	7.22	1,301.51	1,515.16	92.58
1094	3.83	1,299.96	1,514.17	92.82
678	15.54	1,296.40	1,513.14	93.91
540	6	1,284.92	1,503.40	94.67
680	10.29	1,291.48	1,513.01	95.99
J118	0	1,270.34	1,495.21	97.43
1762	8.54	1,270.00	1,496.46	98.12
958	1.49	1,285.00	1,512.25	98.47

2040 Lower Operating Range Junction Pressures - Top of Domestic Storage -Site B

Tank Elevation: 1490 feet

ID	Demand (gpm)	Elevation (ft)	Head (ft)	Pressure (psi)
1760	2.97	1,285.00	1,504.87	95.27
1762	8.54	1,270.00	1,491.03	95.77
952	0.2	1,281.68	1,505.22	96.86
956	0.21	1,281.23	1,505.22	97.05
542	8.13	1,272.65	1,497.14	97.27
724	4.8	1,280.00	1,504.87	97.44
560	2.35	1,277.96	1,505.22	98.47

Tank Elevation: 1495 feet

ID	Demand (gpm)	Elevation (ft)	Head (ft)	Pressure (psi)
1760	2.97	1,285.00	1,508.56	96.87
1762	8.54	1,270.00	1,493.75	96.95
952	0.2	1,281.68	1,508.93	98.47
542	8.13	1,272.65	1,500.32	98.65
956	0.21	1,281.23	1,508.93	98.66
724	4.8	1,280.00	1,508.56	99.04
560	2.35	1,277.96	1,508.93	100.08

Tank Elevation: 1500 feet

ID	Demand (gpm)	Elevation (ft)	Head (ft)	Pressure (psi)
960	4.01	1,285.00	1,512.25	98.47
1760	2.97	1,285.00	1,512.25	98.47
542	8.13	1,272.65	1,503.50	100.03
952	0.2	1,281.68	1,512.64	100.08
956	0.21	1,281.23	1,512.64	100.27
724	4.8	1,280.00	1,512.25	100.63
560	2.35	1,277.96	1,512.64	101.69

2023 Higher Operating Range Junction Available Fire Flow Site B

Tank Elevation: 1500 ft

ID	Static Demand (gpm)	Static Pressure (psi)	Static Head (ft)	Residual Pressure (psi)	Available Flow at Hydrant (gpm)
1706	0	10.45	1,397.99	10.42	0.03
1704	0	10.28	1,397.99	10.26	0.10
1708	0	10.61	1,397.99	10.59	0.10
1710	0	10.39	1,397.97	10.3	0.14
598	3.09	80.35	1,526.94	-11,651.04	86.64
876	2.37	79.52	1,527.03	-10,608.80	90.31
666	3.9	94.76	1,527.17	-2,144.39	236.19
406	3.19	78.85	1,527.38	-1,133.74	287.06
540	3.1	104.98	1,527.21	-1,315.03	322.84
1262	1.26	83.35	1,527.19	-739.97	368.66
284	3.23	87.15	1,527.24	-597.95	420.82
872	3.97	77.45	1,527.17	-435.51	452.64
680	6.4	102.14	1,527.22	-499.06	507.49
1090	0	88.75	1,527.29	-234.83	642.27
1092	2.58	97.48	1,527.29	-132.34	831.63
542	2.97	110.31	1,527.24	-122.41	897.07
1762	3.4	111.46	1,527.24	-112.41	923.66
1094	3.06	98.5	1,527.29	-44.51	1,085.88
1476	4.85	54.98	1,522.37	-2.97	1,149.16
1474	5.06	57.35	1,522.37	2.11	1,222.11
1472	1.74	64.18	1,522.37	4.56	1,279.91
1470	1.71	63.19	1,522.37	8.7	1,326.73
726	3.34	94.34	1,527.21	5.94	1,369.03
504	3.74	97.8	1,527.21	11.2	1,419.08
470	2.07	86.89	1,527.25	18.36	1,482.47
1468	3.47	63.78	1,522.37	20.23	1,507.72
714	2.28	76.85	1,527.20	23.98	1,562.23
1522	2.04	68.9	1,520.91	24.37	1,578.09
472	2.8	94.77	1,527.23	27.25	1,588.10
1512	1.46	72.8	1,520.49	25.72	1,595.53
914	0.8	87.36	1,527.24	27.2	1,595.57
926	1.3	94.15	1,527.29	28.17	1,599.50
1510	1.86	70.02	1,520.49	25.65	1,600.17
910	1.38	87.4	1,527.24	27.88	1,605.99
912	0.04	87.32	1,527.24	27.99	1,606.44
1466	2.24	64.1	1,522.37	25.29	1,607.60
732	2.01	87.24	1,527.24	28.1	1,610.10
1504	8.67	65.84	1,520.49	26.5	1,634.95
928	1.06	96.35	1,527.32	31.99	1,646.95
1526	3.78	72.35	1,520.91	28.82	1,657.67
924	1.59	96.53	1,527.32	33.01	1,661.29
880	1.12	71.36	1,527.20	31.7	1,725.24
1520	2.56	72.57	1,520.91	32.57	1,735.55
1524	3.74	72.29	1,520.91	33.06	1,749.66
1462	6.7	66.04	1,522.38	32.7	1,786.65
1464	1.9	66.71	1,522.38	34.25	1,821.22
934	1.69	84.77	1,527.25	39.41	1,822.80
1460	0.37	66.54	1,522.38	34.49	1,828.37
1452	2.59	67.77	1,521.72	34.93	1,828.49
1530	3.75	84.59	1,522.57	40.29	1,836.14
930	2.05	84.66	1,527.25	40.14	1,840.15
604	1.28	84.75	1,527.25	40.39	1,844.46
942	1.06	71.72	1,527.33	36.42	1,849.90
1528	1.7	83.27	1,522.57	41.13	1,862.69
940	1.57	71.4	1,527.33	36.9	1,867.62
922	0.98	81.16	1,527.32	40.32	1,869.81
1494	4.17	84.52	1,520.29	42.33	1,882.33
920	1.86	81.16	1,527.32	41.09	1,890.41
1766	0	94.11	1,527.20	48.03	1,941.85
1230	0	94.11	1,527.20	48.12	1,943.79
1232	0	94.11	1,527.20	48.18	1,945.20
1760	0.18	104.97	1,527.26	52.17	1,947.36
1354	0	94.11	1,527.20	48.44	1,951.19
960	2.07	104.97	1,527.26	52.83	1,962.84
742	0	94.11	1,527.20	49.27	1,970.95
958	0.55	104.97	1,527.26	53.7	1,979.68
602	1.98	85.64	1,527.29	46.19	1,982.41
1508	12.21	70.19	1,520.49	40.72	1,998.22
956	0.25	106.61	1,527.27	55.49	2,003.23
952	0.22	106.41	1,527.27	56.14	2,019.29
702	3.03	73.44	1,527.34	42.59	2,032.56

Tank Elevation: 1505 ft

ID	Static Demand (gpm)	Static Pressure (psi)	Static Head (ft)	Residual Pressure (psi)	Available Flow at Hydrant (gpm)
1710	0	10.39	1,397.98	10.31	0.1
1706	0	10.45	1,397.99	10.42	0.11
1704	0	10.28	1,397.99	10.26	0.14
1708	0	10.61	1,397.99	10.59	0.14
598	3.09	82.05	1,530.86	-11,649.46	88
876	2.37	81.22	1,530.96	-10,607.22	91.76
666	3.9	96.46	1,531.09	-2,142.81	239.42
406	3.19	80.54	1,531.28	-1,132.16	292.22
540	3.1	106.68	1,531.12	-1,313.46	326.93
1262	1.26	85.05	1,531.11	-738.39	375.18
284	3.23	88.84	1,531.15	-596.37	427.9
872	3.97	79.15	1,531.10	-433.93	461.68
680	6.4	103.84	1,531.13	-497.48	514.46
1090	0	90.44	1,531.20	-233.25	652.2
1092	2.58	99.17	1,531.20	-130.76	841.91
542	2.97	112.01	1,531.15	-120.83	906.36
1762	3.4	113.16	1,531.15	-110.83	932.99
1094	3.06	100.19	1,531.20	-42.93	1,098.80
1476	4.85	56.89	1,526.77	-1.21	1,179.60
1474	5.06	59.26	1,526.77	3.87	1,252.04
1472	1.74	66.09	1,526.77	6.32	1,306.99
1470	1.71	65.1	1,526.77	10.45	1,355.75
726	3.34	96.03	1,531.13	7.52	1,385.01
504	3.74	99.5	1,531.13	12.77	1,434.76
470	2.07	88.59	1,531.17	19.93	1,501.29
1468	3.47	65.68	1,526.77	21.99	1,539.44
714	2.28	78.55	1,531.13	25.56	1,585.09
472	2.8	96.47	1,531.15	28.83	1,605.78
1522	2.04	70.89	1,525.49	26.18	1,608.84
914	0.8	89.06	1,531.16	28.77	1,615.26
926	1.3	95.85	1,531.21	29.75	1,617.45
1512	1.46	74.81	1,525.12	27.51	1,624.86
910	1.38	89.1	1,531.16	29.46	1,625.76
912	0.04	89.01	1,531.16	29.57	1,626.25
732	2.01	88.94	1,531.16	29.67	1,629.94
1510	1.86	72.03	1,525.12	27.44	1,631.15
1466	2.24	66	1,526.78	27.05	1,640.77
928	1.06	98.04	1,531.23	33.57	1,664.76
1504	8.67	67.85	1,525.12	28.29	1,669.15
924	1.59	98.23	1,531.23	34.58	1,679.17
1526	3.78	74.33	1,525.49	30.63	1,687.65
880	1.12	73.06	1,531.12	33.28	1,752.41
1520	2.56	74.56	1,525.49	34.39	1,766.59
1524	3.74	74.28	1,525.49	34.87	1,781.07
1462	6.7	67.95	1,526.78	34.46	1,821.22
934	1.69	86.46	1,531.17	40.99	1,845.43
1464	1.9	68.62	1,526.78	36.01	1,855.93
1530	3.75	86.49	1,526.96	42.04	1,861.37
1452	2.59	69.71	1,526.21	36.73	1,862.97
930	2.05	86.35	1,531.17	41.72	1,862.99
1460	0.37	68.45	1,526.78	36.25	1,863.34
604	1.28	86.44	1,531.17	41.97	1,867.31
942	1.06	73.41	1,531.24	37.99	1,878.64
1528	1.7	85.18	1,526.96	42.89	1,888.76
922	0.98	82.86	1,531.23	41.90	1,894.21
940	1.57	73.09	1,531.24	38.47	1,896.75
1494	4.17	86.54	1,524.94	44.13	1,910.29
920	1.86	82.86	1,531.23	42.67	1,915.02
1766	0	95.81	1,531.12	49.61	1,962.55
1230	0	95.81	1,531.12	49.69	1,964.51
1760	0.18	106.67	1,531.17	53.75	1,965.57
1232	0	95.81	1,531.12	49.75	1,965.92
1354	0	95.81	1,531.12	50.01	1,971.96
960	2.07	106.67	1,531.17	54.41	1,981.15
742	0	95.81	1,531.12	50.84	1,991.89
958	0.55	106.67	1,531.17	55.27	1,998.12
602	1.98	87.33	1,531.20	47.77	2,006.20
956	0.25	108.3	1,531.17	57.07	2,021.47
1508	12.21	72.2	1,525.12	42.51	2,035.40
952	0.22	108.11	1,531.17	57.71	2,037.68
950	2.06	84.47	1,531.18	48.18	2,059.52

Tank Elevation: 1510 ft

ID	Static Demand (gpm)	Static Pressure (psi)	Static Head (ft)	Residual Pressure (psi)	Available Flow at Hydrant (gpm)
1710	0	10.39	1,397.98	10.31	0.08
1704	0	10.28	1,398.00	10.26	0.12
1708	0	10.61	1,398.00	10.59	0.12
1706	0	10.45	1,397.99	10.42	0.14
598	3.09	83.77	1,534.84	-11,647.89	89.36
876	2.37	82.94	1,534.94	-10,605.65	93.2
666	3.9	98.18	1,535.05	-2,141.24	242.69
406	3.19	82.26	1,535.23	-1,130.60	297.46
540	3.1	108.39	1,535.08	-1,311.89	331.08
1262	1.26	86.77	1,535.09	-736.82	381.69
284	3.23	90.56	1,535.12	-594.81	434.94
872	3.97	80.87	1,535.08	-432.36	470.58
680	6.4	105.55	1,535.08	-495.92	521.31
1090	0	92.16	1,535.16	-231.69	661.72
1092	2.58	100.89	1,535.16	-129.2	851.85
542	2.97	113.72	1,535.11	-119.27	915.38
1762	3.4	114.87	1,535.11	-109.26	942.06
1094	3.06	101.91	1,535.16	-41.37	1,110.92
1476	4.85	58.81	1,531.21	0.54	1,208.87
1474	5.06	61.19	1,531.21	5.62	1,280.90
1472	1.74	68.01	1,531.21	8.07	1,332.51
1470	1.71	67.02	1,531.21	12.2	1,382.84
726	3.34	97.75	1,535.10	9.09	1,400.66
504	3.74	101.22	1,535.10	14.34	1,450.12
470	2.07	90.31	1,535.14	21.5	1,519.68
1468	3.47	67.61	1,531.21	23.74	1,570.27
714	2.28	80.27	1,535.10	27.13	1,607.38
472	2.8	98.19	1,535.12	30.39	1,623.11
914	0.8	90.78	1,535.13	30.34	1,634.53
926	1.3	97.57	1,535.17	31.31	1,635.05
1522	2.04	72.88	1,530.09	27.92	1,638.68
910	1.38	90.82	1,535.13	31.03	1,645.11
912	0.04	90.73	1,535.13	31.14	1,645.64
732	2.01	90.66	1,535.13	31.24	1,649.37
1512	1.46	76.82	1,529.77	29.28	1,652.61
1510	1.86	74.04	1,529.77	29.21	1,660.53
1466	2.24	67.93	1,531.21	28.8	1,673.04
928	1.06	99.76	1,535.19	35.14	1,682.23
924	1.59	99.94	1,535.19	36.15	1,696.71
1504	8.67	69.86	1,529.77	30.06	1,702.00
1526	3.78	76.33	1,530.09	32.37	1,716.95
880	1.12	74.79	1,535.10	34.85	1,778.88
1520	2.56	76.55	1,530.09	36.12	1,796.92
1524	3.74	76.27	1,530.09	36.61	1,811.77
1462	6.7	69.87	1,531.22	36.21	1,854.90
934	1.69	88.18	1,535.13	42.56	1,867.59
930	2.05	88.07	1,535.13	43.28	1,885.34
1530	3.75	88.41	1,531.39	43.79	1,886.09
604	1.28	88.16	1,535.13	43.54	1,889.68
1464	1.9	70.54	1,531.22	37.76	1,889.77
1452	2.59	71.67	1,530.72	38.48	1,896.61
1460	0.37	70.37	1,531.22	38	1,897.43
942	1.06	75.13	1,535.19	39.56	1,906.67
1528	1.7	87.09	1,531.39	44.63	1,914.30
922	0.98	84.57	1,535.19	43.47	1,918.09
940	1.57	74.81	1,535.19	40.04	1,925.17
1494	4.17	88.57	1,529.62	45.92	1,937.73
920	1.86	84.57	1,535.19	44.24	1,939.09
1766	0	97.53	1,535.10	51.18	1,982.87
1760	0.18	108.38	1,535.13	55.32	1,983.47
1230	0	97.53	1,535.10	51.26	1,984.84
1232	0	97.53	1,535.10	51.32	1,986.27
1354	0	97.53	1,535.10	51.58	1,992.36
960	2.07	108.38	1,535.13	55.97	1,999.15
742	0	97.53	1,535.10	52.41	2,012.44
958	0.55	108.38	1,535.13	56.84	2,016.25
602	1.98	89.05	1,535.17	49.34	2,029.52
956	0.25	110.02	1,535.13	58.63	2,039.41
952	0.22	109.82	1,535.13	59.28	2,055.78
1508	12.21	74.21	1,529.77	44.28	2,071.73
724	2.29	110.55	1,535.13	60.71	2,083.69

2023 Higher Operating Range Junction Available Fire Flow Site B

Tank Elevation: 1500 ft

ID	Static Demand (gpm)	Static Pressure (psi)	Static Head (ft)	Residual Pressure (psi)	Available Flow at Hydrant (gpm)
950	2.06	82.77	1,527.28	46.61	2,033.98
408	1.79	69.76	1,527.41	41.27	2,039.80
1456	2.53	80.95	1,522.58	46.91	2,044.35
724	2.29	107.14	1,527.26	57.56	2,047.12
884	3.58	68.22	1,527.44	40.79	2,048.37
948	0.57	82.29	1,527.28	46.94	2,049.74
730	0.68	82.73	1,527.28	47.33	2,056.49
286	3.6	90.66	1,527.26	52.87	2,120.16
918	1.66	94.11	1,527.20	55.15	2,132.42
916	0.81	94.11	1,527.20	55.9	2,154.91
1338	3.87	85.49	1,527.30	51.64	2,162.55
868	2.23	92.23	1,527.27	55.07	2,165.55
1454	2.96	71.08	1,522.58	45.61	2,166.63
558	4.39	108.72	1,527.27	63.95	2,190.93
610	0.68	68.57	1,527.19	44.63	2,205.61
560	1.6	108.03	1,527.27	64.84	2,223.05
870	1.01	69.49	1,527.19	45.75	2,239.89
678	4.51	100.04	1,527.27	61.34	2,245.11
904	0.77	85.96	1,527.19	55.35	2,279.57
946	1.83	94.48	1,527.24	59.62	2,280.80
938	1.26	94.12	1,527.21	59.68	2,287.00
734	7.38	93.13	1,527.25	58.89	2,287.27
932	5.02	91.1	1,527.23	57.93	2,288.16
874	0.63	85.6	1,527.19	55.54	2,295.47
1518	1.93	76.1	1,520.91	51.51	2,315.46
944	4.41	94.7	1,527.24	60.62	2,316.90
506	2.44	94.12	1,527.21	60.48	2,318.65
936	4.24	94.12	1,527.21	60.45	2,319.31
1798	2.61	76.56	1,522.57	51.82	2,326.30
902	0.01	85.78	1,527.19	56.44	2,330.00
68	2.47	72.6	1,527.54	49.06	2,340.24
908	1.69	91.63	1,527.19	60.03	2,350.70
1802	1.43	71.25	1,522.39	49.36	2,351.67
618	3.77	92.88	1,527.20	60.89	2,361.04
620	2.12	94.11	1,527.20	61.8	2,368.90
1516	2.33	75.81	1,520.91	52.57	2,378.45
1458	0.74	71.71	1,522.37	50.41	2,395.68
878	2.67	65.34	1,527.91	46	2,398.89
1792	2.41	77.24	1,522.57	53.71	2,404.35
1796	2.61	83.95	1,523.05	57.73	2,408.63
906	1.6	91.69	1,527.19	61.41	2,409.07
1446	2.54	70.56	1,522.36	50.03	2,414.12
1204	0.71	65.2	1,527.93	46.36	2,428.06
1260	0	65.82	1,528.45	46.75	2,435.64
1714	0	65.9	1,528.48	46.83	2,437.71
1712	0	65.98	1,528.50	46.9	2,439.85
900	0.16	69.24	1,527.19	49.21	2,450.57
1434	0.21	67.33	1,527.19	48.95	2,516.43
882	0.46	67.53	1,527.19	49.09	2,518.07
1506	1.5	72.62	1,520.50	53.06	2,519.79
1356	1.96	69.3	1,527.19	50.25	2,526.68
612	4.06	86.64	1,527.19	60.86	2,532.67
898	0.11	69.44	1,527.19	50.56	2,541.71
1492	0.98	75.86	1,520.29	56.16	2,586.17
1502	0.56	71.68	1,520.50	53.97	2,625.49
66	2.19	87.91	1,527.53	64.14	2,692.87
1444	1.85	69.2	1,522.28	55.37	2,917.65
1500	0.76	71.43	1,520.50	57.19	2,925.97
1442	1.52	68.97	1,522.27	55.69	2,972.53
1794	2.93	85.81	1,523.05	68.14	3,024.78
1514	1.34	75.15	1,520.92	61.22	3,075.03
1440	2.38	75.33	1,522.58	61.43	3,114.76
1450	0.29	71.97	1,521.72	59.59	3,174.51
1816	23.81	54.25	1,519.70	46.35	3,184.42
1448	1.37	72.64	1,521.78	60.16	3,186.95
1478	1.26	72.33	1,521.67	60.04	3,199.28
1436	1.36	83.88	1,523.59	68.98	3,274.28
1438	2.1	81.78	1,522.84	67.61	3,283.43
1800	0.9	82.91	1,523.14	68.51	3,295.54
1498	1.76	59.49	1,519.76	51.43	3,379.50
1480	2.49	76.78	1,521.33	65.08	3,428.61

Tank Elevation: 1505 ft

ID	Static Demand (gpm)	Static Pressure (psi)	Static Head (ft)	Residual Pressure (psi)	Available Flow at Hydrant (gpm)
702	3.03	75.13	1,531.24	44.17	2,062.53
724	2.29	108.83	1,531.17	59.14	2,065.55
408	1.79	71.45	1,531.31	42.85	2,072.07
1456	2.53	82.85	1,526.97	48.66	2,073.53
948	0.57	83.99	1,531.18	48.51	2,075.66
884	3.58	69.91	1,531.34	42.36	2,081.74
730	0.68	84.42	1,531.18	48.91	2,082.29
286	3.6	92.35	1,531.17	54.44	2,143.53
918	1.66	95.81	1,531.12	56.72	2,154.70
916	0.81	95.81	1,531.12	57.48	2,177.40
1338	3.87	87.18	1,531.21	53.21	2,188.22
868	2.23	93.93	1,531.18	56.65	2,188.82
1454	2.96	72.98	1,526.97	47.36	2,203.03
558	4.39	110.41	1,531.17	65.53	2,209.99
610	0.68	70.27	1,531.12	46.20	2,240.68
560	1.6	109.72	1,531.17	66.42	2,242.51
678	4.51	101.73	1,531.18	62.92	2,266.70
870	1.01	71.19	1,531.12	47.33	2,274.76
946	1.83	96.18	1,531.15	61.20	2,304.30
904	0.77	87.66	1,531.12	56.93	2,305.96
938	1.26	95.82	1,531.13	61.26	2,310.64
734	7.38	94.83	1,531.16	60.47	2,311.24
932	5.02	92.8	1,531.15	59.50	2,312.84
874	0.63	87.31	1,531.12	57.12	2,322.17
944	4.41	96.39	1,531.15	62.20	2,340.61
506	2.44	95.82	1,531.13	62.06	2,342.55
936	4.24	95.82	1,531.13	62.03	2,343.20
1518	1.93	78.09	1,525.49	53.32	2,352.77
902	0.01	87.49	1,531.12	58.02	2,356.96
1798	2.61	78.46	1,526.96	53.57	2,361.49
68	2.47	74.28	1,531.43	50.64	2,374.36
908	1.69	93.33	1,531.12	61.61	2,375.65
618	3.77	94.58	1,531.12	62.47	2,385.66
1802	1.43	73.16	1,526.79	51.11	2,390.95
620	2.12	95.81	1,531.12	63.37	2,393.19
1516	2.33	77.79	1,525.49	54.39	2,416.83
906	1.6	93.39	1,531.12	62.99	2,434.53
1458	0.74	73.62	1,526.78	52.17	2,435.25
878	2.67	67.02	1,531.78	47.56	2,439.11
1792	2.41	79.14	1,526.96	55.47	2,440.15
1796	2.61	85.83	1,527.39	59.47	2,440.29
1446	2.54	72.47	1,526.77	51.79	2,454.79
1204	0.71	66.88	1,531.80	47.93	2,468.83
1260	0	67.48	1,532.28	48.31	2,475.77
1714	0	67.56	1,532.30	48.38	2,477.78
1712	0	67.64	1,532.32	48.45	2,479.88
900	0.16	70.95	1,531.12	50.79	2,488.53
1434	0.21	69.03	1,531.12	50.53	2,557.03
882	0.46	69.23	1,531.12	50.67	2,558.50
612	4.06	88.34	1,531.12	62.44	2,561.28
1506	1.5	74.62	1,525.12	54.85	2,563.44
1356	1.96	71	1,531.12	51.83	2,565.70
898	0.11	71.14	1,531.12	52.14	2,580.86
1492	0.98	77.87	1,524.94	57.96	2,628.67
1502	0.56	73.69	1,525.12	55.76	2,671.59
66	2.19	89.6	1,531.42	65.71	2,722.55
1444	1.85	71.12	1,526.70	57.13	2,967.50
1500	0.76	73.44	1,525.13	58.98	2,977.07
1442	1.52	70.89	1,526.70	57.46	3,023.59
1794	2.93	87.69	1,527.39	69.88	3,062.61
1514	1.34	77.13	1,525.50	63.04	3,124.04
1440	2.38	77.23	1,526.97	63.19	3,161.63
1450	0.29	73.91	1,526.21	61.38	3,226.70
1448	1.37	74.58	1,526.26	61.95	3,238.56
1478	1.26	74.27	1,526.16	61.84	3,251.58
1816	23.81	56.3	1,524.44	48.21	3,269.80
1436	1.36	85.74	1,527.88	70.69	3,315.71
1438	2.1	83.67	1,527.20	69.35	3,327.24
1800	0.9	84.79	1,527.47	70.24	3,338.36
1498	1.76	61.54	1,524.49	53.29	3,458.51
1480	2.49	78.74	1,525.86	66.90	3,480.72

Tank Elevation: 1510 ft

ID	Static Demand (gpm)	Static Pressure (psi)	Static Head (ft)	Residual Pressure (psi)	Available Flow at Hydrant (gpm)
950	2.06	86.18	1,535.14	49.75	2,084.54
702	3.03	76.84	1,535.20	45.74	2,091.81
948	0.57	85.7	1,535.14	50.08	2,101.05
1456	2.53	84.77	1,531.39	50.41	2,102.12
408	1.79	73.16	1,535.26	44.41	2,103.55
730	0.68	86.14	1,535.14	50.47	2,107.57
884	3.58	71.62	1,535.29	43.93	2,114.28
286	3.6	94.07	1,535.13	56.01	2,166.48
918	1.66	97.53	1,535.10	58.29	2,176.60
916	0.81	97.53	1,535.10	59.04	2,199.48
868	2.23	95.64	1,535.14	58.21	2,211.67
1338	3.87	88.9	1,535.16	54.78	2,213.39
558	4.39	112.13	1,535.13	67.1	2,228.76
1454	2.96	74.9	1,531.39	49.11	2,238.62
560	1.6	111.43	1,535.13	67.99	2,261.66
610	0.68	71.99	1,535.10	47.77	2,274.94
678	4.51	103.44	1,535.14	64.48	2,287.93
870	1.01	72.91	1,535.10	48.9	2,308.84
946	1.83	97.9	1,535.12	62.77	2,327.40
904	0.77	89.39	1,535.10	58.5	2,331.87
938	1.26	97.54	1,535.10	62.83	2,333.87
734	7.38	96.54	1,535.13	62.04	2,334.78
932	5.02	94.52	1,535.12	61.07	2,337.08
874	0.63	89.03	1,535.10	58.69	2,348.37
944	4.41	98.11	1,535.12	63.77	2,363.92
506	2.44	97.54	1,535.10	63.62	2,366.04
936	4.24	97.54	1,535.10	63.59	2,366.69
902	0.01	89.21	1,535.10	59.59	2,383.44
1518	1.93	80.08	1,530.10	55.06	2,389.31
1798	2.61	80.37	1,531.38	55.32	2,395.97
908	1.69	95.05	1,535.10	63.18	2,400.17
68	2.47	75.99	1,535.38	52.2	2,407.74
618	3.77	96.31	1,535.10	64.03	2,409.85
620	2.12	97.53	1,535.10	64.94	2,417.07
1802	1.43	75.08	1,531.23	52.87	2,429.38
1516	2.33	79.79	1,530.10	56.12	2,454.44
906	1.6	95.12	1,535.10	64.55	2,459.55
1796	2.61	87.73	1,531.77	61.2	2,471.38
1458	0.74	75.55	1,531.22	53.92	2,473.98
1792	2.41	81.05	1,531.38	57.22	2,475.24
878	2.67	68.72	1,535.70	49.12	2,478.41
1446	2.54	74.4	1,531.21	53.54	2,494.59
1204	0.71	68.58	1,535.72	49.48	2,508.67
1260	0	69.16	1,536.17	49.85	2,514.99
1714	0	69.24	1,536.19	49.93	2,516.95
1712	0	69.32	1,536.20	50	2,519.00
900	0.16	72.67	1,535.10	52.36	2,525.67
612	4.06	90.06	1,535.10	64.01	2,589.38
1434	0.21	70.76	1,535.10	52.1	2,596.74
882	0.46	70.96	1,535.10	52.24	2,598.06
1356	1.96	72.72	1,535.10	53.4	2,603.90
1506	1.5	76.64	1,529.78	56.62	2,606.19
898	0.11	72.86	1,535.10	53.71	2,619.19
1492	0.98	79.9	1,529.62	59.75	2,670.34
1502	0.56	75.7	1,529.78	57.53	2,716.74
66	2.19	91.31	1,535.37	67.28	2,751.74
1444	1.85	73.05	1,531.15	58.89	3,016.35
1500	0.76	75.45	1,529.78	60.75	3,027.14
1442	1.52	72.82	1,531.15	59.21	3,073.64
1794	2.93	89.59	1,531.77	71.61	3,099.85
1514	1.34	79.13	1,530.10	64.77	3,172.14
1440	2.38	79.15	1,531.39	64.94	3,207.67
1450	0.29	75.87	1,530.72	63.13	3,277.90
1448	1.37	76.53	1,530.77	63.71	3,289.21
1478	1.26	76.23	1,530.68	63.59	3,302.90
1816	23.81	58.36	1,529.19	50.06	3,352.83
1436	1.36	87.62	1,532.21	72.4	3,356.49
1438	2.1	85.57	1,531.60	71.08	3,370.35
1800	0.9	86.68	1,531.84	71.96	3,380.50
1480	2.49	80.72	1,530.42	68.63	3,531.93
1498	1.76	63.6	1,529.23	55.13	3,535.62

2023 Higher Operating Range Junction Available Fire Flow Site B

Tank Elevation: 1500 ft

ID	Static Demand (gpm)	Static Pressure (psi)	Static Head (ft)	Residual Pressure (psi)	Available Flow at Hydrant (gpm)
1482	2.58	79.27	1,521.25	67.71	3,532.13
1814	0	55.52	1,519.30	49.01	3,553.95
1484	1.43	77.33	1,520.92	66.39	3,558.12
1496	3.42	66.74	1,519.99	58.03	3,561.17
1488	1.49	74.14	1,520.51	64.09	3,589.97
1486	1.6	79.45	1,520.84	68.68	3,658.33
1490	1.82	73.68	1,520.29	64.18	3,674.25
1804	0	91.13	1,519.20	78.47	3,705.43
1812	5.43	60.32	1,519.20	54.16	3,919.02
J40	34.25	63.2	1,518.91	58.17	4,539.39
1768	35.65	62.56	1,518.01	62.48	36,372.55

Tank Elevation: 1505 ft

ID	Static Demand (gpm)	Static Pressure (psi)	Static Head (ft)	Residual Pressure (psi)	Available Flow at Hydrant (gpm)
1482	2.58	81.23	1,525.79	69.53	3,583.64
1484	1.43	79.31	1,525.50	68.20	3,612.44
1496	3.42	68.78	1,524.69	59.86	3,630.68
1814	0	57.6	1,524.10	50.92	3,648.82
1488	1.49	76.15	1,525.13	65.88	3,649.00
1486	1.6	81.43	1,525.43	70.49	3,712.32
1490	1.82	75.69	1,524.94	65.98	3,735.78
1804	0	93.21	1,524.01	80.40	3,755.66
1812	5.43	62.4	1,524.01	56.09	4,011.76
J40	34.25	65.3	1,523.76	60.14	4,641.29
1768	35.65	64.73	1,523.01	64.64	37,341.44

Tank Elevation: 1510 ft

ID	Static Demand (gpm)	Static Pressure (psi)	Static Head (ft)	Residual Pressure (psi)	Available Flow at Hydrant (gpm)
1482	2.58	83.21	1,530.36	71.26	3,634.31
1484	1.43	81.31	1,530.10	69.94	3,665.84
1496	3.42	70.82	1,529.40	61.69	3,698.76
1488	1.49	78.16	1,529.79	67.65	3,706.96
1814	0	59.68	1,528.90	52.83	3,741.17
1486	1.6	83.43	1,530.04	72.23	3,765.42
1490	1.82	77.72	1,529.62	67.77	3,796.20
1804	0	95.3	1,528.83	82.32	3,805.13
1812	5.43	64.49	1,528.83	58.01	4,102.33
J40	34.25	67.4	1,528.62	62.11	4,740.96
1768	35.65	66.9	1,528.01	66.8	38,288.97

2040 Higher Operating Range Junction Available Fire Flow-Site B

Tank Elevation: 1500 ft

ID	Static Demand (gpm)	Static Pressure (psi)	Static Head (ft)	Residual Pressure (psi)	Available Flow at Hydrant (gpm)
1704	0.00	10.28	1,397.99	10.26	0.2
1708	0.00	10.61	1,397.99	10.59	0.2
1706	0.00	10.45	1,397.99	10.42	0.24
1710	0.00	10.39	1,397.97	10.3	0.24
598	5.39	79.11	1,524.07	-11,659.95	86.1
876	3.56	79.02	1,525.88	-10,613.49	90.32
666	2.86	93.65	1,524.61	-2,111.59	237.16
406	2.86	78.32	1,526.16	-1,120.44	288.86
540	3.00	103.67	1,524.19	-1,247.27	331.98
1262	2.95	82.92	1,526.19	-730.72	371.86
284	4.48	86.61	1,526.00	-584.15	425.62
872	5.67	77.02	1,526.18	-425.61	456.99
680	5.14	101.55	1,525.86	-480.92	514.19
1090	2.49	86.45	1,521.99	-118.28	814.72
542	4.06	109.00	1,524.22	-54.79	1,075.45
1476	9.32	54.10	1,520.33	0.36	1,174.30
1092	7.75	95.18	1,521.99	-15.5	1,221.53
1474	6.34	56.47	1,520.33	5.45	1,250.97
1472	8.48	63.30	1,520.33	7.74	1,314.72
1470	9.60	62.31	1,520.33	11.92	1,370.66
726	3.68	94.03	1,526.52	19.24	1,495.34
J116	0.43	109.08	1,522.89	22.72	1,526.20
504	3.61	97.49	1,526.51	24.73	1,556.20
1468	5.21	62.90	1,520.34	23.65	1,581.65
1522	8.24	68.13	1,519.13	27.41	1,651.71
1466	4.24	63.22	1,520.35	28.84	1,708.84
1526	6.94	71.58	1,519.13	31.97	1,739.69
914	1.69	86.97	1,526.35	39.4	1,811.59
910	0.67	87.02	1,526.35	40.09	1,824.81
912	0.00	86.93	1,526.35	40.2	1,827.05
732	4.15	86.85	1,526.35	40.3	1,833.93
1520	8.41	71.80	1,519.13	35.65	1,834.52
1524	9.32	71.52	1,519.13	36.22	1,853.86
714	2.46	76.09	1,525.46	38.87	1,882.82
1504	14.73	65.03	1,518.61	35.21	1,893.28
1462	7.50	65.17	1,520.37	36.45	1,939.46
1530	5.44	83.76	1,520.66	44.34	1,959.36
1464	1.74	65.84	1,520.37	38	1,984.19
1452	2.37	66.97	1,519.88	38.93	1,986.85
1494	5.05	83.90	1,518.84	45.74	1,987.02
1460	0.34	65.67	1,520.37	38.24	1,995.29
1528	5.97	82.45	1,520.66	45.19	1,998.93
1762	4.27	109.66	1,523.09	57.7	2,030.58
472	1.93	93.74	1,524.87	51.43	2,037.08
470	1.58	85.76	1,524.65	48.39	2,049.91
J118	0.43	109.43	1,522.89	59.27	2,063.42
880	1.51	70.73	1,525.73	43.51	2,115.27
934	6.89	84.37	1,526.33	52.04	2,197.98
930	2.01	84.26	1,526.33	52.77	2,223.16
604	1.37	84.35	1,526.33	53.02	2,230.27
1456	4.63	80.12	1,520.67	51.03	2,242.19
922	0.14	80.73	1,526.32	52.26	2,277.62
920	1.87	80.73	1,526.32	53.03	2,314.36
602	6.15	85.22	1,526.33	58.24	2,445.61
942	0.64	71.19	1,526.11	50.24	2,470.55
1454	8.86	70.26	1,520.67	49.81	2,473.81
928	1.79	95.21	1,524.69	65.06	2,485.40
940	1.12	70.87	1,526.11	50.72	2,517.39
924	3.00	95.39	1,524.69	66.08	2,528.72
1518	7.43	75.33	1,519.14	54.81	2,589.95
J28	21.70	42.43	1,517.92	33.78	2,627.53
1760	1.48	104.31	1,525.73	73.58	2,629.08
956	0.11	105.97	1,525.80	74.81	2,633.24
926	1.21	92.92	1,524.45	66.96	2,656.66
960	2.00	104.31	1,525.73	74.24	2,662.00
1798	2.40	75.72	1,520.64	55.99	2,667.75
952	0.10	105.78	1,525.80	75.45	2,670.71
1516	8.19	75.04	1,519.14	55.91	2,683.71
958	0.75	104.31	1,525.73	75.1	2,704.95

Tank Elevation: 1505 ft

ID	Static Demand (gpm)	Static Pressure (psi)	Static Head (ft)	Residual Pressure (psi)	Available Flow at Hydrant (gpm)
1704	0	10.28	1,397.99	10.26	0.22
1708	0	10.61	1,397.99	10.59	0.22
1706	0	10.45	1,397.99	10.42	0.27
1710	0	10.39	1,397.98	10.31	0.27
598	5.39	80.89	1,528.18	-11,658.22	87.54
876	3.56	80.74	1,529.85	-10,611.82	91.78
666	2.86	95.44	1,528.73	-2,109.84	240.65
406	2.86	80.04	1,530.13	-1,118.73	293.99
540	3	105.47	1,528.34	-1,245.51	336.15
1262	2.95	84.64	1,530.16	-729.05	377.92
284	4.48	88.33	1,529.97	-582.45	432.37
872	5.67	78.74	1,530.15	-423.94	465.3
680	5.14	103.28	1,529.84	-479.2	520.81
1090	2.49	88.37	1,526.41	-116.43	827.31
542	4.06	110.8	1,528.37	-53.03	1,088.03
1476	9.32	56.07	1,524.89	2.19	1,209.33
1092	7.75	97.1	1,526.41	-13.65	1,237.87
1474	6.34	58.45	1,524.89	7.29	1,285.79
1472	8.48	65.27	1,524.88	9.58	1,345.41
1470	9.6	64.28	1,524.89	13.76	1,403.40
726	3.68	95.73	1,530.44	20.92	1,513.78
J116	0.43	110.95	1,527.20	24.57	1,543.55
504	3.61	99.19	1,530.44	26.41	1,574.59
1468	5.21	64.87	1,524.89	25.49	1,618.88
1522	8.24	70.18	1,523.85	29.28	1,685.94
1466	4.24	65.19	1,524.90	30.68	1,748.87
1526	6.94	73.62	1,523.86	33.84	1,773.18
914	1.69	88.68	1,530.30	41.08	1,835.81
910	0.67	88.73	1,530.30	41.77	1,849.15
912	0	88.64	1,530.30	41.88	1,851.44
732	4.15	88.56	1,530.30	41.98	1,858.38
1520	8.41	73.85	1,523.85	37.52	1,869.51
1524	9.32	73.57	1,523.86	38.09	1,889.35
714	2.46	77.85	1,529.51	40.58	1,913.97
1504	14.73	67.11	1,523.42	37.16	1,936.22
1462	7.5	67.15	1,524.93	38.29	1,982.58
1530	5.44	85.72	1,525.20	46.18	1,989.91
1494	5.05	85.97	1,523.62	47.65	2,017.75
1464	1.74	67.82	1,524.93	39.84	2,027.92
1452	2.37	68.98	1,524.51	40.77	2,028.36
1528	5.97	84.41	1,525.20	47.03	2,030.81
1460	0.34	67.65	1,524.93	40.08	2,039.49
1762	4.27	111.52	1,527.38	59.55	2,052.47
472	1.93	95.52	1,528.97	53.16	2,062.33
470	1.58	87.55	1,528.78	50.14	2,078.62
J118	0.43	111.3	1,527.20	61.13	2,085.82
880	1.51	72.47	1,529.76	45.23	2,152.03
934	6.89	86.08	1,530.28	53.72	2,227.13
930	2.01	85.97	1,530.28	54.45	2,252.65
604	1.37	86.06	1,530.28	54.7	2,259.80
1456	4.63	82.08	1,525.20	52.86	2,278.64
922	0.14	82.45	1,530.27	53.94	2,309.60
920	1.87	82.45	1,530.27	54.71	2,346.70
602	6.15	86.93	1,530.28	59.91	2,477.07
942	0.64	72.91	1,530.08	51.95	2,511.65
928	1.79	97	1,528.81	66.83	2,514.84
1454	8.86	72.22	1,525.20	51.65	2,521.03
924	3	97.18	1,528.81	67.84	2,558.47
940	1.12	72.59	1,530.08	52.43	2,559.34
1518	7.43	77.38	1,523.86	56.69	2,636.65
1760	1.48	106.04	1,529.73	75.3	2,655.82
956	0.11	107.7	1,529.80	76.53	2,659.36
926	1.21	94.72	1,528.60	68.75	2,688.90
960	2	106.04	1,529.73	75.96	2,689.00
952	0.1	107.51	1,529.80	77.17	2,697.31
1798	2.4	77.68	1,525.17	57.83	2,713.18
1516	8.19	77.09	1,523.86	57.78	2,732.25
958	0.75	106.04	1,529.73	76.83	2,732.49
J28	21.7	44.56	1,522.84	35.87	2,759.32

Tank Elevation: 1510 ft

ID	Static Demand (gpm)	Static Pressure (psi)	Static Head (ft)	Residual Pressure (psi)	Available Flow at Hydrant (gpm)
1704	0	10.28	1,398.00	10.26	0.21
1708	0	10.61	1,398.00	10.59	0.21
1706	0	10.45	1,397.99	10.42	0.25
1710	0	10.39	1,397.98	10.31	0.25
598	5.39	82.68	1,532.30	-11,656.51	88.98
876	3.56	82.47	1,533.84	-10,610.20	93.23
666	2.86	97.24	1,532.88	-2,108.12	244.13
406	2.86	81.77	1,534.11	-1,117.08	299.06
540	3	107.28	1,532.52	-1,243.78	340.29
1262	2.95	86.37	1,534.16	-727.43	383.93
284	4.48	90.06	1,533.97	-580.79	439.04
872	5.67	80.47	1,534.14	-422.32	473.58
680	5.14	105.02	1,533.85	-477.53	527.36
1090	2.49	90.29	1,530.85	-114.59	839.72
542	4.06	112.61	1,532.55	-51.3	1,100.49
1476	9.32	58.05	1,529.46	4.04	1,243.39
1092	7.75	99.02	1,530.85	-11.81	1,254.06
1474	6.34	60.43	1,529.46	9.13	1,319.85
1472	8.48	67.25	1,529.46	11.43	1,375.57
1470	9.6	66.27	1,529.46	15.6	1,435.52
726	3.68	97.44	1,534.39	22.52	1,531.12
J116	0.43	112.83	1,531.54	26.41	1,560.35
504	3.61	100.9	1,534.38	28	1,591.83
1468	5.21	66.85	1,529.47	27.34	1,655.59
1522	8.24	72.23	1,528.60	31.15	1,719.37
1466	4.24	67.18	1,529.48	32.52	1,787.70
1526	6.94	75.68	1,528.60	35.71	1,805.96
914	1.69	90.4	1,534.27	42.69	1,859.43
910	0.67	90.45	1,534.27	43.38	1,872.89
912	0	90.36	1,534.27	43.49	1,875.24
732	4.15	90.28	1,534.27	43.59	1,882.23
1520	8.41	75.9	1,528.60	39.39	1,903.77
1524	9.32	75.62	1,528.60	39.96	1,924.09
714	2.46	79.61	1,533.58	42.27	1,943.83
1504	14.73	69.2	1,528.24	39.11	1,978.05
1530	5.44	87.7	1,529.75	48.02	2,019.01
1462	7.5	69.13	1,529.50	40.13	2,023.47
1494	5.05	88.05	1,528.42	49.55	2,047.85
1528	5.97	86.38	1,529.75	48.87	2,060.94
1452	2.37	70.99	1,529.16	42.61	2,068.82
1464	1.74	69.8	1,529.50	41.69	2,068.98
1762	4.27	113.39	1,531.69	61.37	2,073.55
1460	0.34	69.63	1,529.50	41.93	2,080.90
472	1.93	97.31	1,533.10	54.87	2,087.01
470	1.58	89.35	1,532.93	51.87	2,106.64
J118	0.43	113.18	1,531.54	62.96	2,107.39
880	1.51	74.23	1,533.81	46.91	2,187.70
934	6.89	87.8	1,534.25	55.33	2,255.59
930	2.01	87.69	1,534.25	56.06	2,281.45
604	1.37	87.78	1,534.25	56.31	2,288.63
1456	4.63	84.06	1,529.75	54.71	2,313.85
922	0.14	84.17	1,534.25	55.57	2,340.79
920	1.87	84.17	1,534.25	56.34	2,378.25
602	6.15	88.65	1,534.25	61.53	2,507.66
928	1.79	98.79	1,532.96	68.57	2,543.56
942	0.64	74.64	1,534.07	53.61	2,551.63
1454	8.86	74.19	1,529.76	53.49	2,566.82
924	3	98.98	1,532.96	69.59	2,587.57
940	1.12	74.32	1,534.07	54.08	2,600.15
1760	1.48	107.79	1,533.76	76.99	2,682.06
1518	7.43	79.44	1,528.61	58.56	2,682.13
956	0.11	109.44	1,533.81	78.21	2,684.99
960	2	107.79	1,533.76	77.65	2,715.48
926	1.21	96.53	1,532.77	70.51	2,720.47
952	0.1	109.25	1,533.81	78.86	2,723.29
1798	2.4	79.65	1,529.72	59.67	2,757.40
958	0.75	107.79	1,533.76	78.52	2,759.31
1516	8.19	79.14	1,528.61	59.65	2,779.84
1796	2.35	87.04	1,530.18	65.99	2,843.68

2040 Higher Operating Range Junction Available Fire Flow-Site B

Tank Elevation: 1500 ft

ID	Static Demand (gpm)	Static Pressure (psi)	Static Head (ft)	Residual Pressure (psi)	Available Flow at Hydrant (gpm)
1802	4.57	70.40	1,520.42	53.41	2,751.03
1796	2.35	83.15	1,521.21	62.31	2,763.46
1792	2.21	76.40	1,520.64	57.88	2,782.53
918	0.81	94.02	1,527.00	70.86	2,815.39
1458	0.68	70.86	1,520.41	54.49	2,815.78
286	2.32	90.13	1,526.03	67.67	2,826.97
724	2.40	106.48	1,525.73	78.97	2,838.86
950	1.30	82.21	1,525.97	62.48	2,853.49
1446	9.70	69.71	1,520.40	54.13	2,865.73
916	1.16	94.02	1,527.00	71.62	2,866.76
702	3.66	72.91	1,526.11	56.43	2,887.15
1766	0.00	94.77	1,528.72	72.8	2,898.71
1230	0.00	94.77	1,528.71	72.83	2,901.19
1232	0.00	94.77	1,528.71	72.86	2,902.98
408	2.23	69.23	1,526.19	54.08	2,903.64
1094	1.92	96.21	1,522.01	73.15	2,904.00
948	0.45	81.73	1,525.97	62.81	2,909.62
1354	0.00	94.75	1,528.68	72.96	2,910.65
730	0.06	82.16	1,525.97	63.23	2,919.33
904	0.52	85.54	1,526.22	66.34	2,927.62
884	3.57	67.69	1,526.22	53.24	2,928.71
742	0.00	94.71	1,528.58	73.28	2,936.10
868	3.55	91.68	1,526.00	70.34	2,948.77
1492	3.14	75.23	1,518.84	59.59	2,964.69
874	0.77	85.18	1,526.22	66.52	2,965.62
1776	1.82	42.39	1,517.95	35.62	2,991.83
946	2.93	94.06	1,526.26	73.32	3,029.49
902	0.00	85.36	1,526.22	67.43	3,034.92
1338	5.88	84.94	1,526.02	66.69	3,056.62
J122	0.00	51.81	1,517.91	42.57	3,060.55
734	5.63	92.65	1,526.15	72.77	3,080.86
938	2.58	93.87	1,526.64	74.1	3,085.52
932	5.24	90.72	1,526.34	71.62	3,091.18
558	5.98	108.07	1,525.77	84.02	3,096.76
944	3.11	94.27	1,526.26	74.32	3,101.70
610	0.19	68.15	1,526.22	55.62	3,131.99
560	1.18	107.39	1,525.80	84.16	3,139.30
936	2.84	93.87	1,526.64	74.87	3,154.16
506	4.04	93.87	1,526.64	74.91	3,158.89
678	7.77	99.44	1,525.89	78.62	3,175.76
870	1.44	69.06	1,526.21	56.66	3,184.48
J120	0.43	94.89	1,521.60	76.68	3,268.74
908	1.66	91.45	1,526.78	74.49	3,269.51
1512	3.65	71.68	1,517.91	58.89	3,316.28
620	2.05	94.03	1,527.00	77.74	3,412.51
906	0.74	91.51	1,526.78	75.86	3,418.62
68	0.52	72.06	1,526.31	60.41	3,461.50
618	2.15	92.85	1,527.13	77.47	3,481.60
900	0.03	68.74	1,526.02	58.48	3,548.73
612	7.24	86.27	1,526.35	72.73	3,574.23
878	2.37	64.83	1,526.72	55.52	3,592.60
1260	0.00	65.31	1,527.28	55.95	3,604.05
1714	0.00	65.39	1,527.30	56.01	3,604.13
1712	0.00	65.47	1,527.32	56.08	3,604.95
1508	5.94	69.24	1,518.30	59.18	3,644.44
1204	0.51	64.69	1,526.75	55.71	3,656.81
1510	2.28	68.90	1,517.91	58.82	3,716.13
1794	2.69	85.01	1,521.21	72.71	3,774.15
1356	1.98	68.79	1,526.03	59.57	3,778.13
J30	172.23	66.19	1,517.90	56.17	3,787.46
1434	0.04	66.82	1,526.01	58.07	3,808.04
882	1.12	67.02	1,526.01	58.24	3,808.53
898	0.02	68.93	1,526.02	59.83	3,812.62
1444	4.27	68.37	1,520.37	59.59	3,851.24
1514	3.04	74.39	1,519.18	64.93	3,892.65
66	3.91	87.38	1,526.30	75.57	3,972.73
1442	6.46	68.15	1,520.37	59.91	3,982.16
1506	4.88	71.78	1,518.57	63.3	4,065.27
1502	1.63	70.87	1,518.62	62.84	4,135.11

Tank Elevation: 1505 ft

ID	Static Demand (gpm)	Static Pressure (psi)	Static Head (ft)	Residual Pressure (psi)	Available Flow at Hydrant (gpm)
1802	4.57	72.37	1,524.97	55.25	2,802.58
1796	2.35	85.09	1,525.68	64.14	2,804.04
1792	2.21	78.36	1,525.17	59.72	2,828.96
918	0.81	95.7	1,530.87	72.49	2,844.75
286	2.32	91.85	1,530.01	69.37	2,860.54
724	2.4	108.21	1,529.73	80.7	2,866.78
1458	0.68	72.84	1,524.97	56.33	2,867.85
950	1.3	83.93	1,529.95	64.19	2,891.95
916	1.16	95.7	1,530.87	73.24	2,896.53
1446	9.7	71.69	1,524.96	55.97	2,919.61
1766	0	96.38	1,532.42	74.32	2,926.33
1230	0	96.37	1,532.41	74.35	2,928.84
1232	0	96.37	1,532.41	74.37	2,930.66
702	3.66	74.63	1,530.08	58.14	2,932.40
1354	0	96.36	1,532.38	74.47	2,938.41
1094	1.92	98.13	1,526.43	75	2,939.82
948	0.45	83.45	1,529.95	64.52	2,949.00
408	2.23	70.94	1,530.15	55.79	2,952.29
730	0.06	83.89	1,529.95	64.94	2,958.54
904	0.52	87.26	1,530.19	68.01	2,963.04
742	0	96.32	1,532.30	74.8	2,964.15
884	3.57	69.41	1,530.18	54.94	2,979.15
868	3.55	93.41	1,529.97	72.05	2,982.83
874	0.77	86.9	1,530.19	68.2	3,001.60
1492	3.14	77.3	1,523.62	61.5	3,017.22
946	2.93	95.77	1,530.21	74.99	3,062.16
902	0	87.08	1,530.19	69.1	3,071.46
1338	5.88	86.66	1,530.00	68.4	3,095.34
734	5.63	94.37	1,530.12	74.46	3,114.94
938	2.58	95.57	1,530.55	75.76	3,117.93
932	5.24	92.42	1,530.28	73.29	3,125.94
558	5.98	109.81	1,529.77	85.74	3,125.95
944	3.11	95.99	1,530.21	76	3,134.89
1776	1.82	44.53	1,522.89	37.73	3,143.44
J122	0	53.95	1,522.83	44.65	3,168.06
560	1.18	109.12	1,529.80	85.88	3,168.97
610	0.19	69.87	1,530.19	57.29	3,182.97
936	2.84	95.57	1,530.55	76.53	3,187.13
506	4.04	95.57	1,530.56	76.57	3,191.88
678	7.77	101.17	1,529.88	80.33	3,208.48
870	1.44	70.78	1,530.18	58.33	3,235.24
908	1.66	93.14	1,530.69	76.13	3,303.91
J120	0.43	96.83	1,526.07	78.51	3,309.63
1512	3.65	73.81	1,522.82	60.95	3,386.25
620	2.05	95.71	1,530.88	79.37	3,446.56
906	0.74	93.21	1,530.69	77.51	3,454.27
68	0.52	73.78	1,530.27	62.12	3,514.14
618	2.15	94.53	1,531.00	79.07	3,516.48
900	0.03	70.47	1,530.02	60.19	3,606.05
612	7.24	87.99	1,530.31	74.41	3,615.17
878	2.37	66.53	1,530.66	57.23	3,654.79
1714	0	67.08	1,531.20	57.73	3,664.73
1260	0	67	1,531.18	57.66	3,664.79
1712	0	67.16	1,531.22	57.79	3,665.42
1204	0.51	66.39	1,530.69	57.43	3,720.11
1508	5.94	71.34	1,523.15	61.19	3,721.97
1510	2.28	71.03	1,522.82	60.89	3,798.93
1794	2.69	86.95	1,525.68	74.55	3,825.92
1356	1.98	70.52	1,530.03	61.27	3,838.88
1434	0.04	68.55	1,530.01	59.78	3,872.03
882	1.12	68.75	1,530.01	59.94	3,872.22
J30	172.23	68.32	1,522.81	58.24	3,873.24
898	0.02	70.66	1,530.02	61.54	3,873.76
1444	4.27	70.35	1,524.94	61.43	3,923.37
1514	3.04	76.44	1,523.90	66.8	3,961.41
66	3.91	89.1	1,530.26	77.28	4,018.50
1442	6.46	70.13	1,524.94	61.75	4,056.92
1506	4.88	73.87	1,523.38	65.26	4,144.31
1502	1.63	72.95	1,523.43	64.79	4,216.32

Tank Elevation: 1510 ft

ID	Static Demand (gpm)	Static Pressure (psi)	Static Head (ft)	Residual Pressure (psi)	Available Flow at Hydrant (gpm)
1802	4.57	74.35	1,529.55	57.1	2,852.70
918	0.81	97.39	1,534.77	74.08	2,873.56
1792	2.21	80.34	1,529.72	61.57	2,874.20
J28	21.7	46.69	1,527.76	37.95	2,885.25
286	2.32	93.58	1,534.00	71.03	2,893.43
724	2.4	109.95	1,533.76	82.39	2,894.20
1458	0.68	74.82	1,529.54	58.17	2,918.52
916	1.16	97.39	1,534.77	74.83	2,925.73
950	1.3	85.67	1,533.95	65.86	2,929.55
1766	0	97.98	1,536.13	75.8	2,953.45
1230	0	97.98	1,536.12	75.84	2,955.99
1232	0	97.98	1,536.12	75.86	2,957.83
1354	0	97.97	1,536.09	75.96	2,965.67
1446	9.7	73.67	1,529.54	57.82	2,972.01
1094	1.92	100.05	1,530.87	76.84	2,974.80
702	3.66	76.36	1,534.07	59.8	2,976.53
948	0.45	85.18	1,533.95	66.19	2,987.50
742	0	97.93	1,536.02	76.29	2,991.70
730	0.06	85.62	1,533.95	66.61	2,996.88
904	0.52	88.99	1,534.18	69.63	2,997.73
408	2.23	72.67	1,534.14	57.44	2,999.67
868	3.55	95.14	1,533.97	73.71	3,016.22
884	3.57	71.13	1,534.16	56.6	3,028.26
874	0.77	88.63	1,534.18	69.81	3,036.83
1492	3.14	79.38	1,528.42	63.4	3,068.67
946	2.93	97.49	1,534.19	76.62	3,094.21
902	0	88.81	1,534.18	70.72	3,107.25
1338	5.88	88.39	1,534.00	70.06	3,133.24
734	5.63	96.1	1,534.10	76.09	3,148.37
938	2.58	97.27	1,534.48	77.36	3,149.74
558	5.98	111.55	1,533.79	87.43	3,154.66
932	5.24	94.14	1,534.25	74.9	3,159.81
944	3.11	97.71	1,534.19	77.62	3,167.45
560	1.18	110.86	1,533.81	87.56	3,198.20
936	2.84	97.27	1,534.48	78.13	3,219.50
506	4.04	97.27	1,534.49	78.17	3,224.26
610	0.19	71.6	1,534.18	58.91	3,232.67
678	7.77	102.9	1,533.88	82	3,240.60
J122	0	56.08	1,527.75	46.73	3,272.03
870	1.44	72.51	1,534.17	59.95	3,284.76
1776	1.82	46.67	1,527.83	39.84	3,288.36
908	1.66	94.84	1,534.61	77.73	3,337.67
J120	0.43	98.77	1,530.56	80.35	3,349.73
1512	3.65	75.94	1,527.74	63.01	3,454.68
620	2.05	97.4	1,534.78	80.95	3,480.01
906	0.74	94.9	1,534.61	79.11	3,489.27
618	2.15	96.21	1,534.88	80.64	3,550.75
68	0.52	75.5	1,534.25	63.77	3,565.57
612	7.24	89.71	1,534.28	76	3,655.34
900	0.03	72.21	1,534.04	61.83	3,662.02
878	2.37	68.25	1,534.62	58.85	3,715.45
1714	0	68.78	1,535.12	59.35	3,723.85
1260	0	68.7	1,535.10	59.28	3,724.05
1712	0	68.86	1,535.14	59.42	3,724.42
1204	0.51	68.11	1,534.65	59.05	3,781.86
1508	5.94	73.45	1,528.01	63.19	3,797.47
1794	2.69	88.9	1,530.18	76.4	3,876.69
1510	2.28	73.16	1,527.74	62.95	3,879.85
1356	1.98	72.27	1,534.05	62.92	3,898.25
898	0.02	72.41	1,534.04	63.18	3,933.52
882	1.12	70.5	1,534.04	61.59	3,934.44
1434	0.04	70.3	1,534.04	61.43	3,934.54
J30	172.23	70.45	1,527.72	60.3	3,956.97
1444	4.27	72.34	1,529.53	63.27	3,993.78
1514	3.04	78.49	1,528.64	68.67	4,028.46
66	3.91	90.82	1,534.24	78.93	4,063.45
1442	6.46	72.12	1,529.53	63.59	4,129.90
1506	4.88	75.96	1,528.21	67.22	4,221.63
1440	8.2	78.45	1,529.77	69.51	4,286.47

2040 Higher Operating Range Junction Available Fire Flow-Site B

Tank Elevation: 1500 ft

ID	Static Demand (gpm)	Static Pressure (psi)	Static Head (ft)	Residual Pressure (psi)	Available Flow at Hydrant (gpm)
1440	8.20	74.51	1,520.68	65.83	4,152.15
1816	12.29	53.83	1,518.73	48.89	4,199.89
1450	2.00	71.17	1,519.88	63.57	4,274.52
1448	2.60	71.83	1,519.93	64.17	4,286.76
1478	4.15	71.53	1,519.83	64.01	4,313.30
1438	3.16	80.97	1,520.97	72.15	4,383.24
1500	0.70	70.67	1,518.74	63.67	4,416.50
1800	0.66	82.12	1,521.32	73.3	4,432.50
1436	9.55	83.12	1,521.83	74.12	4,436.82
1498	1.86	59.05	1,518.74	54.05	4,503.14
1814	3.47	55.24	1,518.66	50.96	4,624.82
1480	2.36	76.00	1,519.54	68.97	4,662.21
1482	2.36	78.50	1,519.48	71.58	4,817.41
1804	0.19	91.09	1,519.10	83.15	4,821.91
1496	11.07	66.22	1,518.78	61	4,846.73
1484	1.89	76.58	1,519.19	70.22	4,929.25
1486	1.81	78.71	1,519.13	72.51	5,098.42
1490	12.38	73.05	1,518.84	67.65	5,157.87
1488	1.37	73.44	1,518.89	67.98	5,158.33
1812	152.26	60.08	1,518.65	56	5,246.57

Tank Elevation: 1505 ft

ID	Static Demand (gpm)	Static Pressure (psi)	Static Head (ft)	Residual Pressure (psi)	Available Flow at Hydrant (gpm)
1440	8.2	76.47	1,525.22	67.67	4,220.00
1816	12.29	55.91	1,523.53	50.82	4,318.23
1450	2	73.17	1,524.51	65.42	4,351.26
1448	2.6	73.84	1,524.56	66.01	4,362.53
1478	4.15	73.54	1,524.47	65.86	4,390.26
1438	3.16	82.92	1,525.48	73.98	4,446.46
1800	0.66	84.06	1,525.78	75.14	4,494.53
1436	9.55	85.03	1,526.24	75.97	4,497.14
1500	0.7	72.74	1,523.53	65.6	4,501.99
1498	1.86	61.13	1,523.54	55.98	4,613.19
1480	2.36	78.03	1,524.22	70.82	4,739.30
1814	3.47	57.33	1,523.48	52.91	4,751.38
1804	0.19	93.15	1,523.87	85.06	4,885.63
1482	2.36	80.53	1,524.16	73.44	4,893.71
1496	11.07	68.29	1,523.57	62.92	4,946.16
1484	1.89	78.62	1,523.91	72.09	5,011.13
1486	1.81	80.76	1,523.87	74.39	5,180.09
1490	12.38	75.12	1,523.62	69.56	5,249.91
1488	1.37	75.51	1,523.66	69.88	5,250.42
1812	152.26	62.17	1,523.47	57.96	5,369.51

Tank Elevation: 1510 ft

ID	Static Demand (gpm)	Static Pressure (psi)	Static Head (ft)	Residual Pressure (psi)	Available Flow at Hydrant (gpm)
1502	1.63	75.04	1,528.25	66.74	4,295.87
1450	2	75.19	1,529.16	67.26	4,426.26
1816	12.29	58	1,528.36	52.74	4,433.02
1448	2.6	75.85	1,529.20	67.85	4,436.61
1478	4.15	75.56	1,529.13	67.7	4,465.50
1438	3.16	84.88	1,530.00	75.83	4,508.48
1800	0.66	86	1,530.27	76.99	4,555.40
1436	9.55	86.95	1,530.68	77.8	4,556.36
1500	0.7	74.83	1,528.34	67.52	4,585.73
1498	1.86	63.22	1,528.36	57.9	4,720.34
1480	2.36	80.07	1,528.92	72.67	4,814.78
1814	3.47	59.43	1,528.32	54.86	4,874.30
1804	0.19	95.23	1,528.66	86.96	4,948.31
1482	2.36	82.56	1,528.87	75.29	4,968.49
1496	11.07	70.38	1,528.38	64.83	5,043.34
1484	1.89	80.68	1,528.66	73.96	5,091.33
1486	1.81	82.82	1,528.62	76.26	5,260.16
1490	12.38	77.2	1,528.42	71.46	5,340.10
1488	1.37	77.58	1,528.45	71.77	5,340.58
1812	152.26	64.26	1,528.31	59.91	5,489.31

2023 Lower Operating Range Junction Available Fire Flow-Site B

Tank Elevation: 1490 ft

ID	Static Demand (gpm)	Static Pressure (psi)	Static Head (ft)	Residual Pressure (psi)	Available Flow at Hydrant (gpm)
1704	0	10.28	1,397.99	10.26	-0.01
1708	0	10.61	1,397.99	10.59	-0.01
1706	0	10.45	1,397.99	10.42	0
1710	0	10.39	1,397.97	10.3	0.17
598	3.09	77.03	1,519.28	-11,654.21	83.95
876	2.37	76.19	1,519.35	-10,611.98	87.45
666	3.9	91.45	1,519.51	-2,147.56	229.82
406	3.19	75.55	1,519.76	-1,136.91	276.89
540	3.1	101.68	1,519.57	-1,318.21	314.84
1262	1.26	80.02	1,519.50	-743.15	355.81
284	3.23	83.84	1,519.61	-601.13	406.67
872	3.97	74.12	1,519.49	-438.69	434.34
680	6.4	98.84	1,519.58	-502.24	493.3
1090	0	85.43	1,519.64	-238	620.89
1092	2.58	94.16	1,519.64	-135.51	809.35
542	2.97	107	1,519.60	-125.59	876.74
1762	3.4	108.15	1,519.61	-115.58	903.11
1094	3.06	95.18	1,519.64	-47.68	1,059.08
1476	4.85	51.21	1,513.67	-6.5	1,082.72
1474	5.06	53.59	1,513.67	-1.42	1,156.09
1472	1.74	60.41	1,513.67	1.03	1,222.08
1470	1.71	59.42	1,513.67	5.16	1,265.86
726	3.34	91.01	1,519.55	2.77	1,335.94
504	3.74	94.48	1,519.55	8.02	1,386.68
1468	3.47	60.01	1,513.67	16.7	1,441.32
470	2.07	83.57	1,519.59	15.18	1,443.45
1522	2.04	64.97	1,511.84	20.68	1,514.11
714	2.28	73.52	1,519.53	20.8	1,514.65
1512	1.46	68.82	1,511.31	21.97	1,534.69
1510	1.86	66.04	1,511.31	21.9	1,535.78
1466	2.24	60.33	1,513.67	21.76	1,538.24
472	2.8	91.45	1,519.56	24.07	1,551.58
914	0.8	84.04	1,519.59	24.02	1,554.80
926	1.3	90.84	1,519.64	25	1,562.41
1504	8.67	61.87	1,511.31	22.76	1,563.67
910	1.38	84.08	1,519.59	24.71	1,565.07
912	0.04	84	1,519.59	24.82	1,565.44
732	2.01	83.92	1,519.59	24.92	1,569.01
1526	3.78	68.42	1,511.84	25.13	1,595.43
928	1.06	93.04	1,519.68	28.82	1,610.20
924	1.59	93.22	1,519.68	29.83	1,624.41
880	1.12	68.03	1,519.51	28.52	1,668.62
1520	2.56	68.64	1,511.84	28.88	1,671.16
1524	3.74	68.36	1,511.84	29.37	1,684.48
1462	6.7	62.27	1,513.68	29.17	1,714.57
1464	1.9	62.94	1,513.68	30.72	1,748.91
1460	0.37	62.77	1,513.68	30.96	1,755.50
1452	2.59	63.93	1,512.85	31.33	1,756.71
934	1.69	81.45	1,519.60	36.24	1,775.97
1530	3.75	80.83	1,513.91	36.76	1,784.00
942	1.06	68.41	1,519.70	33.24	1,790.05
930	2.05	81.34	1,519.60	36.96	1,792.91
604	1.28	81.43	1,519.60	37.22	1,797.19
940	1.57	68.09	1,519.70	33.72	1,806.96
1528	1.7	79.52	1,513.91	37.61	1,808.82
922	0.98	77.85	1,519.67	37.14	1,819.25
1494	4.17	80.52	1,511.04	38.56	1,824.73
920	1.86	77.85	1,519.67	37.92	1,839.45
1766	0	90.79	1,519.52	44.86	1,899.22
1230	0	90.79	1,519.52	44.94	1,901.13
1232	0	90.79	1,519.52	45	1,902.51
1354	0	90.79	1,519.52	45.26	1,908.40
1760	0.18	101.67	1,519.63	49	1,909.94
1508	12.21	66.21	1,511.31	36.98	1,921.08
960	2.07	101.67	1,519.63	49.65	1,925.23
742	0	90.79	1,519.52	46.09	1,927.84
602	1.98	82.32	1,519.65	43.02	1,933.25
958	0.55	101.67	1,519.63	50.52	1,941.80
956	0.25	103.3	1,519.63	52.31	1,965.79
702	3.03	70.13	1,519.71	39.42	1,970.34
408	1.79	66.45	1,519.79	38.1	1,972.69
884	3.58	64.92	1,519.82	37.61	1,978.90
950	2.06	79.47	1,519.64	43.43	1,981.20
952	0.22	103.11	1,519.63	52.96	1,981.53
1456	2.53	77.19	1,513.91	43.38	1,984.09
948	0.57	78.98	1,519.64	43.76	1,996.17
730	0.68	79.42	1,519.64	44.16	2,003.17
724	2.29	103.83	1,519.63	54.39	2,009.29

Tank Elevation: 1495 ft

ID	Static Demand (gpm)	Static Pressure (psi)	Static Head (ft)	Residual Pressure (psi)	Available Flow at Hydrant (gpm)
1704	0	10.28	1,397.99	10.26	-0.01
1708	0	10.61	1,397.99	10.59	-0.01
1706	0	10.45	1,397.99	10.42	0
1710	0	10.39	1,397.97	10.3	0.15
598	3.09	78.68	1,523.08	-11,652.62	85.3
876	2.37	77.84	1,523.16	-10,610.39	88.88
666	3.9	93.09	1,523.31	-2,145.97	233
406	3.19	77.19	1,523.54	-1,135.32	281.96
540	3.1	103.31	1,523.36	-1,316.62	318.82
1262	1.26	81.67	1,523.31	-741.55	362.19
284	3.23	85.48	1,523.39	-599.53	413.72
872	3.97	75.77	1,523.30	-437.1	443.5
680	6.4	100.48	1,523.37	-500.64	500.43
1090	0	87.08	1,523.43	-236.41	631.88
1092	2.58	95.81	1,523.43	-133.92	820.9
542	2.97	108.64	1,523.39	-123.99	887.13
1762	3.4	109.79	1,523.39	-113.99	913.55
1094	3.06	96.83	1,523.43	-46.09	1,072.65
1476	4.85	53.08	1,518.00	-4.73	1,117.16
1474	5.06	55.46	1,518.00	0.35	1,189.79
1472	1.74	62.29	1,518.00	2.8	1,251.46
1470	1.71	61.3	1,518.00	6.93	1,296.79
726	3.34	92.66	1,523.35	4.36	1,352.68
504	3.74	96.12	1,523.35	9.61	1,403.06
470	2.07	85.22	1,523.39	16.78	1,463.20
1468	3.47	61.88	1,518.00	18.47	1,475.04
714	2.28	75.17	1,523.33	22.4	1,538.77
1522	2.04	66.93	1,516.36	22.52	1,546.54
1512	1.46	70.81	1,515.89	23.85	1,565.49
1510	1.86	68.02	1,515.89	23.78	1,568.40
472	2.8	93.09	1,523.36	25.67	1,570.04
1466	2.24	62.2	1,518.00	23.53	1,573.46
914	0.8	85.69	1,523.38	25.62	1,575.43
926	1.3	92.48	1,523.43	26.59	1,581.16
910	1.38	85.73	1,523.38	26.3	1,585.78
912	0.04	85.64	1,523.38	26.41	1,586.18
732	2.01	85.57	1,523.38	26.52	1,589.80
1504	8.67	63.85	1,515.89	24.63	1,599.82
1526	3.78	70.38	1,516.36	26.98	1,626.94
928	1.06	94.68	1,523.47	30.41	1,628.77
924	1.59	94.86	1,523.47	31.42	1,643.05
880	1.12	69.68	1,523.32	30.11	1,697.33
1520	2.56	70.6	1,516.36	30.73	1,703.75
1524	3.74	70.32	1,516.36	31.22	1,717.48
1462	6.7	64.15	1,518.01	30.94	1,751.12
1464	1.9	64.82	1,518.01	32.49	1,785.58
1460	0.37	64.65	1,518.01	32.73	1,792.45
1452	2.59	65.84	1,517.27	33.14	1,793.09
934	1.69	83.1	1,523.39	37.83	1,799.65
1530	3.75	82.7	1,518.22	38.53	1,810.36
930	2.05	82.99	1,523.39	38.56	1,816.80
942	1.06	70.05	1,523.48	34.83	1,820.39
604	1.28	83.07	1,523.39	38.81	1,821.09
1528	1.7	81.39	1,518.22	39.37	1,836.06
940	1.57	69.73	1,523.48	35.31	1,837.71
922	0.98	79.49	1,523.46	38.73	1,844.83
1494	4.17	82.51	1,515.65	40.46	1,853.82
920	1.86	79.49	1,523.46	39.51	1,865.24
1766	0	92.43	1,523.33	46.45	1,920.75
1230	0	92.43	1,523.33	46.53	1,922.68
1232	0	92.43	1,523.33	46.6	1,924.07
1760	0.18	103.3	1,523.41	50.59	1,928.82
1354	0	92.43	1,523.33	46.85	1,930.01
960	2.07	103.3	1,523.41	51.25	1,944.20
742	0	92.43	1,523.33	47.68	1,949.60
602	1.98	83.96	1,523.43	44.61	1,958.10
1508	12.21	68.2	1,515.89	38.85	1,960.14
958	0.55	103.3	1,523.41	52.11	1,960.91
956	0.25	104.94	1,523.42	53.91	1,984.67
952	0.22	104.74	1,523.42	54.55	2,000.57
702	3.03	71.77	1,523.49	41.01	2,001.84
408	1.79	68.09	1,523.57	39.69	2,006.70
950	2.06	81.11	1,523.43	45.02	2,007.89
884	3.58	66.55	1,523.60	39.2	2,014.12
1456	2.53	79.06	1,518.22	45.15	2,014.55
948	0.57	80.62	1,523.43	45.35	2,023.26
724	2.29	105.47	1,523.41	55.98	2,028.37
730	0.68	81.06	1,523.42	45.75	2,030.13

Tank Elevation: 1500 ft

ID	Static Demand (gpm)	Static Pressure (psi)	Static Head (ft)	Residual Pressure (psi)	Available Flow at Hydrant (gpm)
1710	0	10.4	1,397.99	10.33	0.11
1704	0	10.28	1,398.00	10.26	0.20
1708	0	10.61	1,398.00	10.59	0.21
1706	0	10.45	1,398.00	10.43	0.25
598	3.03	80.83	1,528.05	-11,656.08	86.83
876	2.32	80.1	1,528.39	-10,612.42	90.56
666	3.82	95.24	1,528.26	-2,150.05	236.08
406	3.13	79.37	1,528.57	-1,138.56	286.99
540	3.04	105.55	1,528.53	-1,319.37	322.89
1262	1.24	83.93	1,528.52	-744.28	369.12
284	3.17	87.74	1,528.60	-602.22	421.21
872	3.89	78.03	1,528.52	-439.78	453.45
680	6.27	102.72	1,528.54	-503.44	507.55
1090	0	89.22	1,528.37	-240.63	638.33
1092	2.53	97.95	1,528.37	-138.14	821.94
542	2.91	110.88	1,528.56	-126.84	889.53
1762	3.34	112.03	1,528.56	-116.84	915.28
1094	3	98.97	1,528.37	-50.31	1,062.88
1476	4.75	55.82	1,524.30	-10.71	1,078.96
1474	4.96	58.19	1,524.30	-5.63	1,142.22
1472	1.71	65.02	1,524.31	-3.18	1,200.76
1470	1.68	64.03	1,524.31	0.96	1,237.35
726	3.27	95.06	1,528.89	3.93	1,353.35
1468	3.4	64.62	1,524.31	12.49	1,382.72
504	3.66	98.52	1,528.89	9.11	1,401.63
470	2.02	87.36	1,528.34	12.48	1,417.67
1522	2	69.87	1,523.14	15.79	1,438.34
1466	2.19	64.94	1,524.31	17.55	1,459.82
714	2.24	77.32	1,528.31	17.94	1,473.73
1526	3.7	73.31	1,523.14	20.25	1,507.49
472	2.74	95.24	1,528.32	21.32	1,517.29
926	1.28	94.62	1,528.38	22.36	1,527.77
914	0.78	88	1,528.72	23.9	1,549.76
910	1.36	88.04	1,528.72	24.59	1,559.41
912	0.04	87.96	1,528.72	24.69	1,559.63
732	1.97	87.88	1,528.72	24.8	1,563.01
1520	2.51	73.54	1,523.14	24	1,566.07
928	1.04	96.82	1,528.41	26.21	1,571.62
1524	3.67	73.26	1,523.14	24.49	1,575.94
924	1.56	97	1,528.41	27.22	1,584.38
880	1.1	71.84	1,528.30	25.61	1,597.46
1462	6.56	66.88	1,524.31	24.96	1,599.88
1464	1.86	67.55	1,524.31	26.51	1,626.09
1452	2.54	68.67	1,523.80	26.78	1,627.84
1460	0.36	67.38	1,524.31	26.75	1,630.25
1504	8.5	66.44	1,521.87	27.37	1,652.68
1494	4.08	85.62	1,522.82	31.74	1,670.90
1530	3.67	85.41	1,524.49	32.54	1,686.20
1528	1.67	84.1	1,524.49	33.39	1,703.65
942	1.04	72.27	1,528.60	31.84	1,729.92
940	1.54	71.95	1,528.60	32.32	1,744.00
934	1.65	85.41	1,528.74	36.2	1,755.60
1814	0	57.04	1,522.81	29.56	1,758.06
930	2.01	85.3	1,528.74	36.93	1,771.20
922	0.96	81.76	1,528.69	36.22	1,774.89
604	1.25	85.39	1,528.74	37.17	1,774.98
920	1.82	81.76	1,528.69	37	1,792.87
1456	2.48	81.78	1,524.49	39.16	1,834.63
1816	23.33	55.6	1,522.81	30.85	1,843.08
1812	5.32	61.88	1,522.81	33.73	1,859.38
1760	0.18	105.54	1,528.58	47.71	1,863.28
884	3.51	68.72	1,528.60	35.77	1,869.13
408	1.75	70.27	1,528.60	36.36	1,870.24
960	2.03	105.54	1,528.58	48.37	1,877.21
702	2.97	73.98	1,528.60	37.93	1,882.18
602	1.94	86.25	1,528.70	42.3	1,884.21
1454	2.9	71.91	1,524.49	37.86	1,885.03
958	0.54	105.54	1,528.58	49.23	1,892.03
950	2.02	83.34	1,528.59	42.13	1,908.85
956	0.24	107.18	1,528.58	51.02	1,914.57
948	0.56	82.86	1,528.59	42.46	1,920.97
730	0.67	83.3	1,528.59	42.86	1,927.44
952	0.22	106.98	1,528.58	51.67	1,928.49
724	2.24	107.71	1,528.58	53.1	1,953.74
1498	1.72	60.81	1,522.81	36.39	1,973.50
1518	1.89	77.07	1,523.15	42.94	1,977.49
286	3.53	91.25	1,528.61	48.55	1,998.83
1802	1.41	72.09	1,524.33	41.61	2,005.02

2023 Lower Operating Range Junction Available Fire Flow-Site B

Tank Elevation: 1490 ft

ID	Static Demand (gpm)	Static Pressure (psi)	Static Head (ft)	Residual Pressure (psi)	Available Flow at Hydrant (gpm)
286	3.6	87.35	1,519.62	49.69	2,072.00
918	1.66	90.79	1,519.53	51.97	2,086.58
1454	2.96	67.33	1,513.91	42.09	2,091.14
916	0.81	90.79	1,519.53	52.73	2,108.68
1338	3.87	82.18	1,519.67	48.46	2,109.60
868	2.23	88.92	1,519.63	51.89	2,117.66
610	0.68	65.24	1,519.51	41.45	2,132.76
558	4.39	105.41	1,519.63	60.78	2,151.85
870	1.01	66.16	1,519.51	42.58	2,167.53
560	1.6	104.72	1,519.63	61.67	2,183.17
678	4.51	96.73	1,519.64	58.16	2,200.81
904	0.77	82.63	1,519.51	52.17	2,225.21
946	1.83	91.17	1,519.59	56.44	2,232.51
932	5.02	87.79	1,519.58	54.75	2,237.40
734	7.38	89.82	1,519.61	55.71	2,238.01
1518	1.93	72.17	1,511.84	47.82	2,238.41
938	1.26	90.8	1,519.55	56.51	2,238.43
874	0.63	82.27	1,519.51	52.36	2,240.48
1798	2.61	72.8	1,513.91	48.28	2,253.59
944	4.41	91.38	1,519.59	57.44	2,268.17
506	2.44	90.8	1,519.55	57.31	2,269.55
68	2.47	69.3	1,519.93	45.89	2,269.60
936	4.24	90.8	1,519.55	57.28	2,270.23
1802	1.43	67.48	1,513.69	45.83	2,270.31
902	0.01	82.45	1,519.51	53.27	2,274.46
1516	2.33	71.88	1,511.84	48.88	2,299.18
908	1.69	88.3	1,519.52	56.86	2,299.42
618	3.77	89.56	1,519.52	57.72	2,310.48
1458	0.74	67.94	1,513.67	46.88	2,313.79
878	2.67	62.06	1,520.34	42.84	2,315.33
620	2.12	90.79	1,519.53	58.62	2,319.02
1446	2.54	66.79	1,513.65	46.5	2,329.90
1792	2.41	73.49	1,513.91	50.18	2,330.44
1204	0.71	61.92	1,520.37	43.21	2,343.39
1796	2.61	80.24	1,514.49	54.24	2,343.44
1260	0	62.57	1,520.97	43.62	2,352.34
1714	0	62.66	1,521.00	43.69	2,354.52
1712	0	62.74	1,521.02	43.77	2,356.78
906	1.6	88.36	1,519.52	58.24	2,356.78
900	0.16	65.91	1,519.50	46.03	2,371.96
1506	1.5	68.64	1,511.31	49.31	2,429.52
1434	0.21	64	1,519.50	45.76	2,432.33
882	0.46	64.2	1,519.50	45.9	2,434.31
1356	1.96	65.96	1,519.50	47.07	2,445.92
898	0.11	66.11	1,519.50	47.38	2,460.69
612	4.06	83.31	1,519.51	57.69	2,473.87
1492	0.98	71.85	1,511.04	52.39	2,498.44
1502	0.56	67.7	1,511.31	50.23	2,530.16
66	2.19	84.62	1,519.92	60.97	2,631.92
1444	1.85	65.41	1,513.54	51.83	2,814.64
1500	0.76	67.45	1,511.32	53.45	2,820.41
1442	1.52	65.19	1,513.54	52.15	2,867.04
1794	2.93	82.1	1,514.49	64.65	2,947.14
1514	1.34	71.22	1,511.85	57.53	2,974.04
1816	23.81	50.17	1,510.29	42.55	3,005.65
1440	2.38	71.58	1,513.91	57.91	3,018.28
1450	0.29	68.12	1,512.85	55.98	3,066.93
1448	1.37	68.8	1,512.92	56.57	3,080.61
1478	1.26	68.48	1,512.78	56.43	3,091.51
1436	1.36	80.22	1,515.15	65.54	3,189.36
1438	2.1	78.05	1,514.23	64.11	3,193.54
1800	0.9	79.21	1,514.60	65.04	3,207.74
1498	1.76	55.42	1,510.36	47.64	3,215.11
1480	2.49	72.89	1,512.36	61.44	3,321.50
1814	0	51.38	1,509.76	45.15	3,355.71
1496	3.42	62.7	1,510.66	54.25	3,417.46
1482	2.58	75.37	1,512.26	64.06	3,426.36
1484	1.43	73.4	1,511.85	62.7	3,446.49
1488	1.49	70.16	1,511.32	60.34	3,468.50
1486	1.6	75.51	1,511.75	64.98	3,547.51
1490	1.82	69.67	1,511.04	60.41	3,547.58
1804	0	86.98	1,509.63	74.6	3,602.56
1812	5.43	56.17	1,509.63	50.29	3,726.26
J40	34.25	59.01	1,509.24	54.22	4,328.18
1768	35.65	58.23	1,508.02	58.15	34,364.08

Tank Elevation: 1495 ft

ID	Static Demand (gpm)	Static Pressure (psi)	Static Head (ft)	Residual Pressure (psi)	Available Flow at Hydrant (gpm)
286	3.6	88.99	1,523.41	51.28	2,096.32
918	1.66	92.44	1,523.33	53.56	2,109.72
1454	2.96	69.19	1,518.22	43.85	2,129.36
916	0.81	92.44	1,523.33	54.32	2,132.02
1338	3.87	83.82	1,523.45	50.05	2,136.35
868	2.23	90.56	1,523.42	53.49	2,141.83
610	0.68	66.89	1,523.31	43.04	2,169.66
558	4.39	107.05	1,523.41	62.37	2,171.55
560	1.6	106.36	1,523.42	63.26	2,203.27
870	1.01	67.81	1,523.31	44.17	2,204.17
678	4.51	98.37	1,523.42	59.76	2,223.16
904	0.77	84.28	1,523.31	53.77	2,252.66
946	1.83	92.81	1,523.38	58.04	2,256.88
734	7.38	91.46	1,523.40	57.31	2,262.87
938	1.26	92.44	1,523.34	58.1	2,262.94
932	5.02	89.43	1,523.37	56.34	2,263.02
874	0.63	83.92	1,523.31	53.95	2,268.25
1518	1.93	74.13	1,516.36	49.67	2,277.36
1798	2.61	74.67	1,518.22	50.05	2,290.35
944	4.41	93.02	1,523.38	59.04	2,292.76
506	2.44	92.44	1,523.34	58.9	2,294.32
936	4.24	92.44	1,523.34	58.87	2,294.99
902	0.01	84.1	1,523.31	54.86	2,302.51
68	2.47	70.93	1,523.70	47.48	2,305.34
1802	1.43	69.36	1,518.02	47.59	2,311.48
908	1.69	89.95	1,523.32	58.45	2,325.30
618	3.77	91.21	1,523.33	59.31	2,335.99
1516	2.33	73.84	1,516.36	50.73	2,339.25
620	2.12	92.44	1,523.33	60.22	2,344.18
1458	0.74	69.82	1,518.00	48.65	2,355.22
878	2.67	63.69	1,524.09	44.43	2,357.65
1792	2.41	75.35	1,518.22	51.95	2,367.80
1446	2.54	68.67	1,517.98	48.27	2,372.51
1796	2.61	82.08	1,518.75	55.99	2,376.36
906	1.6	90.01	1,523.32	59.83	2,383.17
1204	0.71	63.55	1,524.12	44.79	2,386.27
1260	0	64.18	1,524.68	45.19	2,394.53
1714	0	64.26	1,524.70	45.26	2,396.65
1712	0	64.35	1,524.72	45.34	2,398.85
900	0.16	67.57	1,523.31	47.62	2,411.74
1434	0.21	65.65	1,523.31	47.36	2,474.89
1506	1.5	70.62	1,515.89	51.19	2,475.17
882	0.46	65.85	1,523.31	47.5	2,476.70
1356	1.96	67.62	1,523.31	48.66	2,486.78
898	0.11	67.76	1,523.31	48.97	2,501.67
612	4.06	84.96	1,523.32	59.28	2,503.55
1492	0.98	73.85	1,515.65	54.28	2,542.77
1502	0.56	69.68	1,515.89	52.1	2,578.37
66	2.19	86.25	1,523.69	62.56	2,662.67
1444	1.85	67.3	1,517.89	53.6	2,866.72
1500	0.76	69.43	1,515.90	55.32	2,873.78
1442	1.52	67.07	1,517.88	53.92	2,920.37
1794	2.93	83.95	1,518.75	66.4	2,986.30
1514	1.34	73.18	1,516.37	59.38	3,025.05
1440	2.38	73.44	1,518.22	59.67	3,066.99
1816	23.81	52.21	1,514.99	44.48	3,096.45
1450	0.29	70.04	1,517.27	57.79	3,121.28
1448	1.37	70.71	1,517.33	58.37	3,134.32
1478	1.26	70.4	1,517.21	58.24	3,145.95
1436	1.36	82.04	1,519.35	67.27	3,232.18
1438	2.1	79.9	1,518.51	65.86	3,238.88
1800	0.9	81.05	1,518.85	66.78	3,252.01
1498	1.76	57.45	1,515.05	49.57	3,298.43
1480	2.49	74.83	1,516.83	63.26	3,375.56
1814	0	53.45	1,514.52	47.09	3,456.34
1482	2.58	77.31	1,516.74	65.89	3,479.72
1496	3.42	64.71	1,515.31	56.17	3,490.13
1484	1.43	75.35	1,516.37	64.55	3,502.82
1488	1.49	72.15	1,515.90	62.22	3,529.83
1486	1.6	77.47	1,516.28	66.83	3,603.41
1490	1.82	71.67	1,515.65	62.3	3,611.54
1804	0	89.05	1,514.41	76.54	3,654.41
1812	5.43	58.24	1,514.41	52.23	3,823.92
J40	34.25	61.1	1,514.07	56.2	4,435.08
1768	35.65	60.4	1,513.01	60.31	35,380.75

Tank Elevation: 1500 ft

ID	Static Demand (gpm)	Static Pressure (psi)	Static Head (ft)	Residual Pressure (psi)	Available Flow at Hydrant (gpm)
1798	2.56	77.38	1,524.48	44.07	2,015.47
1516	2.28	76.78	1,523.15	44	2,015.75
1338	3.79	86.05	1,528.59	47.11	2,019.19
610	0.67	69.15	1,528.54	40.38	2,020.19
1458	0.72	72.55	1,524.32	42.65	2,035.33
868	2.19	92.81	1,528.60	50.65	2,036.87
1446	2.49	71.41	1,524.30	42.27	2,041.04
870	0.99	70.07	1,528.53	41.41	2,046.17
878	2.61	65.64	1,528.61	39.55	2,052.26
1260	0	65.95	1,528.75	39.84	2,056.87
1714	0	66.02	1,528.76	39.9	2,057.94
1712	0	66.1	1,528.76	39.96	2,059.20
1492	0.96	76.95	1,522.82	45.56	2,063.26
1204	0.69	65.49	1,528.61	39.8	2,064.23
1792	2.36	78.06	1,524.48	45.96	2,070.28
558	4.3	109.29	1,528.58	59.49	2,080.63
68	2.42	73.05	1,528.60	43.6	2,088.02
560	1.56	108.6	1,528.58	60.38	2,107.14
1796	2.56	84.74	1,524.87	50.11	2,108.10
678	4.42	100.61	1,528.59	56.87	2,115.24
904	0.75	86.55	1,528.54	51.11	2,126.49
900	0.15	69.73	1,528.31	43.17	2,126.84
874	0.61	86.19	1,528.54	51.29	2,138.70
1434	0.21	67.81	1,528.29	42.75	2,151.49
882	0.45	68.01	1,528.30	42.91	2,154.78
734	7.23	93.74	1,528.66	55.06	2,158.37
918	1.63	95.04	1,529.33	56.23	2,163.00
902	0.01	86.37	1,528.54	52.2	2,167.21
946	1.79	95.13	1,528.73	56.42	2,173.49
1356	1.92	69.78	1,528.31	44.26	2,179.61
916	0.79	95.04	1,529.33	56.99	2,186.72
898	0.1	69.92	1,528.31	44.52	2,187.38
932	4.91	91.77	1,528.78	55.2	2,190.85
944	4.32	95.34	1,528.73	57.42	2,205.59
1496	3.35	67.96	1,522.82	44.97	2,225.38
1804	0	92.69	1,522.81	58.04	2,233.18
938	1.24	94.91	1,529.03	58.69	2,250.84
936	4.15	94.91	1,529.03	59.45	2,282.06
506	2.39	94.91	1,529.03	59.51	2,282.20
1766	0	95.74	1,530.95	60.21	2,287.83
1230	0	95.73	1,530.94	60.24	2,288.76
1232	0	95.73	1,530.93	60.25	2,289.42
1354	0	95.72	1,530.91	60.32	2,292.27
742	0	95.68	1,530.82	60.55	2,301.63
1444	1.81	70.05	1,524.24	47.51	2,313.81
1442	1.49	69.83	1,524.24	47.81	2,338.15
908	1.65	92.46	1,529.11	59.8	2,341.62
612	3.98	87.29	1,528.69	57.62	2,376.08
1514	1.31	76.11	1,523.15	52.65	2,400.02
906	1.57	92.52	1,529.11	61.18	2,400.46
66	2.15	88.38	1,528.60	58.73	2,406.63
620	2.07	95.04	1,529.34	63.2	2,428.70
1450	0.28	72.86	1,523.80	51.43	2,446.33
1478	1.23	73.23	1,523.75	51.86	2,460.09
1448	1.34	73.53	1,523.84	52.04	2,461.15
618	3.7	93.86	1,529.45	63.21	2,462.50
1440	2.33	76.16	1,524.49	53.68	2,474.29
1490	1.78	74.77	1,522.82	53.58	2,501.44
1794	2.87	86.6	1,524.87	60.52	2,509.05
1488	1.47	75.14	1,522.82	55.24	2,596.83
1480	2.44	77.71	1,523.48	56.73	2,597.21
1500	0.75	72.21	1,522.30	53.61	2,603.75
1438	2.05	82.59	1,524.70	59.94	2,621.79
1484	1.4	78.29	1,523.15	57.81	2,640.94
1800	0.88	83.7	1,524.95	60.98	2,645.47
1436	1.33	84.63	1,525.33	61.61	2,652.46
1482	2.52	80.2	1,523.42	59.31	2,665.18
1502	0.55	72.28	1,521.87	54.84	2,688.90
1486	1.57	80.42	1,523.09	60.05	2,701.69
1506	1.47	73.12	1,521.65	56.34	2,765.42
1508	11.96	70.19	1,520.48	57.35	3,068.60
1512	1.43	72.08	1,518.83	64.08	3,977.38
J122	0	38.28	1,518.34	35.96	4,234.08
1510	1.82	69.3	1,518.83	64.01	4,729.69
J30	9.63	66.56	1,518.76	61.66	4,775.29

2040 Lower Operating Range Junction Available Fire Flow-Site B

ID	Static Demand (gpm)	Tank Elevation: 1490 ft Static Pressure (psi)	Static Head (ft)	Residual Pressure (psi)	Available Flow at Hydrant (gpm)
1704	0	10.28	1,397.99	10.26	0.23
1708	0	10.61	1,397.99	10.59	0.23
1706	0	10.45	1,397.99	10.42	0.28
1710	0	10.39	1,397.97	10.3	0.28
598	5.39	75.60	1,515.98	-11,663.63	83.21
876	3.56	75.63	1,518.07	-10,617.04	87.41
666	2.86	90.13	1,516.46	-2,115.31	230.27
406	2.86	74.94	1,518.36	-1,124.05	278.67
540	3	100.12	1,515.99	-1,251.00	323.51
1262	2.95	79.53	1,518.38	-734.28	359.55
284	4.48	83.22	1,518.19	-587.76	411.61
872	5.67	73.63	1,518.36	-429.16	440.13
680	5.14	98.16	1,518.01	-484.56	500.77
1090	2.49	82.66	1,513.23	-122.03	788.93
542	4.06	105.45	1,516.02	-58.52	1,049.80
1476	9.32	50.18	1,511.30	-3.36	1,100.63
1474	6.34	52.56	1,511.30	1.73	1,178.12
1092	7.75	91.39	1,513.23	-19.25	1,188.23
1472	8.48	59.39	1,511.30	4.03	1,251.10
1470	9.6	58.40	1,511.30	8.2	1,302.81
726	3.68	90.69	1,518.79	15.75	1,455.92
J116	0.43	105.39	1,514.36	18.9	1,489.86
1468	5.21	58.98	1,511.31	19.94	1,503.87
504	3.61	94.14	1,518.78	21.22	1,517.47
1522	8.24	64.06	1,509.74	23.64	1,580.34
1466	4.24	59.31	1,511.32	25.12	1,625.15
1526	6.94	67.51	1,509.74	28.2	1,669.79
914	1.69	83.61	1,518.58	35.87	1,761.04
1520	8.41	67.73	1,509.74	31.88	1,761.27
910	0.67	83.65	1,518.58	36.56	1,774.00
912	0	83.56	1,518.58	36.67	1,776.11
1524	9.32	67.45	1,509.74	32.45	1,779.49
732	4.15	83.48	1,518.58	36.77	1,782.86
1504	14.73	60.88	1,509.04	31.28	1,803.67
714	2.46	72.63	1,517.48	35.25	1,817.77
1462	7.5	61.26	1,511.34	32.73	1,848.07
1464	1.74	61.93	1,511.34	34.29	1,891.80
1530	5.44	79.87	1,511.68	40.63	1,895.22
1452	2.37	62.99	1,510.69	35.21	1,899.58
1460	0.34	61.76	1,511.34	34.53	1,901.95
1494	5.05	79.77	1,509.33	41.9	1,922.97
1528	5.97	78.55	1,511.68	41.48	1,932.09
472	1.93	90.24	1,516.77	47.75	1,984.76
1762	4.27	105.99	1,514.61	53.87	1,985.20
470	1.58	82.24	1,516.51	44.68	1,990.15
J118	0.43	105.73	1,514.36	55.45	2,017.03
880	1.51	67.29	1,517.81	39.88	2,038.02
934	6.89	81.01	1,518.57	48.5	2,137.45
930	2.01	80.90	1,518.57	49.23	2,161.93
1456	4.63	76.23	1,511.68	47.32	2,165.23
604	1.37	80.98	1,518.57	49.48	2,168.95
922	0.14	77.36	1,518.55	48.7	2,211.09
920	1.87	77.36	1,518.55	49.47	2,247.09
J28	21.7	38.16	1,508.06	29.57	2,342.53
1454	8.86	66.36	1,511.69	46.11	2,374.58
602	6.15	81.85	1,518.55	54.68	2,380.10
942	0.64	67.81	1,518.30	46.63	2,384.58
928	1.79	91.68	1,516.55	61.32	2,424.58
940	1.12	67.49	1,518.30	47.11	2,429.38
924	3	91.87	1,516.55	62.34	2,467.27
1518	7.43	71.26	1,509.75	51.05	2,493.73
1798	2.4	71.83	1,511.65	52.27	2,572.80
1760	1.48	100.90	1,517.86	69.91	2,573.57
956	0.11	102.57	1,517.94	71.15	2,578.93
1516	8.19	70.97	1,509.75	52.14	2,583.76
926	1.21	89.37	1,516.26	63.2	2,590.06
960	2	100.90	1,517.86	70.57	2,605.85
952	0.1	102.37	1,517.94	71.8	2,615.68
1802	4.57	66.49	1,511.39	49.7	2,642.83
958	0.75	100.90	1,517.86	71.44	2,648.11
1776	1.82	38.11	1,508.07	31.37	2,664.16
1796	2.35	79.31	1,512.34	58.59	2,678.82
1792	2.21	72.51	1,511.65	54.16	2,685.42
1458	0.68	66.95	1,511.38	50.77	2,706.44

ID	Static Demand (gpm)	Tank Elevation: 1495 ft Static Pressure (psi)	Static Head (ft)	Residual Pressure (psi)	Available Flow at Hydrant (gpm)
1704	0	10.28	1,397.99	10.26	0.22
1708	0	10.61	1,397.99	10.59	0.22
1706	0	10.45	1,397.99	10.42	0.27
1710	0	10.39	1,397.97	10.3	0.27
598	5.39	77.35	1,520.00	-11,661.77	84.65
876	3.56	77.31	1,521.95	-10,615.26	88.87
666	2.86	91.88	1,520.51	-2,113.43	233.7
406	2.86	76.62	1,522.23	-1,122.23	283.74
540	3	101.89	1,520.07	-1,249.11	327.76
1262	2.95	81.21	1,522.26	-732.49	365.73
284	4.48	84.91	1,522.07	-585.94	418.73
872	5.67	75.31	1,522.24	-427.38	448.61
680	5.14	99.84	1,521.91	-482.72	507.5
1090	2.49	84.55	1,517.59	-120.14	801.91
542	4.06	107.22	1,520.10	-56.63	1,062.74
1476	9.32	52.13	1,515.80	-1.48	1,138.15
1092	7.75	93.28	1,517.59	-17.36	1,205.04
1474	6.34	54.51	1,515.80	3.61	1,215.14
1472	8.48	61.33	1,515.80	5.91	1,283.33
1470	9.6	60.35	1,515.80	10.08	1,337.24
726	3.68	92.35	1,522.63	17.5	1,475.91
J116	0.43	107.22	1,518.60	20.82	1,508.27
504	3.61	95.81	1,522.62	22.98	1,537.10
1468	5.21	60.93	1,515.81	21.82	1,543.62
1522	8.24	66.09	1,514.42	25.53	1,616.58
1466	4.24	61.26	1,515.82	27	1,667.71
1526	6.94	69.54	1,514.43	30.09	1,705.38
914	1.69	85.28	1,522.44	37.64	1,786.73
1520	8.41	69.76	1,514.42	33.77	1,798.71
910	0.67	85.32	1,522.44	38.33	1,799.83
912	0	85.24	1,522.44	38.44	1,802.00
732	4.15	85.16	1,522.44	38.54	1,808.82
1524	9.32	69.48	1,514.43	34.34	1,817.52
1504	14.73	62.95	1,513.82	33.25	1,849.13
714	2.46	74.35	1,521.44	37.08	1,850.71
1462	7.5	63.21	1,515.84	34.61	1,894.37
1530	5.44	81.81	1,516.16	42.51	1,927.65
1464	1.74	63.88	1,515.84	36.17	1,938.73
1452	2.37	64.98	1,515.27	37.08	1,943.86
1460	0.34	63.71	1,515.84	36.4	1,949.39
1494	5.05	81.83	1,514.07	43.82	1,955.64
1528	5.97	80.49	1,516.16	43.36	1,965.95
1762	4.27	107.82	1,518.83	55.8	2,008.17
472	1.93	91.98	1,520.80	49.61	2,011.24
470	1.58	83.99	1,520.56	46.56	2,020.44
J118	0.43	107.57	1,518.60	57.38	2,040.50
880	1.51	69	1,521.74	41.72	2,077.35
934	6.89	82.68	1,522.42	50.28	2,168.10
930	2.01	82.57	1,522.42	51.01	2,192.93
604	1.37	82.65	1,522.42	51.26	2,200.01
1456	4.63	78.17	1,516.16	49.19	2,204.23
922	0.14	79.04	1,522.41	50.49	2,244.80
920	1.87	79.04	1,522.41	51.26	2,281.18
602	6.15	83.52	1,522.41	56.46	2,413.25
1454	8.86	68.3	1,516.16	47.98	2,425.10
942	0.64	69.49	1,522.18	48.45	2,428.23
928	1.79	93.43	1,520.60	63.22	2,455.32
940	1.12	69.17	1,522.18	48.93	2,474.20
J28	21.7	40.29	1,512.99	31.68	2,488.98
924	3	93.62	1,520.60	64.23	2,498.33
1518	7.43	73.29	1,514.43	52.93	2,542.32
1760	1.48	102.59	1,521.77	71.77	2,601.66
956	0.11	104.26	1,521.85	73	2,606.36
1798	2.4	73.76	1,516.13	54.15	2,620.99
926	1.21	91.14	1,520.33	65.11	2,623.73
960	2	102.59	1,521.77	72.42	2,634.20
1516	8.19	73	1,514.43	54.03	2,634.25
952	0.1	104.06	1,521.85	73.65	2,643.46
958	0.75	102.59	1,521.77	73.29	2,676.81
1802	4.57	68.44	1,515.89	51.58	2,697.86
1796	2.35	81.22	1,516.76	60.47	2,721.75
1792	2.21	74.45	1,516.13	56.04	2,734.74
1458	0.68	68.9	1,515.88	52.65	2,762.01
918	0.81	92.36	1,523.15	69.17	2,785.43

ID	Static Demand (gpm)	Tank Elevation: 1500 ft Static Pressure (psi)	Static Head (ft)	Residual Pressure (psi)	Available Flow at Hydrant (gpm)
1704	0.00	10.28	1,397.99	10.26	0.2
1708	0.00	10.61	1,397.99	10.59	0.2
1706	0.00	10.45	1,397.99	10.42	0.24
1710	0.00	10.39	1,397.97	10.3	0.24
598	5.39	79.11	1,524.07	-11,659.95	86.1
876	3.56	79.02	1,525.88	-10,613.49	90.32
666	2.86	93.65	1,524.61	-2,111.59	237.16
406	2.86	78.32	1,526.16	-1,120.44	288.86
540	3.00	103.67	1,524.19	-1,247.27	331.98
1262	2.95	82.92	1,526.19	-730.72	371.86
284	4.48	86.61	1,526.00	-584.15	425.62
872	5.67	77.02	1,526.18	-425.61	456.99
680	5.14	101.55	1,525.86	-480.92	514.19
1090	2.49	86.45	1,521.99	-118.28	814.72
542	4.06	109.00	1,524.22	-54.79	1,075.45
1476	9.32	54.10	1,520.33	0.36	1,174.30
1092	7.75	95.18	1,521.99	-15.5	1,221.53
1474	6.34	56.47	1,520.33	5.45	1,250.97
1472	8.48	63.30	1,520.33	7.74	1,314.72
1470	9.60	62.31	1,520.33	11.92	1,370.66
726	3.68	94.03	1,526.52	19.24	1,495.34
J116	0.43	109.08	1,522.89	22.72	1,526.20
504	3.61	97.49	1,526.51	24.73	1,556.20
1468	5.21	62.90	1,520.34	23.65	1,581.65
1522	8.24	68.13	1,519.13	27.41	1,651.71
1466	4.24	63.22	1,520.35	28.84	1,708.84
1526	6.94	71.58	1,519.13	31.97	1,739.69
914	1.69	86.97	1,526.35	39.4	1,811.59
910	0.67	87.02	1,526.35	40.09	1,824.81
912	0.00	86.93	1,526.35	40.2	1,827.05
732	4.15	86.85	1,526.35	40.3	1,833.93
1520	8.41	71.80	1,519.13	35.65	1,834.52
1524	9.32	71.52	1,519.13	36.22	1,853.86
714	2.46	76.09	1,525.46	38.87	1,882.82
1504	14.73	65.03	1,518.61	35.21	1,893.28
1462	7.50	65.17	1,520.37	36.45	1,939.46
1530	5.44	83.76	1,520.66	44.34	1,959.36
1464	1.74	65.84	1,520.37	38	1,984.19
1452	2.37	66.97	1,519.88	38.93	1,986.85
1494	5.05	83.90	1,518.84	45.74	1,987.02
1460	0.34	65.67	1,520.37	38.24	1,995.29
1528	5.97	82.45	1,520.66	45.19	1,998.93
1762	4.27	109.66	1,523.09	57.7	2,030.58
472	1.93	93.74	1,524.87	51.43	2,037.08
470	1.58	85.76	1,524.65	48.39	2,049.91
J118	0.43	109.43	1,522.89	59.27	2,063.42
880	1.51	70.73	1,525.73	43.51	2,115.27
934	6.89	84.37	1,526.33	52.04	2,197.98
930	2.01	84.26	1,526.33	52.77	2,223.16
604	1.37	84.35	1,526.33	53.02	2,230.27
1456	4.63	80.12	1,520.67	51.03	2,242.19
922	0.14	80.73	1,526.32	52.26	2,277.62
920	1.87	80.73	1,526.32	53.03	2,314.36
602	6.15	85.22	1,526.33	58.24	2,445.61
942	0.64	71.19	1,526.11	50.24	2,470.55
1454	8.86	70.26	1,520.67	49.81	2,473.81
928	1.79	95.21	1,524.69	65.06	2,485.40
940	1.12	70.87	1,526.11	50.72	2,517.39
924	3.00	95.39	1,524.69	66.08	2,528.72
1518	7.43	75.33	1,519.14	54.81	2,589.95
J28	21.70	42.43	1,517.92	33.78	2,627.53
1760	1.48	104.31	1,525.73	73.58	2,629.08
956	0.11	105.97	1,525.80	74.81	2,633.24
926	1.21	92.92	1,524.45	66.96	2,656.66
960	2.00	104.31	1,525.73	74.24	2,662.00
1798	2.40	75.72	1,520.64	55.99	2,667.75
952	0.10	105.78	1,525.80	75.45	2,670.71
1516	8.19	75.04	1,519.14	55.91	2,683.71
958	0.75	104.31	1,525.73	75.1	2,704.95
1802	4.57	70.40	1,520.42	53.41	2,751.03
1796	2.35	83.15	1,521.21	62.31	2,763.46
1792	2.21	76.40	1,520.64	57.88	2,782.53
918	0.81	94.02	1,527.00	70.86	2,815.39
1458	0.68	70.86	1,520.41	54.49	2,815.78

2040 Lower Operating Range Junction Available Fire Flow-Site B

Tank Elevation: 1490 ft

ID	Static Demand (gpm)	Static Pressure (psi)	Static Head (ft)	Residual Pressure (psi)	Available Flow at Hydrant (gpm)
1446	9.7	65.80	1,511.36	50.42	2,752.50
918	0.81	90.72	1,519.37	67.44	2,754.86
286	2.32	86.74	1,518.22	64.06	2,757.63
950	1.3	78.82	1,518.14	58.85	2,773.81
724	2.4	103.06	1,517.86	75.31	2,781.46
702	3.66	69.52	1,518.30	52.81	2,792.97
408	2.23	65.84	1,518.38	50.47	2,802.18
916	1.16	90.72	1,519.37	68.19	2,805.42
884	3.57	64.31	1,518.42	49.63	2,823.40
948	0.45	78.33	1,518.14	59.18	2,828.06
1094	1.92	92.42	1,513.25	69.4	2,830.07
J122	0	47.54	1,508.06	38.38	2,833.37
730	0.06	78.77	1,518.14	59.6	2,838.14
1766	0	91.62	1,521.45	69.53	2,841.88
1230	0	91.61	1,521.43	69.56	2,844.30
1232	0	91.61	1,521.43	69.58	2,846.06
1354	0	91.60	1,521.39	69.68	2,853.55
904	0.52	82.15	1,518.41	62.79	2,854.39
1492	3.14	71.11	1,509.33	55.75	2,856.19
742	0	91.55	1,521.28	70	2,878.39
868	3.55	88.29	1,518.18	66.72	2,878.50
874	0.77	81.80	1,518.41	62.97	2,891.25
902	0	81.98	1,518.41	63.88	2,959.41
946	2.93	90.69	1,518.49	69.76	2,962.20
1338	5.88	81.55	1,518.20	63.06	2,976.77
734	5.63	89.28	1,518.36	69.18	3,010.61
938	2.58	90.54	1,518.94	70.63	3,018.78
932	5.24	87.35	1,518.58	68.08	3,019.49
610	0.19	64.76	1,518.41	52.07	3,025.81
944	3.11	90.91	1,518.49	70.76	3,033.24
558.00	5.98	104.67	1,517.91	80.37	3,036.95
560	1.18	103.99	1,517.94	80.5	3,078.45
870	1.44	65.68	1,518.39	53.11	3,078.86
936	2.84	90.54	1,518.94	71.39	3,086.28
506	4.04	90.54	1,518.95	71.44	3,090.97
678	7.77	96.04	1,518.05	74.97	3,108.47
1512	3.65	67.42	1,508.07	54.73	3,170.85
J120	0.43	91.05	1,512.74	72.95	3,184.42
908	1.66	88.12	1,519.11	71.05	3,198.70
620	2.05	90.72	1,519.38	74.33	3,342.53
906	0.74	88.19	1,519.11	72.42	3,345.28
68	0.52	68.68	1,518.51	56.82	3,352.28
618	2.15	89.56	1,519.53	74.07	3,409.93
900.00	0.03	65.33	1,518.15	54.9	3,429.43
878	2.37	61.47	1,518.97	51.97	3,463.17
1260	0	61.99	1,519.62	52.43	3,477.52
1714	0	62.07	1,519.65	52.5	3,477.94
1712	0	62.16	1,519.67	52.57	3,479.03
1508	5.94	65.04	1,508.60	55.14	3,483.97
612	7.24	82.90	1,518.58	69.21	3,489.89
1204	0.51	61.33	1,519.00	52.18	3,525.15
1510	2.28	64.64	1,508.07	54.66	3,542.82
J30	172.23	61.92	1,508.05	52.01	3,607.98
1356	1.98	65.38	1,518.16	55.99	3,652.14
1794	2.69	81.17	1,512.34	69	3,667.40
1434	0.04	63.41	1,518.14	54.49	3,675.19
882	1.12	63.61	1,518.14	54.65	3,676.31
898	0.02	65.52	1,518.15	56.25	3,685.86
1444	4.27	64.45	1,511.31	55.89	3,701.24
1514	3.04	70.32	1,509.78	61.16	3,749.52
1442	6.46	64.23	1,511.31	56.21	3,826.77
66	3.91	84.00	1,518.51	71.98	3,878.59
1506	4.88	67.62	1,508.97	59.36	3,901.93
1816	12.29	49.69	1,509.17	45	3,951.30
1502	1.63	66.72	1,509.05	58.91	3,967.21
1440	8.2	70.62	1,511.70	62.13	4,011.84
1450	2	67.18	1,510.69	59.86	4,115.36
1448	2.6	67.86	1,510.75	60.45	4,129.71
1478	4.15	67.55	1,510.63	60.29	4,153.71
1500	0.7	66.54	1,509.21	59.78	4,239.43
1438	3.16	77.10	1,512.05	68.43	4,252.95
1498	1.86	54.91	1,509.18	50.16	4,273.47
1800	0.66	78.29	1,512.47	69.58	4,304.76
1436	9.55	79.33	1,513.09	70.39	4,312.67

Tank Elevation: 1495 ft

ID	Static Demand (gpm)	Static Pressure (psi)	Static Head (ft)	Residual Pressure (psi)	Available Flow at Hydrant (gpm)
286	2.32	88.42	1,522.10	65.88	2,792.68
1446	9.7	67.75	1,515.87	52.3	2,810.04
724	2.4	104.76	1,521.77	77.16	2,810.43
950	1.3	80.5	1,522.03	60.68	2,814.13
1776	1.82	40.25	1,513.01	33.5	2,832.50
916	1.16	92.36	1,523.15	69.92	2,836.40
702	3.66	71.2	1,522.18	54.64	2,840.70
408	2.23	67.52	1,522.26	52.29	2,853.64
1094	1.92	94.31	1,517.61	71.29	2,867.44
948	0.45	80.02	1,522.03	61.01	2,869.33
1766	0	93.18	1,525.05	71.17	2,870.57
1230	0	93.18	1,525.04	71.2	2,873.02
1232	0	93.17	1,525.04	71.23	2,874.79
884	3.57	65.99	1,522.29	51.45	2,876.83
730	0.06	80.46	1,522.03	61.43	2,879.22
1354	0	93.16	1,525.00	71.33	2,882.37
904	0.52	83.84	1,522.29	64.57	2,891.41
742	0	93.12	1,524.90	71.65	2,907.52
1492	3.14	73.16	1,514.07	57.68	2,911.04
868	3.55	89.98	1,522.06	68.55	2,914.01
874	0.77	83.48	1,522.29	64.76	2,928.85
J122	0	49.68	1,512.98	40.48	2,949.14
946	2.93	92.37	1,522.35	71.55	2,996.18
902	0	83.66	1,522.29	65.66	2,997.58
1338	5.88	83.23	1,522.09	64.89	3,017.14
734	5.63	90.95	1,522.23	70.99	3,046.09
938	2.58	92.19	1,522.76	72.37	3,052.48
932	5.24	89.02	1,522.43	69.86	3,055.70
558	5.98	106.36	1,521.81	82.22	3,067.09
944	3.11	92.58	1,522.35	72.55	3,067.87
610	0.19	66.44	1,522.29	53.85	3,079.64
560	1.18	105.68	1,521.85	82.35	3,109.14
936	2.84	92.19	1,522.76	73.14	3,120.55
506	4.04	92.19	1,522.77	73.18	3,125.26
870	1.44	67.36	1,522.27	54.89	3,132.38
678	7.77	97.73	1,521.94	76.81	3,142.43
J120	0.43	92.96	1,517.15	74.84	3,227.02
908	1.66	89.77	1,522.92	72.78	3,234.45
1512	3.65	69.55	1,513.00	56.81	3,244.69
620	2.05	92.36	1,523.16	76.05	3,377.84
906	0.74	89.84	1,522.92	74.15	3,382.30
68	0.52	70.36	1,522.38	58.63	3,407.57
618	2.15	91.2	1,523.30	75.78	3,446.10
900	0.03	67.02	1,522.06	56.71	3,489.89
878	2.37	63.14	1,522.82	53.77	3,528.77
612	7.24	84.58	1,522.44	70.98	3,532.48
1260	0	63.64	1,523.42	54.21	3,541.72
1714	0	63.72	1,523.45	54.28	3,541.96
1712	0	63.8	1,523.47	54.35	3,542.91
1508	5.94	67.14	1,513.45	57.16	3,565.15
1204	0.51	63	1,522.85	53.97	3,591.87
1510	2.28	66.77	1,513.00	56.75	3,630.64
J30	172.23	64.06	1,512.98	54.1	3,699.19
1356	1.98	67.08	1,522.07	57.8	3,715.92
1794	2.69	83.08	1,516.76	70.88	3,721.33
1434	0.04	65.1	1,522.05	56.3	3,742.46
882	1.12	65.3	1,522.05	56.47	3,743.26
898	0.02	67.22	1,522.06	58.06	3,750.02
1444	4.27	66.41	1,515.83	57.76	3,777.25
1514	3.04	72.35	1,514.47	63.04	3,821.99
1442	6.46	66.18	1,515.83	58.08	3,905.50
66	3.91	85.68	1,522.38	73.79	3,926.11
1506	4.88	69.7	1,513.76	61.33	3,984.49
1502	1.63	68.79	1,513.83	60.88	4,052.12
1816	12.29	51.75	1,513.94	46.95	4,077.70
1440	8.2	72.56	1,516.18	64	4,082.80
1450	2	69.17	1,515.27	61.73	4,195.94
1448	2.6	69.84	1,515.33	62.32	4,209.20
1478	4.15	69.53	1,515.22	62.16	4,234.50
1438	3.16	79.03	1,516.50	70.31	4,318.76
1500	0.7	68.6	1,513.97	61.73	4,328.94
1800	0.66	80.2	1,516.88	71.47	4,369.26
1436	9.55	81.22	1,517.44	72.27	4,375.35
1498	1.86	56.97	1,513.95	52.11	4,389.98

Tank Elevation: 1500 ft

ID	Static Demand (gpm)	Static Pressure (psi)	Static Head (ft)	Residual Pressure (psi)	Available Flow at Hydrant (gpm)
286	2.32	90.13	1,526.03	67.67	2,826.97
724	2.40	106.48	1,525.73	78.97	2,838.86
950	1.30	82.21	1,525.97	62.48	2,853.49
1446	9.70	69.71	1,520.40	54.13	2,865.73
916	1.16	94.02	1,527.00	71.62	2,866.76
702	3.66	72.91	1,526.11	56.43	2,887.15
1766	0.00	94.77	1,528.72	72.8	2,898.71
1230	0.00	94.77	1,528.71	72.83	2,901.19
1232	0.00	94.77	1,528.71	72.86	2,902.98
408	2.23	69.23	1,526.19	54.08	2,903.64
1094	1.92	96.21	1,522.01	73.15	2,904.00
948	0.45	81.73	1,525.97	62.81	2,909.62
1354	0.00	94.75	1,528.68	72.96	2,910.65
730	0.06	82.16	1,525.97	63.23	2,919.33
904	0.52	85.54	1,526.22	66.34	2,927.62
884	3.57	67.69	1,526.22	53.24	2,928.71
742	0.00	94.71	1,528.58	73.28	2,936.10
868	3.55	91.68	1,526.00	70.34	2,948.77
1492	3.14	75.23	1,518.84	59.59	2,964.69
874	0.77	85.18	1,526.22	66.52	2,965.62
1776	1.82	42.39	1,517.95	35.62	2,991.83
946	2.93	94.06	1,526.26	73.32	3,029.49
902	0.00	85.36	1,526.22	67.43	3,034.92
1338	5.88	84.94	1,526.02	66.69	3,056.62
J122	0.00	51.81	1,517.91	42.57	3,060.55
734	5.63	92.65	1,526.15	72.77	3,080.86
938	2.58	93.87	1,526.64	74.1	3,085.52
932	5.24	90.72	1,526.34	71.62	3,091.18
558	5.98	108.07	1,525.77	84.02	3,096.76
944	3.11	94.27	1,526.26	74.32	3,101.70
610	0.19	68.15	1,526.22	55.62	3,131.99
560	1.18	107.39	1,525.80	84.16	3,139.30
936	2.84	93.87	1,526.64	74.87	3,154.16
506	4.04	93.87	1,526.64	74.91	3,158.89
678	7.77	99.44	1,525.89	78.62	3,175.76
870	1.44	69.06	1,526.21	56.66	3,184.48
J120	0.43	94.89	1,521.60	76.68	3,268.74
908	1.66	91.45	1,526.78	74.49	3,269.51
1512	3.65	71.68	1,517.91	58.89	3,316.28
620	2.05	94.03	1,527.00	77.74	3,412.51
906	0.74	91.51	1,526.78	75.86	3,418.62
68	0.52	72.06	1,526.31	60.41	3,461.50
618	2.15	92.85	1,527.13	77.47	3,481.60
900	0.03	68.74	1,526.02	58.48	3,548.73
612	7.24	86.27	1,526.35	72.73	3,574.23
878	2.37	64.83	1,526.72	55.52	3,592.60
1260	0.00	65.31	1,527.28	55.95	3,604.05
1714	0.00	65.39	1,527.30	56.01	3,604.13
1712	0.00	65.47	1,527.32	56.08	3,604.95
1508	5.94	69.24	1,518.30	59.18	3,644.44
1204	0.51	64.69	1,526.75	55.71	3,656.81
1510	2.28	68.90	1,517.91	58.82	3,716.13
1794	2.69	85.01	1,521.21	72.71	3,774.15
1356	1.98	68.79	1,526.03	59.57	3,778.13
J30	172.23	66.19	1,517.90	56.17	3,787.46
1434	0.04	66.82	1,526.01	58.07	3,808.04
882	1.12	67.02	1,526.01	58.24	3,808.53
898	0.02	68.93	1,526.02	59.83	3,812.62
1444	4.27	68.37	1,520.37	59.59	3,851.24
1514	3.04	74.39	1,519.18	64.93	3,892.65
66	3.91	87.38	1,526.30	75.57	3,972.73
1442	6.46	68.15	1,520.37	59.91	3,982.16
1506	4.88	71.78	1,518.57	63.3	4,065.27
1502	1.63	70.87	1,518.62	62.84	4,135.11
1440	8.20	74.51	1,520.68	65.83	4,152.15
1816	12.29	53.83	1,518.73	48.89	4,199.89
1450	2.00	71.17	1,519.88	63.57	4,274.52
1448	2.60	71.83	1,519.93	64.17	4,286.76
1478	4.15	71.53	1,519.83	64.01	4,313.30
1438	3.16	80.97	1,520.97	72.15	4,383.24
1500	0.70	70.67	1,518.74	63.67	4,416.50
1800	0.66	82.12	1,521.32	73.3	4,432.50
1436	9.55	83.12	1,521.83	74.12	4,436.82
1498	1.86	59.05	1,518.74	54.05	4,503.14

2040 Lower Operating Range Junction Available Fire Flow-Site B

Tank Elevation: 1490 ft

ID	Static Demand (gpm)	Static Pressure (psi)	Static Head (ft)	Residual Pressure (psi)	Available Flow at Hydrant (gpm)
1814	3.47	51.08	1,509.07	47.02	4,359.58
1480	2.36	71.98	1,510.25	65.23	4,502.80
1496	11.07	62.08	1,509.24	57.14	4,640.58
1482	2.36	74.46	1,510.17	67.84	4,659.85
1804	0.19	86.97	1,509.61	79.32	4,691.39
1484	1.89	72.51	1,509.80	66.45	4,760.08
1486	1.81	74.63	1,509.72	68.73	4,929.82
1490	12.38	68.93	1,509.33	63.81	4,967.93
1488	1.37	69.33	1,509.40	64.15	4,968.25
1812	152.26	55.91	1,509.04	52.05	4,990.39

Tank Elevation: 1495 ft

ID	Static Demand (gpm)	Static Pressure (psi)	Static Head (ft)	Residual Pressure (psi)	Available Flow at Hydrant (gpm)
1814	3.47	53.16	1,513.86	48.99	4,494.34
1480	2.36	73.99	1,514.89	67.11	4,583.42
1482	2.36	76.47	1,514.81	69.72	4,739.50
1496	11.07	64.15	1,514.00	59.07	4,744.91
1804	0.19	89.03	1,514.35	81.24	4,757.17
1484	1.89	74.54	1,514.48	68.34	4,845.61
1486	1.81	76.66	1,514.42	70.63	5,015.04
1490	12.38	70.98	1,514.08	65.73	5,063.92
1488	1.37	71.38	1,514.14	66.07	5,064.27
1812	152.26	57.99	1,513.84	54.03	5,120.28

Tank Elevation: 1500 ft

ID	Static Demand (gpm)	Static Pressure (psi)	Static Head (ft)	Residual Pressure (psi)	Available Flow at Hydrant (gpm)
1814	3.47	55.24	1,518.66	50.96	4,624.82
1480	2.36	76.00	1,519.54	68.97	4,662.21
1482	2.36	78.50	1,519.48	71.58	4,817.41
1804	0.19	91.09	1,519.10	83.15	4,821.91
1496	11.07	66.22	1,518.78	61	4,846.73
1484	1.89	76.58	1,519.19	70.22	4,929.25
1486	1.81	78.71	1,519.13	72.51	5,098.42
1490	12.38	73.05	1,518.84	67.65	5,157.87
1488	1.37	73.44	1,518.89	67.98	5,158.33
1812	152.26	60.08	1,518.65	56	5,246.57

2023 Fire Flow - Site B with PRV Setting = 62

ID	Static Demand (gpm)	Static Pressure (psi)	Static Head (ft)	Residual Pressure (psi)	Available Flow at Hydrant (gpm)
1706	0	10.45	1,397.99	10.42	-0.06
1704	0	10.28	1,397.99	10.26	0.01
1708	0	10.61	1,397.99	10.59	0.02
1710	0	10.39	1,397.97	10.30	0.07
598	3.09	80.05	1,526.24	-11,652.03	86.46
876	2.37	79.21	1,526.33	-10,609.79	90.12
666	3.9	94.46	1,526.47	-2,145.38	236.04
406	3.19	78.55	1,526.69	-1,134.73	286.86
540	3.1	104.68	1,526.51	-1,316.02	322.66
1262	1.26	83.04	1,526.48	-740.96	368.21
284	3.23	86.85	1,526.55	-598.94	420.1
872	3.97	77.14	1,526.47	-436.50	451.52
680	6.4	101.84	1,526.52	-500.05	506.4
1090	0	88.44	1,526.59	-235.82	639.85
1092	2.58	97.17	1,526.59	-133.33	828.13
542	2.97	110.01	1,526.54	-123.40	893.63
1762	3.4	111.16	1,526.54	-113.39	919.95
1094	3.06	98.2	1,526.59	-45.5	1,079.97
1476	4.85	54.63	1,521.58	-4.14	1,133.44
1474	5.06	57.01	1,521.58	0.94	1,205.07
1472	1.74	63.84	1,521.58	3.39	1,264.05
1470	1.71	62.85	1,521.58	7.52	1,309.43
726	3.34	94.03	1,526.51	4.96	1,359.78
504	3.74	97.49	1,526.51	10.21	1,409.70
470	2.07	86.59	1,526.55	17.37	1,470.71
1468	3.47	63.43	1,521.58	19.06	1,486.33
714	2.28	76.54	1,526.50	22.99	1,547.21
1522	2.04	68.55	1,520.09	23.11	1,555.89
1512	1.46	72.44	1,519.66	24.43	1,573.96
472	2.8	94.46	1,526.53	26.26	1,576.34
1510	1.86	69.66	1,519.66	24.36	1,577.32
914	0.8	87.06	1,526.54	26.21	1,582.41
1466	2.24	63.75	1,521.58	24.12	1,583.83
926	1.3	93.85	1,526.59	27.18	1,587.48
910	1.38	87.1	1,526.54	26.89	1,592.71
912	0.04	87.01	1,526.54	27.01	1,593.12
732	2.01	86.94	1,526.54	27.11	1,596.73
1504	8.67	65.48	1,519.66	25.21	1,609.30
928	1.06	96.05	1,526.62	31.01	1,634.71
1526	3.78	71.99	1,520.09	27.56	1,635.00
924	1.59	96.23	1,526.62	32.02	1,648.92
880	1.12	71.06	1,526.49	30.70	1,705.70

2023 Fire Flow - Site B with PRV Setting = 62

ID	Static Demand (gpm)	Static Pressure (psi)	Static Head (ft)	Residual Pressure (psi)	Available Flow at Hydrant (gpm)
1520	2.56	72.22	1,520.09	31.32	1,711.04
1524	3.74	71.94	1,520.09	31.80	1,724.68
1462	6.7	65.7	1,521.59	31.53	1,759.41
1464	1.9	66.37	1,521.59	33.08	1,793.33
1460	0.37	66.2	1,521.59	33.32	1,800.14
1452	2.59	67.42	1,520.92	33.72	1,800.30
934	1.69	84.46	1,526.55	38.42	1,805.79
1530	3.75	84.25	1,521.79	39.12	1,815.75
930	2.05	84.35	1,526.55	39.15	1,822.85
604	1.28	84.44	1,526.55	39.40	1,827.11
942	1.06	71.42	1,526.64	35.43	1,828.00
1574	11.73	68.98	1,451.57	34.41	1,833.37
1528	1.7	82.93	1,521.79	39.96	1,841.34
940	1.57	71.1	1,526.64	35.91	1,845.24
922	0.98	80.86	1,526.62	39.33	1,851.05
1494	4.17	84.16	1,519.45	41.04	1,858.25
920	1.86	80.86	1,526.62	40.10	1,871.34
J114	0	77.45	1,449.91	39.11	1,880.53
1572	3.22	69.84	1,451.57	37.48	1,912.12
1766	0	93.81	1,526.50	47.05	1,925.44
1230	0	93.81	1,526.50	47.13	1,927.35
1232	0	93.81	1,526.50	47.19	1,928.74
1760	0.18	104.67	1,526.57	51.18	1,932.90
1354	0	93.81	1,526.50	47.45	1,934.64
960	2.07	104.67	1,526.57	51.84	1,948.22
742	0	93.81	1,526.50	48.28	1,954.13
602	1.98	85.33	1,526.59	45.20	1,963.21
1508	12.21	69.83	1,519.66	39.43	1,964.67
958	0.55	104.67	1,526.57	52.71	1,964.84
956	0.25	106.3	1,526.57	54.50	1,988.40
952	0.22	106.11	1,526.57	55.15	2,004.24
702	3.03	73.14	1,526.64	41.61	2,007.86
950	2.06	82.47	1,526.58	45.62	2,012.94
408	1.79	69.45	1,526.72	40.28	2,013.12
1456	2.53	80.61	1,521.79	45.74	2,018.41
884	3.58	67.92	1,526.75	39.80	2,020.70
948	0.57	81.99	1,526.58	45.95	2,028.24
724	2.29	106.84	1,526.57	56.58	2,031.88
730	0.68	82.43	1,526.58	46.34	2,035.03
286	3.6	90.36	1,526.56	51.88	2,100.25
918	1.66	93.81	1,526.50	54.16	2,113.33
1556	0.8	74.34	1,451.58	45.19	2,124.81

2023 Fire Flow - Site B with PRV Setting = 62

ID	Static Demand (gpm)	Static Pressure (psi)	Static Head (ft)	Residual Pressure (psi)	Available Flow at Hydrant (gpm)
1784	1.76	77.07	1,451.57	46.61	2,130.78
1454	2.96	70.74	1,521.79	44.44	2,132.58
916	0.81	93.81	1,526.50	54.91	2,135.49
1338	3.87	85.19	1,526.60	50.65	2,140.33
1554	0.39	74.34	1,451.58	45.65	2,143.15
868	2.23	91.93	1,526.57	54.08	2,145.38
1558	2.67	67.27	1,451.58	42.35	2,150.08
1552	0.54	74.34	1,451.58	45.92	2,154.76
1566	1.22	74.34	1,451.58	46.15	2,165.61
558	4.39	108.42	1,526.57	62.96	2,174.27
610	0.68	68.26	1,526.49	43.63	2,174.61
560	1.6	107.72	1,526.57	63.85	2,205.83
870	1.01	69.18	1,526.49	44.76	2,208.69
1560	1.67	71.25	1,451.58	45.59	2,211.03
678	4.51	99.73	1,526.57	60.35	2,225.87
904	0.77	85.66	1,526.49	54.36	2,255.65
1564	2.17	76.3	1,451.58	49.14	2,256.31
946	1.83	94.18	1,526.54	58.63	2,259.56
938	1.26	93.81	1,526.51	58.70	2,265.57
734	7.38	92.83	1,526.55	57.90	2,265.60
932	5.02	90.8	1,526.53	56.94	2,265.81
874	0.63	85.3	1,526.49	54.55	2,271.14
1562	1.78	75.32	1,451.58	48.97	2,272.25
1518	1.93	75.75	1,520.09	50.25	2,277.29
1798	2.61	76.21	1,521.78	50.65	2,291.32
944	4.41	94.39	1,526.54	59.63	2,295.20
506	2.44	93.81	1,526.51	59.49	2,296.76
936	4.24	93.81	1,526.51	59.46	2,297.43
1550	3.15	70.26	1,451.58	46.81	2,302.38
902	0.01	85.48	1,526.49	55.45	2,305.12
68	2.47	72.29	1,526.85	48.08	2,308.74
1802	1.43	70.91	1,521.60	48.19	2,312.21
908	1.69	91.32	1,526.49	59.04	2,327.57
618	3.77	92.58	1,526.50	59.90	2,338.17
1516	2.33	75.45	1,520.09	51.32	2,338.26
620	2.12	93.81	1,526.50	60.81	2,346.26
1458	0.74	71.37	1,521.58	49.24	2,355.30
878	2.67	65.04	1,527.21	45.02	2,361.11
1792	2.41	76.9	1,521.78	52.54	2,367.76
1446	2.54	70.22	1,521.57	48.86	2,372.36
1796	2.61	83.61	1,522.27	56.58	2,376.43
1548	1.12	72.07	1,451.58	49.15	2,376.48

2023 Fire Flow - Site B with PRV Setting = 62

ID	Static Demand (gpm)	Static Pressure (psi)	Static Head (ft)	Residual Pressure (psi)	Available Flow at Hydrant (gpm)
1546	2.02	72	1,451.58	49.10	2,376.88
906	1.6	91.39	1,526.49	60.42	2,385.01
1204	0.71	64.9	1,527.24	45.38	2,389.41
1260	0	65.52	1,527.77	45.78	2,397.69
1714	0	65.6	1,527.79	45.86	2,399.79
1712	0	65.69	1,527.81	45.93	2,401.97
900	0.16	68.94	1,526.49	48.22	2,414.03
1506	1.5	72.26	1,519.66	51.77	2,471.22
1434	0.21	67.03	1,526.49	47.95	2,476.51
882	0.46	67.23	1,526.49	48.09	2,478.29
1356	1.96	68.99	1,526.49	49.25	2,488.23
898	0.11	69.13	1,526.49	49.57	2,502.92
612	4.06	86.33	1,526.49	59.87	2,504.55
1542	0.27	73.18	1,451.59	52.11	2,520.99
1544	5.43	73.2	1,451.59	52.12	2,525.58
1492	0.98	75.49	1,519.45	54.87	2,537.48
1502	0.56	71.32	1,519.66	52.68	2,572.34
66	2.19	87.61	1,526.83	63.15	2,662.32
1538	1.45	76.72	1,451.59	57.35	2,716.94
1536	0	77.51	1,451.59	58.30	2,739.95
1444	1.85	68.86	1,521.48	54.19	2,857.61
1500	0.76	71.07	1,519.67	55.90	2,861.41
1442	1.52	68.63	1,521.48	54.51	2,910.05
1794	2.93	85.47	1,522.27	66.99	2,978.44
1514	1.34	74.79	1,520.10	59.97	3,011.26
1440	2.38	74.99	1,521.79	60.26	3,055.59
1816	23.81	53.88	1,518.85	45.04	3,066.04
1450	0.29	71.62	1,520.92	58.37	3,106.25
1448	1.37	72.29	1,520.97	58.95	3,119.35
1478	1.26	71.98	1,520.86	58.83	3,130.38
1436	1.36	83.55	1,522.83	67.86	3,221.00
1438	2.1	81.44	1,522.06	66.45	3,226.07
1800	0.9	82.58	1,522.37	67.37	3,239.70
1498	1.76	59.12	1,518.91	50.13	3,277.00
1480	2.49	76.43	1,520.52	63.85	3,355.40
1568	1.71	78.72	1,451.62	68.20	3,448.67
1482	2.58	78.91	1,520.44	66.47	3,462.72
1570	0.03	78.79	1,451.63	68.53	3,471.78
1484	1.43	76.97	1,520.10	65.13	3,494.94
1496	3.42	66.37	1,519.14	56.75	3,519.12
1810	0	74.41	1,451.73	66.05	3,538.24
1488	1.49	73.78	1,519.67	62.80	3,539.54

2023 Fire Flow - Site B with PRV Setting = 62

ID	Static Demand (gpm)	Static Pressure (psi)	Static Head (ft)	Residual Pressure (psi)	Available Flow at Hydrant (gpm)
1808	0	65.8	1,451.85	59.82	3,543.58
1814	0	55.15	1,518.44	47.64	3,553.95
1486	1.6	79.09	1,520.02	67.42	3,618.02
1490	1.82	73.31	1,519.45	62.88	3,663.43
1804	0	90.66	1,518.11	75.77	3,705.43
1806	0	65.85	1,451.97	62.59	3,856.82
1812	5.43	59.94	1,518.34	52.78	3,919.02
1892	0	61.7	1,452.08	61.49	4,100.20

2023 Fire Flow - Site B PRV Closed

ID	Static Demand (gpm)	Static Pressure (psi)	Static Head (ft)	Residual Pressure (psi)	Available Flow at Hydrant (gpm)
1706	0	10.45	1,397.99	10.42	0.03
1704	0	10.28	1,397.99	10.26	0.1
1708	0	10.61	1,397.99	10.59	0.1
1710	0	10.39	1,397.97	10.30	0.14
598	3.09	80.35	1,526.94	-11,651.04	86.64
876	2.37	79.52	1,527.03	-10,608.80	90.31
666	3.9	94.76	1,527.17	-2,144.39	236.19
406	3.19	78.85	1,527.38	-1,133.74	287.06
540	3.1	104.98	1,527.21	-1,315.03	322.84
1262	1.26	83.35	1,527.19	-739.97	368.66
284	3.23	87.15	1,527.24	-597.95	420.82
872	3.97	77.45	1,527.17	-435.51	452.64
1892	0	58.19	1,443.98	-234.50	456.8
1806	0	62.39	1,443.98	-227.21	489.4
1808	0	62.39	1,443.98	-223.81	492.41
1558	2.67	63.96	1,443.94	-230.12	497.85
680	6.4	102.14	1,527.22	-499.06	507.49
1572	3.22	66.53	1,443.93	-234.99	508.77
1574	11.73	65.66	1,443.93	-238.06	509.62
1550	3.15	66.95	1,443.94	-225.67	519.88
1560	1.67	67.94	1,443.94	-226.88	522.79
1548	1.12	68.76	1,443.94	-223.32	530.35
1546	2.02	68.69	1,443.94	-223.37	530.79
1556	0.8	71.03	1,443.93	-227.28	538.45
1554	0.39	71.03	1,443.93	-226.83	538.48
1542	0.27	69.86	1,443.94	-220.36	538.62
1552	0.54	71.03	1,443.93	-226.56	538.9
1566	1.22	71.03	1,443.93	-226.32	539.82
1544	5.43	69.89	1,443.94	-220.35	543.95
1562	1.78	72.01	1,443.94	-223.50	548.44
1564	2.17	72.99	1,443.93	-223.33	554.15
1810	0	71.05	1,443.98	-211.87	554.35
1784	1.76	73.76	1,443.93	-225.86	555.14
1538	1.45	73.41	1,443.95	-215.13	564.38
1536	0	74.2	1,443.95	-214.18	568.1
1570	0.03	75.48	1,443.98	-204.62	585.85
1568	1.71	75.41	1,443.98	-204.27	587.56
1090	0	88.75	1,527.29	-234.83	642.27
J114	0	75.02	1,444.30	-109.12	740.8
1092	2.58	97.48	1,527.29	-132.34	831.63
542	2.97	110.31	1,527.24	-122.41	897.07
1762	3.4	111.46	1,527.24	-112.41	923.66
1094	3.06	98.5	1,527.29	-44.51	1,085.88

2023 Fire Flow - Site B PRV Closed

ID	Static Demand (gpm)	Static Pressure (psi)	Static Head (ft)	Residual Pressure (psi)	Available Flow at Hydrant (gpm)
1476	4.85	54.98	1,522.37	-2.97	1,149.16
1474	5.06	57.35	1,522.37	2.11	1,222.11
1472	1.74	64.18	1,522.37	4.56	1,279.91
1470	1.71	63.19	1,522.37	8.7	1,326.73
726	3.34	94.34	1,527.21	5.94	1,369.03
504	3.74	97.8	1,527.21	11.20	1,419.08
470	2.07	86.89	1,527.25	18.36	1,482.47
1468	3.47	63.78	1,522.37	20.23	1,507.72
714	2.28	76.85	1,527.20	23.98	1,562.23
1522	2.04	68.9	1,520.91	24.37	1,578.09
472	2.8	94.77	1,527.23	27.25	1,588.10
1512	1.46	72.8	1,520.49	25.72	1,595.53
914	0.8	87.36	1,527.24	27.20	1,595.57
926	1.3	94.15	1,527.29	28.17	1,599.50
1510	1.86	70.02	1,520.49	25.65	1,600.17
910	1.38	87.4	1,527.24	27.88	1,605.99
912	0.04	87.32	1,527.24	27.99	1,606.44
1466	2.24	64.1	1,522.37	25.29	1,607.60
732	2.01	87.24	1,527.24	28.10	1,610.10
1504	8.67	65.84	1,520.49	26.50	1,634.95
928	1.06	96.35	1,527.32	31.99	1,646.95
1526	3.78	72.35	1,520.91	28.82	1,657.67
924	1.59	96.53	1,527.32	33.01	1,661.29
880	1.12	71.36	1,527.20	31.70	1,725.24
1520	2.56	72.57	1,520.91	32.57	1,735.55
1524	3.74	72.29	1,520.91	33.06	1,749.66
1462	6.7	66.04	1,522.38	32.7	1,786.65
1464	1.9	66.71	1,522.38	34.25	1,821.22
934	1.69	84.77	1,527.25	39.41	1,822.80
1460	0.37	66.54	1,522.38	34.49	1,828.37
1452	2.59	67.77	1,521.72	34.93	1,828.49
1530	3.75	84.59	1,522.57	40.29	1,836.14
930	2.05	84.66	1,527.25	40.14	1,840.15
604	1.28	84.75	1,527.25	40.39	1,844.46
942	1.06	71.72	1,527.33	36.42	1,849.90
1528	1.7	83.27	1,522.57	41.13	1,862.69
940	1.57	71.4	1,527.33	36.90	1,867.62
922	0.98	81.16	1,527.32	40.32	1,869.81
1494	4.17	84.52	1,520.29	42.33	1,882.33
920	1.86	81.16	1,527.32	41.09	1,890.41
1766	0	94.11	1,527.20	48.03	1,941.85
1230	0	94.11	1,527.20	48.12	1,943.79
1232	0	94.11	1,527.20	48.18	1,945.20

2023 Fire Flow - Site B PRV Closed

ID	Static Demand (gpm)	Static Pressure (psi)	Static Head (ft)	Residual Pressure (psi)	Available Flow at Hydrant (gpm)
1760	0.18	104.97	1,527.26	52.17	1,947.36
1354	0	94.11	1,527.20	48.44	1,951.19
960	2.07	104.97	1,527.26	52.83	1,962.84
742	0	94.11	1,527.20	49.27	1,970.95
958	0.55	104.97	1,527.26	53.7	1,979.68
602	1.98	85.64	1,527.29	46.19	1,982.41
1508	12.21	70.19	1,520.49	40.72	1,998.22
956	0.25	106.61	1,527.27	55.49	2,003.23
952	0.22	106.41	1,527.27	56.14	2,019.29
702	3.03	73.44	1,527.34	42.59	2,032.56
950	2.06	82.77	1,527.28	46.61	2,033.98
408	1.79	69.76	1,527.41	41.27	2,039.80
1456	2.53	80.95	1,522.58	46.91	2,044.35
724	2.29	107.14	1,527.26	57.56	2,047.12
884	3.58	68.22	1,527.44	40.79	2,048.37
948	0.57	82.29	1,527.28	46.94	2,049.74
730	0.68	82.73	1,527.28	47.33	2,056.49
286	3.6	90.66	1,527.26	52.87	2,120.16
918	1.66	94.11	1,527.20	55.15	2,132.42
916	0.81	94.11	1,527.20	55.90	2,154.91
1338	3.87	85.49	1,527.30	51.64	2,162.55
868	2.23	92.23	1,527.27	55.07	2,165.55
1454	2.96	71.08	1,522.58	45.61	2,166.63
558	4.39	108.72	1,527.27	63.95	2,190.93
610	0.68	68.57	1,527.19	44.63	2,205.61
560	1.6	108.03	1,527.27	64.84	2,223.05
870	1.01	69.49	1,527.19	45.75	2,239.89
678	4.51	100.04	1,527.27	61.34	2,245.11
904	0.77	85.96	1,527.19	55.35	2,279.57
946	1.83	94.48	1,527.24	59.62	2,280.80
938	1.26	94.12	1,527.21	59.68	2,287.00
734	7.38	93.13	1,527.25	58.89	2,287.27
932	5.02	91.1	1,527.23	57.93	2,288.16
874	0.63	85.6	1,527.19	55.54	2,295.47
1518	1.93	76.1	1,520.91	51.51	2,315.46
944	4.41	94.7	1,527.24	60.62	2,316.90
506	2.44	94.12	1,527.21	60.48	2,318.65
936	4.24	94.12	1,527.21	60.45	2,319.31
1798	2.61	76.56	1,522.57	51.82	2,326.30
902	0.01	85.78	1,527.19	56.44	2,330.00
68	2.47	72.6	1,527.54	49.06	2,340.24
908	1.69	91.63	1,527.19	60.03	2,350.70
1802	1.43	71.25	1,522.39	49.36	2,351.67

2023 Fire Flow - Site B PRV Closed

ID	Static Demand (gpm)	Static Pressure (psi)	Static Head (ft)	Residual Pressure (psi)	Available Flow at Hydrant (gpm)
618	3.77	92.88	1,527.20	60.89	2,361.04
620	2.12	94.11	1,527.20	61.80	2,368.90
1516	2.33	75.81	1,520.91	52.57	2,378.45
1458	0.74	71.71	1,522.37	50.41	2,395.68
878	2.67	65.34	1,527.91	46.00	2,398.89
1792	2.41	77.24	1,522.57	53.71	2,404.35
1796	2.61	83.95	1,523.05	57.73	2,408.63
906	1.6	91.69	1,527.19	61.41	2,409.07
1446	2.54	70.56	1,522.36	50.03	2,414.12
1204	0.71	65.2	1,527.93	46.36	2,428.06
1260	0	65.82	1,528.45	46.75	2,435.64
1714	0	65.9	1,528.48	46.83	2,437.70
1712	0	65.98	1,528.50	46.90	2,439.85
900	0.16	69.24	1,527.19	49.21	2,450.57
1434	0.21	67.33	1,527.19	48.95	2,516.43
882	0.46	67.53	1,527.19	49.09	2,518.07
1506	1.5	72.62	1,520.50	53.06	2,519.79
1356	1.96	69.3	1,527.19	50.25	2,526.68
612	4.06	86.64	1,527.19	60.86	2,532.67
898	0.11	69.44	1,527.19	50.56	2,541.71
1492	0.98	75.86	1,520.29	56.16	2,586.17
1502	0.56	71.68	1,520.50	53.97	2,625.49
66	2.19	87.91	1,527.53	64.14	2,692.87
1444	1.85	69.2	1,522.28	55.37	2,917.65
1500	0.76	71.43	1,520.50	57.19	2,925.97
1442	1.52	68.97	1,522.27	55.69	2,972.53
1794	2.93	85.81	1,523.05	68.14	3,024.78
1514	1.34	75.15	1,520.92	61.22	3,075.03
1440	2.38	75.33	1,522.58	61.43	3,114.76
1450	0.29	71.97	1,521.72	59.59	3,174.51
1816	23.81	54.25	1,519.70	46.35	3,184.42
1448	1.37	72.64	1,521.78	60.16	3,186.95
1478	1.26	72.33	1,521.67	60.04	3,199.28
1436	1.36	83.88	1,523.59	68.98	3,274.28
1438	2.1	81.78	1,522.84	67.61	3,283.43
1800	0.9	82.91	1,523.14	68.51	3,295.54
1498	1.76	59.49	1,519.76	51.43	3,379.50
1480	2.49	76.78	1,521.33	65.08	3,428.61
1482	2.58	79.27	1,521.25	67.71	3,532.13
1814	0	55.52	1,519.30	49.01	3,553.95
1484	1.43	77.33	1,520.92	66.39	3,558.12
1496	3.42	66.74	1,519.99	58.03	3,561.17
1488	1.49	74.14	1,520.51	64.09	3,589.97

2023 Fire Flow - Site B PRV Closed

ID	Static Demand (gpm)	Static Pressure (psi)	Static Head (ft)	Residual Pressure (psi)	Available Flow at Hydrant (gpm)
1486	1.6	79.45	1,520.84	68.68	3,658.33
1490	1.82	73.68	1,520.29	64.18	3,674.25
1804	0	91.13	1,519.20	78.47	3,705.43
1812	5.43	60.32	1,519.20	54.16	3,919.02

2040 Fire Flow - Site B with PRV Setting = 62

ID	Static Demand (gpm)	Static Pressure (psi)	Static Head (ft)	Residual Pressure (psi)	Available Flow at Hydrant (gpm)
1704	0	10.28	1,397.99	10.26	0.23
1708	0	10.61	1,397.99	10.59	0.23
1706	0	10.45	1,397.99	10.42	0.28
1710	0	10.39	1,397.97	10.3	0.28
598	5.39	75.6	1,515.98	-11,663.63	83.21
876	3.56	75.63	1,518.07	-10,617.04	87.41
666	2.86	90.13	1,516.46	-2,115.31	230.27
406	2.86	74.94	1,518.36	-1,124.05	278.67
540	3	100.12	1,515.99	-1,251.00	323.51
1262	2.95	79.53	1,518.38	-734.28	359.55
284	4.48	83.22	1,518.19	-587.76	411.61
872	5.67	73.63	1,518.36	-429.16	440.13
680	5.14	98.16	1,518.01	-484.56	500.77
1090	2.49	82.66	1,513.23	-122.03	788.93
542	4.06	105.45	1,516.02	-58.52	1,049.80
1476	9.32	50.18	1,511.30	-3.36	1,100.63
1474	6.34	52.56	1,511.30	1.73	1,178.12
1092	7.75	91.39	1,513.23	-19.25	1,188.23
1472	8.48	59.39	1,511.30	4.03	1,251.10
1470	9.6	58.4	1,511.30	8.2	1,302.81
726	3.68	90.69	1,518.79	15.75	1,455.92
J116	0.43	105.39	1,514.36	18.9	1,489.86
1468	5.21	58.98	1,511.31	19.94	1,503.87
504	3.61	94.14	1,518.78	21.22	1,517.47
1522	8.24	64.06	1,509.74	23.64	1,580.34
1466	4.24	59.31	1,511.32	25.12	1,625.15
1526	6.94	67.51	1,509.74	28.2	1,669.79
914	1.69	83.61	1,518.58	35.87	1,761.04
1520	8.41	67.73	1,509.74	31.88	1,761.27
910	0.67	83.65	1,518.58	36.56	1,774.00
912	0	83.56	1,518.58	36.67	1,776.11
1524	9.32	67.45	1,509.74	32.45	1,779.49
732	4.15	83.48	1,518.58	36.77	1,782.86
1504	14.73	60.88	1,509.04	31.28	1,803.67
714	2.46	72.63	1,517.48	35.25	1,817.77
1462	7.5	61.26	1,511.34	32.73	1,848.07
1464	1.74	61.93	1,511.34	34.29	1,891.80
1530	5.44	79.87	1,511.68	40.63	1,895.22
1452	2.37	62.99	1,510.69	35.21	1,899.58
1460	0.34	61.76	1,511.34	34.53	1,901.95
1494	5.05	79.77	1,509.33	41.9	1,922.97
1528	5.97	78.55	1,511.68	41.48	1,932.09
J114	0.43	87.3	1,472.63	42.98	1,955.17

2040 Fire Flow - Site B with PRV Setting = 62

ID	Static Demand (gpm)	Static Pressure (psi)	Static Head (ft)	Residual Pressure (psi)	Available Flow at Hydrant (gpm)
472	1.93	90.24	1,516.77	47.75	1,984.76
1762	4.27	105.99	1,514.61	53.87	1,985.20
470	1.58	82.24	1,516.51	44.68	1,990.15
J118	0.43	105.73	1,514.36	55.45	2,017.03
880	1.51	67.29	1,517.81	39.88	2,038.02
934	6.89	81.01	1,518.57	48.5	2,137.45
930	2.01	80.9	1,518.57	49.23	2,161.93
1456	4.63	76.23	1,511.68	47.32	2,165.23
604	1.37	80.98	1,518.57	49.48	2,168.95
922	0.14	77.36	1,518.55	48.7	2,211.09
920	1.87	77.36	1,518.55	49.47	2,247.09
J28	21.7	38.16	1,508.06	29.57	2,342.53
1454	8.86	66.36	1,511.69	46.11	2,374.58
602	6.15	81.85	1,518.55	54.68	2,380.10
942	0.64	67.81	1,518.30	46.63	2,384.58
928	1.79	91.68	1,516.55	61.32	2,424.58
940	1.12	67.49	1,518.30	47.11	2,429.38
924	3	91.87	1,516.55	62.34	2,467.27
1518	7.43	71.26	1,509.75	51.05	2,493.73
1798	2.4	71.83	1,511.65	52.27	2,572.80
1760	1.48	100.9	1,517.86	69.91	2,573.57
956	0.11	102.57	1,517.94	71.15	2,578.93
1516	8.19	70.97	1,509.75	52.14	2,583.76
926	1.21	89.37	1,516.26	63.2	2,590.06
960	2	100.9	1,517.86	70.57	2,605.85
952	0.1	102.37	1,517.94	71.8	2,615.68
1802	4.57	66.49	1,511.39	49.7	2,642.83
958	0.75	100.9	1,517.86	71.44	2,648.11
1776	1.82	38.11	1,508.07	31.37	2,664.16
1796	2.35	79.31	1,512.34	58.59	2,678.82
1792	2.21	72.51	1,511.65	54.16	2,685.42
1458	0.68	66.95	1,511.38	50.77	2,706.44
1446	9.7	65.8	1,511.36	50.42	2,752.50
918	0.81	90.72	1,519.37	67.44	2,754.86
286	2.32	86.74	1,518.22	64.06	2,757.63
950	1.3	78.82	1,518.14	58.85	2,773.81
724	2.4	103.06	1,517.86	75.31	2,781.46
702	3.66	69.52	1,518.30	52.81	2,792.97
408	2.23	65.84	1,518.38	50.47	2,802.18
916	1.16	90.72	1,519.37	68.19	2,805.42
884	3.57	64.31	1,518.42	49.63	2,823.40
948	0.45	78.33	1,518.14	59.18	2,828.06
1094	1.92	92.42	1,513.25	69.4	2,830.07

2040 Fire Flow - Site B with PRV Setting = 62

ID	Static Demand (gpm)	Static Pressure (psi)	Static Head (ft)	Residual Pressure (psi)	Available Flow at Hydrant (gpm)
J122	0	47.54	1,508.06	38.38	2,833.37
730	0.06	78.77	1,518.14	59.6	2,838.14
1766	0	91.62	1,521.45	69.53	2,841.88
1230	0	91.61	1,521.43	69.56	2,844.30
1232	0	91.61	1,521.43	69.58	2,846.06
1354	0	91.6	1,521.39	69.68	2,853.55
904	0.52	82.15	1,518.41	62.79	2,854.39
1492	3.14	71.11	1,509.33	55.75	2,856.19
742	0	91.55	1,521.28	70	2,878.39
868	3.55	88.29	1,518.18	66.72	2,878.50
874	0.77	81.8	1,518.41	62.97	2,891.25
902	0	81.98	1,518.41	63.88	2,959.41
946	2.93	90.69	1,518.49	69.76	2,962.20
1338	5.88	81.55	1,518.20	63.06	2,976.77
734	5.63	89.28	1,518.36	69.18	3,010.61
938	2.58	90.54	1,518.94	70.63	3,018.78
932	5.24	87.35	1,518.58	68.08	3,019.49
610	0.19	64.76	1,518.41	52.07	3,025.81
944	3.11	90.91	1,518.49	70.76	3,033.24
558	5.98	104.67	1,517.91	80.37	3,036.95
560	1.18	103.99	1,517.94	80.5	3,078.45
870	1.44	65.68	1,518.39	53.11	3,078.86
936	2.84	90.54	1,518.94	71.39	3,086.28
506	4.04	90.54	1,518.95	71.44	3,090.97
678	7.77	96.04	1,518.05	74.97	3,108.47
1512	3.65	67.42	1,508.07	54.73	3,170.85
J120	0.43	91.05	1,512.74	72.95	3,184.42
908	1.66	88.12	1,519.11	71.05	3,198.70
620	2.05	90.72	1,519.38	74.33	3,342.53
906	0.74	88.19	1,519.11	72.42	3,345.28
68	0.52	68.68	1,518.51	56.82	3,352.28
618	2.15	89.56	1,519.53	74.07	3,409.93
900	0.03	65.33	1,518.15	54.9	3,429.43
878	2.37	61.47	1,518.97	51.97	3,463.17
1260	0	61.99	1,519.62	52.43	3,477.52
1714	0	62.07	1,519.65	52.5	3,477.94
1712	0	62.16	1,519.67	52.57	3,479.03
1508	5.94	65.04	1,508.60	55.14	3,483.97
612	7.24	82.9	1,518.58	69.21	3,489.89
1204	0.51	61.33	1,519.00	52.18	3,525.15
1510	2.28	64.64	1,508.07	54.66	3,542.82
J30	172.23	61.92	1,508.05	52.01	3,607.98
1356	1.98	65.38	1,518.16	55.99	3,652.14

2040 Fire Flow - Site B with PRV Setting = 62

ID	Static Demand (gpm)	Static Pressure (psi)	Static Head (ft)	Residual Pressure (psi)	Available Flow at Hydrant (gpm)
1794	2.69	81.17	1,512.34	69	3,667.40
1434	0.04	63.41	1,518.14	54.49	3,675.19
882	1.12	63.61	1,518.14	54.65	3,676.31
898	0.02	65.52	1,518.15	56.25	3,685.86
1444	4.27	64.45	1,511.31	55.89	3,701.24
1514	3.04	70.32	1,509.78	61.16	3,749.52
1442	6.46	64.23	1,511.31	56.21	3,826.77
66	3.91	84	1,518.51	71.98	3,878.59
1506	4.88	67.62	1,508.97	59.36	3,901.93
1816	12.29	49.69	1,509.17	45	3,951.30
1502	1.63	66.72	1,509.05	58.91	3,967.21
1440	8.2	70.62	1,511.70	62.13	4,011.84
1450	2	67.18	1,510.69	59.86	4,115.36
1448	2.6	67.86	1,510.75	60.45	4,129.71
1478	4.15	67.55	1,510.63	60.29	4,153.71
1500	0.7	66.54	1,509.21	59.78	4,239.43
1438	3.16	77.1	1,512.05	68.43	4,252.95
1498	1.86	54.91	1,509.18	50.16	4,273.47
1800	0.66	78.29	1,512.47	69.58	4,304.76
1436	9.55	79.33	1,513.09	70.39	4,312.67
1814	3.47	51.08	1,509.07	47.02	4,359.58
1480	2.36	71.98	1,510.25	65.23	4,502.80
1574	4.16	87.06	1,493.31	68.26	4,579.20
1496	11.07	62.08	1,509.24	57.14	4,640.58
1482	2.36	74.46	1,510.17	67.84	4,659.85
1804	0.19	86.97	1,509.61	79.32	4,691.39
1484	1.89	72.51	1,509.80	66.45	4,760.08
1486	1.81	74.63	1,509.72	68.73	4,929.82
1490	12.38	68.93	1,509.33	63.81	4,967.93
1488	1.37	69.33	1,509.40	64.15	4,968.25
1812	152.26	55.91	1,509.04	52.05	4,990.39
1572	5.36	87.92	1,493.31	71.32	5,600.34
1542	0.82	90.26	1,491.01	72.58	5,704.07
1558	10.72	84.71	1,491.83	67.26	5,706.57
1544	20.72	90.29	1,491.01	72.59	5,713.03
1550	14.42	87.56	1,491.50	70.03	5,724.54
1548	3.76	89.32	1,491.38	71.74	5,751.86
1546	6.12	89.24	1,491.38	71.69	5,765.54
1808	0.26	81.97	1,489.16	64.49	5,797.23
1538	1.93	93.67	1,490.71	75.88	5,837.68
1536	0.01	94.45	1,490.69	76.65	5,874.23
1560	6.39	88.77	1,492.00	71.34	6,027.30
1810	0.43	90.63	1,489.16	72.86	6,049.09

2040 Fire Flow - Site B with PRV Setting = 62

ID	Static Demand (gpm)	Static Pressure (psi)	Static Head (ft)	Residual Pressure (psi)	Available Flow at Hydrant (gpm)
1806	0.4	81.97	1,489.16	65.07	6,152.58
1570	0.34	95.05	1,489.16	77.22	6,230.60
1568	0.43	94.99	1,489.16	77.17	6,234.22
1562	7.78	92.91	1,492.17	75.55	6,362.34
1892	0.12	77.77	1,489.16	61.65	6,521.71
1564	15.08	93.98	1,492.38	76.7	6,568.85
1566	9.08	92.14	1,492.65	75.05	6,678.72
1552	8.52	92.17	1,492.72	75.31	6,736.92
1554	1.35	92.2	1,492.79	75.61	6,800.81
1556	3.49	92.26	1,492.92	76.13	6,930.81
1784	225.27	95.15	1,493.31	80.43	7,769.20
J24	239.65	60.93	1,508.11	59.54	11,116.29

2040 Fire Flow - Site B PRV Closed

ID	Static Demand (gpm)	Static Pressure (psi)	Static Head (ft)	Residual Pressure (psi)	Available Flow at Hydrant (gpm)
1704	0	10.28	1,397.99	10.26	-0.17
1708	0	10.61	1,397.99	10.59	-0.17
1706	0	10.45	1,397.99	10.42	-0.13
1710	0	10.39	1,397.97	10.3	-0.12
598	5.39	75.6	1,515.98	-11,663.63	83.21
876	3.56	75.63	1,518.07	-10,617.04	87.41
666	2.86	90.13	1,516.46	-2,115.31	230.27
406	2.86	74.94	1,518.36	-1,124.05	278.67
540	3	100.12	1,515.99	-1,251.00	323.51
1262	2.95	79.53	1,518.38	-734.28	359.55
284	4.48	83.22	1,518.19	-587.76	411.62
872	5.67	73.63	1,518.36	-429.16	440.13
680	5.14	98.16	1,518.01	-484.56	500.77
1090	2.49	82.66	1,513.23	-122.03	788.93
542	4.06	105.45	1,516.02	-58.52	1,049.80
1476	9.32	50.18	1,511.30	-3.36	1,100.63
1474	6.34	52.56	1,511.30	1.73	1,178.12
1092	7.75	91.39	1,513.23	-19.25	1,188.23
1472	8.48	59.39	1,511.30	4.03	1,251.10
1470	9.6	58.4	1,511.30	8.2	1,302.81
726	3.68	90.69	1,518.79	15.75	1,455.92
J116	0.43	105.39	1,514.36	18.9	1,489.86
1468	5.21	58.98	1,511.31	19.94	1,503.87
504	3.61	94.14	1,518.78	21.22	1,517.47
1522	8.24	64.06	1,509.74	23.64	1,580.34
1466	4.24	59.31	1,511.32	25.12	1,625.15
1526	6.94	67.51	1,509.74	28.2	1,669.79
914	1.69	83.61	1,518.58	35.87	1,761.04
1520	8.41	67.73	1,509.74	31.88	1,761.27
910	0.67	83.65	1,518.58	36.56	1,774.00
912	0	83.56	1,518.58	36.67	1,776.11
1524	9.32	67.45	1,509.74	32.45	1,779.49
732	4.15	83.48	1,518.58	36.77	1,782.86
1504	14.73	60.88	1,509.04	31.28	1,803.67
714	2.46	72.63	1,517.48	35.25	1,817.78
1462	7.5	61.26	1,511.34	32.73	1,848.07
1464	1.74	61.93	1,511.34	34.29	1,891.80
1530	5.44	79.87	1,511.68	40.63	1,895.22
1452	2.37	62.99	1,510.69	35.21	1,899.58
1460	0.34	61.76	1,511.34	34.53	1,901.96
J114	0.43	87.3	1,472.63	42.98	1,919.34
1494	5.05	79.77	1,509.33	41.9	1,922.97
1528	5.97	78.55	1,511.68	41.48	1,932.09

2040 Fire Flow - Site B PRV Closed

ID	Static Demand (gpm)	Static Pressure (psi)	Static Head (ft)	Residual Pressure (psi)	Available Flow at Hydrant (gpm)
1892	0.12	77.77	1,489.16	38.87	1,952.09
472	1.93	90.24	1,516.77	47.75	1,984.76
1762	4.27	105.99	1,514.61	53.87	1,985.20
470	1.58	82.24	1,516.51	44.68	1,990.15
J118	0.43	105.73	1,514.36	55.45	2,017.03
880	1.51	67.29	1,517.81	39.88	2,038.02
934	6.89	81.01	1,518.57	48.5	2,137.45
1806	0.4	81.97	1,489.16	46.17	2,161.58
930	2.01	80.9	1,518.57	49.23	2,161.93
1456	4.63	76.23	1,511.68	47.32	2,165.22
604	1.37	80.98	1,518.57	49.48	2,168.95
922	0.14	77.36	1,518.55	48.7	2,211.09
920	1.87	77.36	1,518.55	49.47	2,247.09
1808	0.26	81.97	1,489.16	49.56	2,321.49
J28	21.7	38.16	1,508.06	29.57	2,342.53
1454	8.86	66.36	1,511.69	46.11	2,374.58
602	6.15	81.85	1,518.55	54.68	2,380.10
942	0.64	67.81	1,518.30	46.63	2,384.58
928	1.79	91.68	1,516.55	61.32	2,424.58
940	1.12	67.49	1,518.30	47.11	2,429.38
924	3	91.87	1,516.55	62.34	2,467.27
1518	7.43	71.26	1,509.75	51.05	2,493.73
1798	2.4	71.83	1,511.65	52.27	2,572.80
1760	1.48	100.9	1,517.86	69.91	2,573.57
956	0.11	102.57	1,517.94	71.15	2,578.93
1516	8.19	70.97	1,509.75	52.14	2,583.76
926	1.21	89.37	1,516.26	63.2	2,590.06
960	2	100.9	1,517.86	70.57	2,605.85
952	0.1	102.37	1,517.94	71.8	2,615.68
1802	4.57	66.49	1,511.39	49.7	2,642.83
958	0.75	100.9	1,517.86	71.44	2,648.11
1776	1.82	38.11	1,508.07	31.37	2,664.16
1796	2.35	79.31	1,512.34	58.59	2,678.82
1792	2.21	72.51	1,511.65	54.16	2,685.42
1458	0.68	66.95	1,511.38	50.77	2,706.44
1810	0.43	90.63	1,489.16	61.52	2,725.08
1446	9.7	65.8	1,511.36	50.42	2,752.50
918	0.81	90.72	1,519.37	67.44	2,754.86
286	2.32	86.74	1,518.22	64.06	2,757.63
950	1.3	78.82	1,518.14	58.85	2,773.81
724	2.4	103.06	1,517.86	75.31	2,781.46
702	3.66	69.52	1,518.30	52.81	2,792.97
408	2.23	65.84	1,518.38	50.47	2,802.18

2040 Fire Flow - Site B PRV Closed

ID	Static Demand (gpm)	Static Pressure (psi)	Static Head (ft)	Residual Pressure (psi)	Available Flow at Hydrant (gpm)
916	1.16	90.72	1,519.37	68.19	2,805.42
884	3.57	64.31	1,518.42	49.63	2,823.40
948	0.45	78.33	1,518.14	59.18	2,828.06
1094	1.92	92.42	1,513.25	69.4	2,830.07
J122	0	47.54	1,508.06	38.38	2,833.37
730	0.06	78.77	1,518.14	59.6	2,838.14
1766	0	91.62	1,521.45	69.53	2,841.88
1230	0	91.61	1,521.43	69.56	2,844.30
1232	0	91.61	1,521.43	69.58	2,846.06
1354	0	91.6	1,521.39	69.68	2,853.55
904	0.52	82.15	1,518.41	62.79	2,854.39
1492	3.14	71.11	1,509.33	55.75	2,856.19
742	0	91.55	1,521.28	70	2,878.39
868	3.55	88.29	1,518.18	66.72	2,878.50
874	0.77	81.8	1,518.41	62.97	2,891.25
902	0	81.98	1,518.41	63.88	2,959.41
946	2.93	90.69	1,518.49	69.76	2,962.20
1338	5.88	81.55	1,518.20	63.06	2,976.77
734	5.63	89.28	1,518.36	69.18	3,010.61
938	2.58	90.54	1,518.94	70.63	3,018.78
932	5.24	87.35	1,518.58	68.08	3,019.49
610	0.19	64.76	1,518.41	52.07	3,025.81
944	3.11	90.91	1,518.49	70.76	3,033.24
558	5.98	104.67	1,517.91	80.37	3,036.95
1570	0.34	95.05	1,489.16	68.77	3,063.23
560	1.18	103.99	1,517.94	80.5	3,078.45
870	1.44	65.68	1,518.39	53.11	3,078.86
936	2.84	90.54	1,518.94	71.39	3,086.28
506	4.04	90.54	1,518.95	71.44	3,090.97
1568	0.43	94.99	1,489.16	69.11	3,100.57
678	7.77	96.04	1,518.05	74.97	3,108.47
1512	3.65	67.42	1,508.07	54.73	3,170.85
J120	0.43	91.05	1,512.74	72.95	3,184.42
908	1.66	88.12	1,519.11	71.05	3,198.70
620	2.05	90.72	1,519.38	74.33	3,342.53
906	0.74	88.19	1,519.11	72.42	3,345.28
68	0.52	68.68	1,518.51	56.82	3,352.28
618	2.15	89.56	1,519.53	74.07	3,409.93
900	0.03	65.33	1,518.15	54.9	3,429.43
878	2.37	61.47	1,518.97	51.97	3,463.17
1260	0	61.99	1,519.62	52.43	3,477.52
1714	0	62.07	1,519.65	52.5	3,477.94
1712	0	62.16	1,519.67	52.57	3,479.03

2040 Fire Flow - Site B PRV Closed

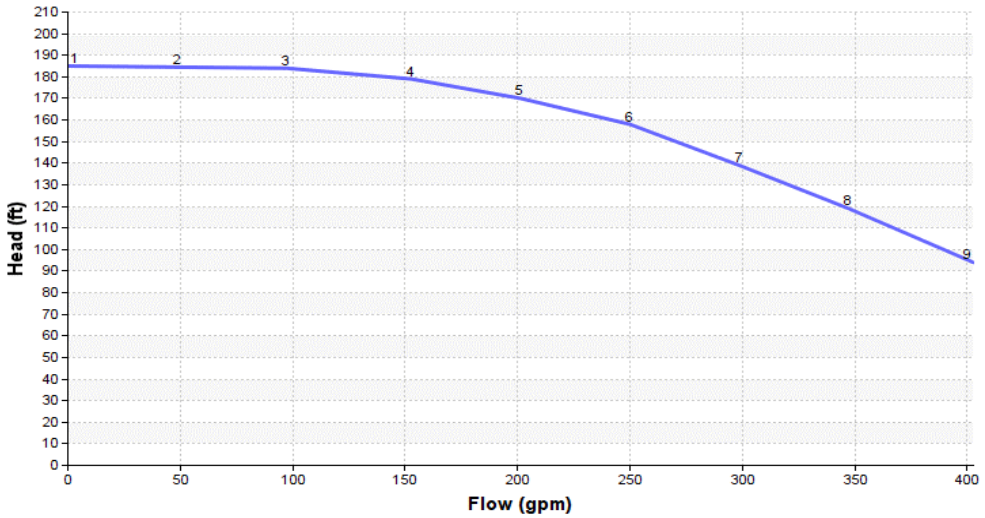
ID	Static Demand (gpm)	Static Pressure (psi)	Static Head (ft)	Residual Pressure (psi)	Available Flow at Hydrant (gpm)
1508	5.94	65.04	1,508.60	55.14	3,483.97
612	7.24	82.9	1,518.58	69.21	3,489.89
1204	0.51	61.33	1,519.00	52.18	3,525.15
1510	2.28	64.64	1,508.07	54.66	3,542.82
J30	172.23	61.92	1,508.05	52.01	3,607.98
1538	1.93	93.67	1,490.71	71.06	3,611.42
1536	0.01	94.45	1,490.69	71.8	3,619.71
1356	1.98	65.38	1,518.16	55.99	3,652.14
1542	0.82	90.26	1,491.01	68.19	3,659.30
1794	2.69	81.17	1,512.34	69	3,667.40
1434	0.04	63.41	1,518.14	54.49	3,675.19
882	1.12	63.61	1,518.14	54.65	3,676.31
1544	20.72	90.29	1,491.01	68.2	3,676.77
898	0.02	65.52	1,518.15	56.25	3,685.86
1444	4.27	64.45	1,511.31	55.89	3,701.24
1514	3.04	70.32	1,509.78	61.16	3,749.52
1442	6.46	64.23	1,511.31	56.21	3,826.77
1548	3.76	89.32	1,491.38	68.14	3,835.85
1546	6.12	89.24	1,491.38	68.09	3,840.30
1550	14.42	87.56	1,491.50	66.73	3,859.27
66	3.91	84	1,518.51	71.98	3,878.59
1506	4.88	67.62	1,508.97	59.36	3,901.93
1816	12.29	49.69	1,509.17	45	3,951.30
1558	10.72	84.71	1,491.83	64.87	3,959.92
1502	1.63	66.72	1,509.05	58.91	3,967.21
1440	8.2	70.62	1,511.70	62.13	4,011.84
1574	4.16	87.06	1,493.31	68.26	4,037.47
1450	2	67.18	1,510.69	59.86	4,115.36
1448	2.6	67.86	1,510.75	60.45	4,129.71
1478	4.15	67.55	1,510.63	60.29	4,153.71
1560	6.39	88.77	1,492.00	69.48	4,234.69
1500	0.7	66.54	1,509.21	59.78	4,239.43
1438	3.16	77.1	1,512.05	68.43	4,252.95
1498	1.86	54.91	1,509.18	50.16	4,273.47
1800	0.66	78.29	1,512.47	69.58	4,304.76
1436	9.55	79.33	1,513.09	70.39	4,312.67
1814	3.47	51.08	1,509.07	47.02	4,359.58
1480	2.36	71.98	1,510.25	65.23	4,502.80
1562	7.78	92.91	1,492.17	74.19	4,522.87
1496	11.07	62.08	1,509.24	57.14	4,640.58
1482	2.36	74.46	1,510.17	67.84	4,659.85
1572	5.36	87.92	1,493.31	71.32	4,677.33
1804	0.19	86.97	1,509.61	79.32	4,691.39

2040 Fire Flow - Site B PRV Closed

ID	Static Demand (gpm)	Static Pressure (psi)	Static Head (ft)	Residual Pressure (psi)	Available Flow at Hydrant (gpm)
1564	15.08	93.98	1,492.38	75.94	4,738.71
1484	1.89	72.51	1,509.80	66.45	4,760.08
1566	9.08	92.14	1,492.65	75.05	4,908.59
1486	1.81	74.63	1,509.72	68.73	4,929.82
1490	12.38	68.93	1,509.33	63.81	4,967.93
1488	1.37	69.33	1,509.40	64.15	4,968.25
1552	8.52	92.17	1,492.72	75.31	4,972.02
1812	152.26	55.91	1,509.04	52.05	4,990.39
1554	1.35	92.2	1,492.79	75.61	5,041.41
1556	3.49	92.26	1,492.92	76.13	5,179.66
1784	225.27	95.15	1,493.31	80.43	5,990.49
J24	239.65	60.93	1,508.11	59.54	11,116.29

Plant 3 Pump 3 Curve

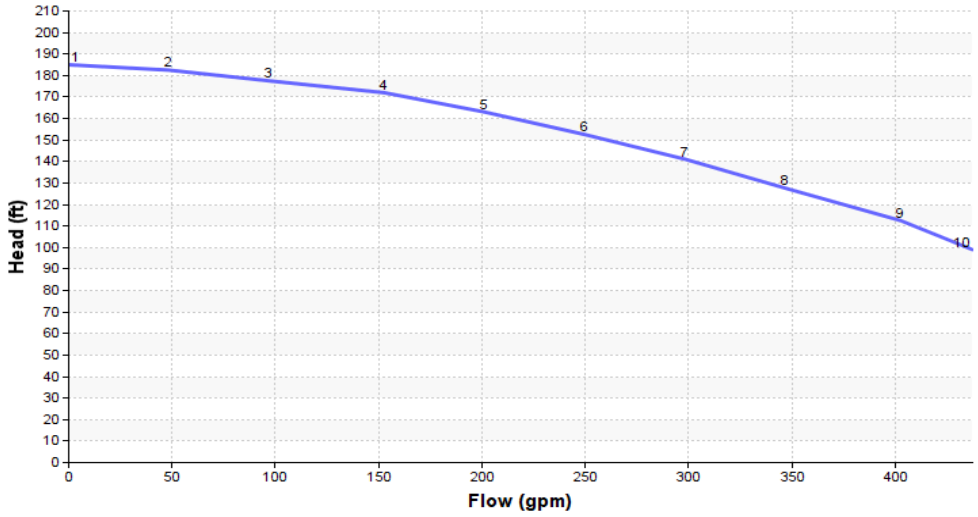
Flow (gpm)	Head (ft)
0	185
48.61	184.5
97.22	184
152.78	179
201.39	170
250	158
298.61	139
347.22	119
402.78	94



Pump 3 Elevation 1373.76 ft

Plant 3 Pumps 1 and 2 Curve

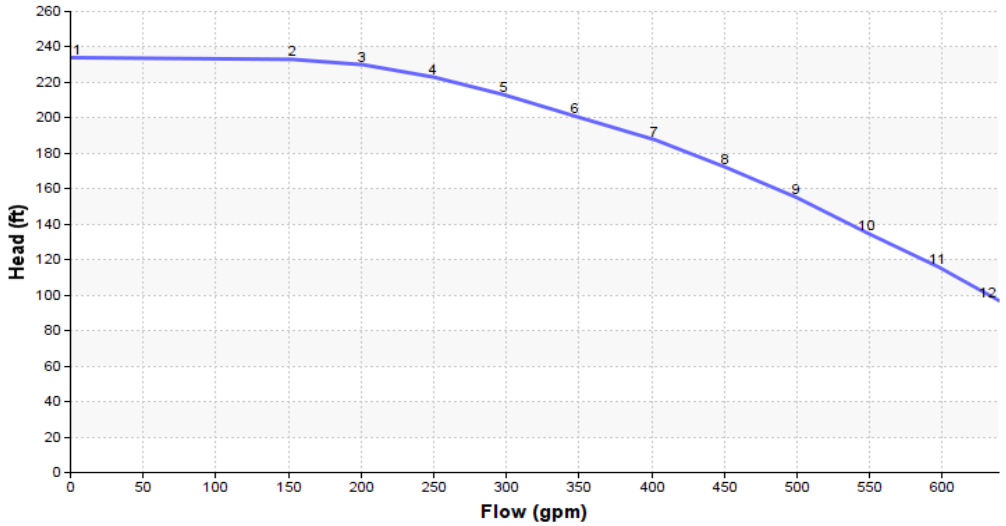
Flow (gpm)	Head (ft)
0	185
48.61	182.5
97.22	177.5
152.78	172
201.39	163
250	152.5
298.61	141
347.22	127.5
402.78	112.5
437.5	99



Pump 1 Elevation 1374.38 ft
Pump 2 Elevation 1374.07 ft

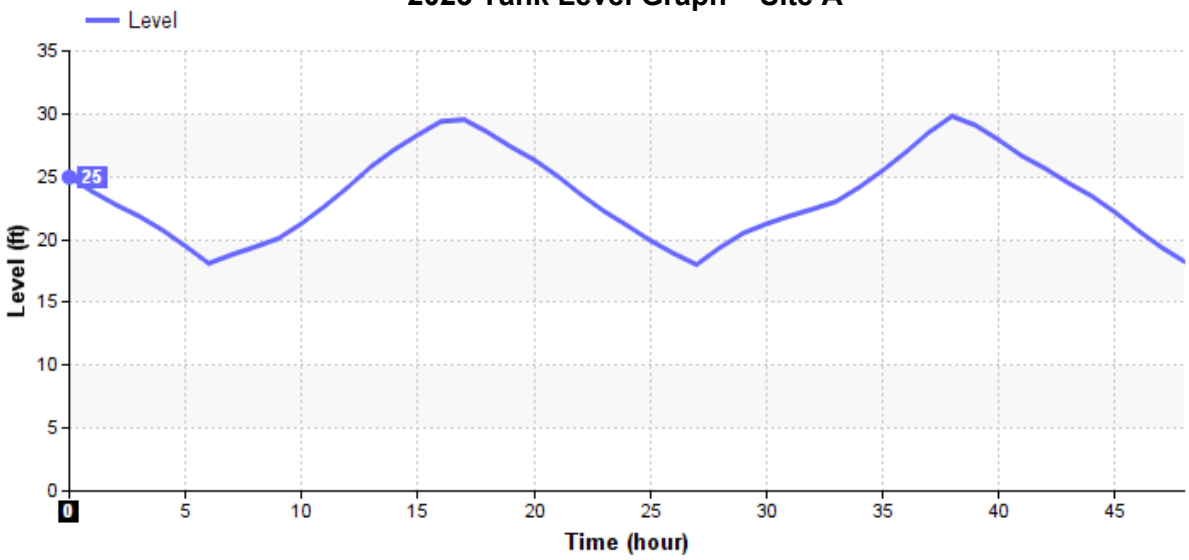
Plant 5 Pumps 3 and 4 Curve

Flow (gpm)	Head (ft)
0	234
152.78	233
201.39	230
250	223
298.61	213
347.22	201
402.78	187.5
451.39	172
500	155
548.61	135
597.22	116
638.88	97

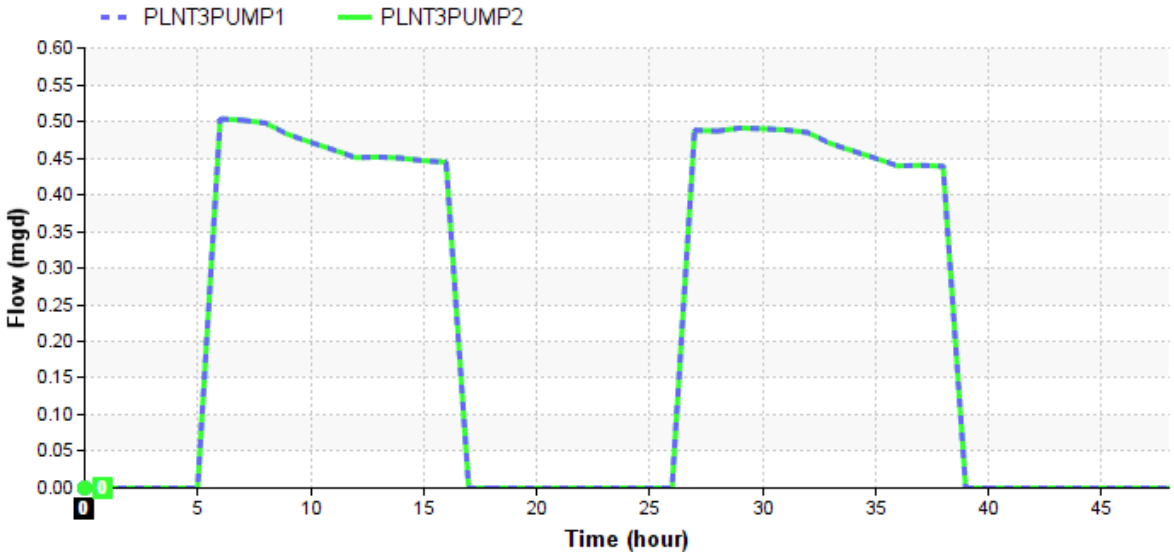


Pump 4 Elevation	1310 ft
Pump 5 Elevation	1310 ft

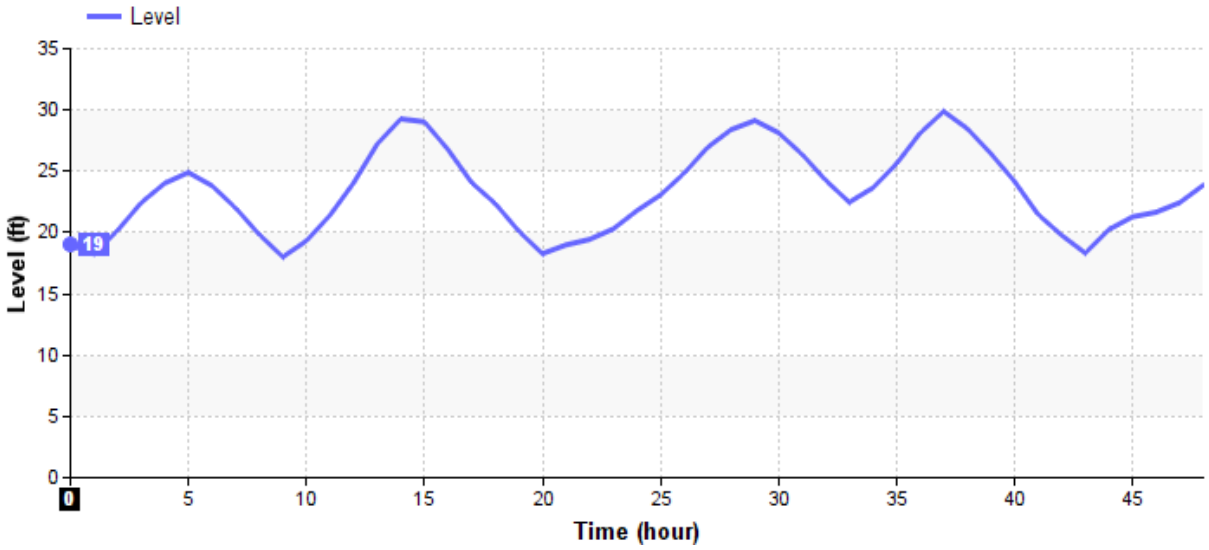
2023 Tank Level Graph – Site A



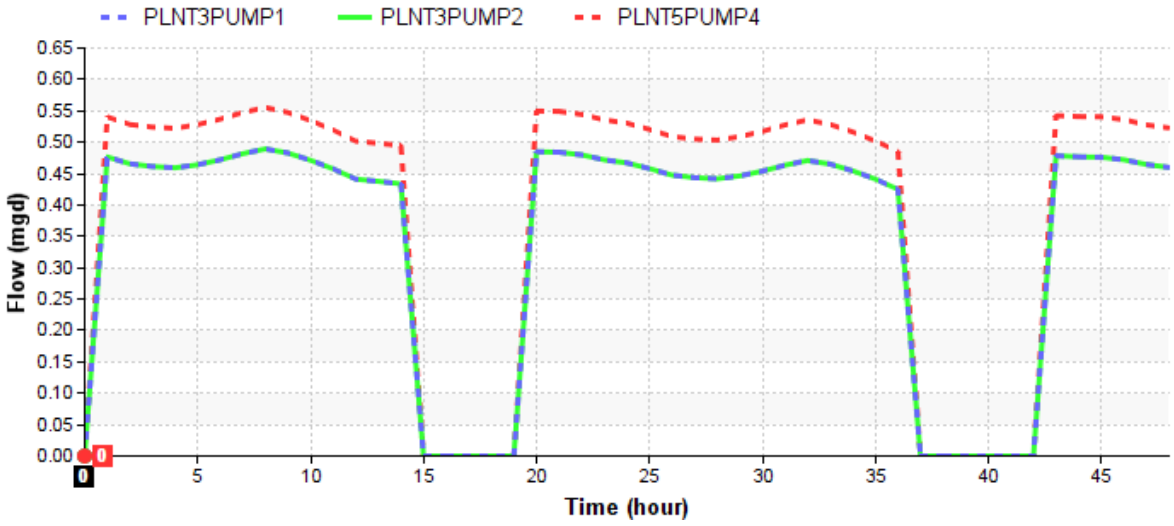
2023 Pump Flow Graph – Site A



2040 Tank Level Graph – Site A



2040 Pump Flow Graph – Site A



APPENDIX G: EXISTING DEVELOPER AGREEMENTS

THE RESERVE AT FAIR OAKS RANCH
DEVELOPMENT AGREEMENT

This Development Agreement for the "**The Reserve At Fair Oaks Ranch**" (the "**Agreement**") is made and entered into effective as of the 20 of November, 2013 (the "**Effective Date**"), by and between the City of Fair Oaks Ranch, a Texas General Law Type A city (the "**City**"), and R.W. Pfeiffer Properties, LLC, a Texas limited liability company and/or assigns (the "**Developer**"). The City and the Developer are sometimes referred to herein as the "**Parties**." The Parties agree as follows:

Purposes, Terms and Consideration

WHEREAS, the Developer plans to develop approximately 344.65 acres of land in Kendall and Comal Counties, Texas, which is more particularly described in Exhibit "**A**" attached hereto and incorporated herein by reference (the "**Land**"); approximately 344.65 acres of the Land is located within the extra territorial jurisdiction ("**ETJ**") of the City of Fair Oaks Ranch, Texas; where approximately 342.26 acres of the Land is located within Kendall County, Texas and approximately 2.39 acres of the Land is located within Comal County, Texas; and

WHEREAS, Developer intends to develop the Land as a master planned community in accordance with the Preliminary Project Master Plan (as defined by section 1.12) herein and attached to this Agreement as Exhibit "**B**", as may be changed from time to time in accordance with this Agreement. In this Agreement, the Land, as it will be developed, is sometimes referred to as the "**Project**"; and

WHEREAS, the City is authorized to make and enter into this Development Agreement with Developer in accordance with Texas Local Government Code Section 212.172 to accomplish the following purposes:

A. Extend the City's planning authority over the Land by providing for a development plan prepared by Developer and approved by the City under which certain general uses and development of the Land are authorized.

B. Developer and City may agree to development regulations other than those that lawfully apply within the City limits and / or ETJ, as may be agreed to by Developer and City by legislative action.

C. Provide for infrastructure for the Land including: (i) streets and roads, (ii) street and road drainage, (iii) land drainage, (iv) internal water storage and distribution, wastewater collection, treatment and disposal and other utility systems.

D. Developer shall create and implement a Public Improvement District (to be formed and agreed to between Developer and the City, the "**District**") in compliance with the Public Improvement District Act (Chapter 372 of the Local Government Code) necessary to provide electric, water, wastewater and sanitation services, drainage improvements, street, sidewalk, and other improvements for the Project following the formal execution and delivery of this Development Agreement.

E. All other lawful terms and considerations the parties consider appropriate.

NOW THEREFORE, Developer and the City, in consideration of the premises, the mutual covenants and agreements of the Parties hereinafter set forth and other good and valuable consideration, the receipt and sufficiency of which are hereby acknowledged by the Parties agree as follows:

ARTICLE I
Definitions

1.01 Applicable Rules: The Applicable Rules are the Code of Ordinances and Rules and Regulations of the City of Fair Oaks Ranch, Texas, and this Development Agreement, and will be applicable to the development of the Land (the "**Applicable Rules**"). The parties to this Agreement acknowledge and agree that this Agreement, including the Project Approvals (as hereinafter defined), may amend the Applicable Ordinance as defined on the Master Plan; and Developer, on behalf of itself and its assigns, including the District (as hereinafter defined), stipulate and agree that this Agreement makes no other amendment or revision to City ordinance, rules, regulations, or official policies in effect on the Effective Date.

1.02 City: The City of Fair Oaks Ranch; in Bexar, Kendall, and Comal Counties, Texas; a Texas general law city.

1.03 County: Kendall County or Comal County, Texas.

1.04 District: A Public Improvement District ("**PID**") defined more particularly in Article V herein.

1.05 Initial Term: The Initial Term of this agreement shall commence on the Effective Date and continue for 20 years thereafter (the "**Initial Term**") unless terminated earlier as expressly allowed herein or the City and Developer mutually agree otherwise in writing. The Initial Term shall be automatically renewed for two successive 5-year Extension Terms (the "**Extension Terms**") unless: (i) Developer defaults in the performance of a material obligation pursuant to this Development Agreement, in which case the City may by written notice to Developer prior to the expiration of the Initial Term or the first Extension Term, elect not to extend the Agreement for the Extension Term; or (ii) by mutual written agreement of the Parties, whereby the Initial Term or first Extension Term is not extended.

1.06 Land: Approximately 344.65 ± acres of land in Kendall and Comal County, Texas, more particularly described in Exhibit "**A**", which is attached herein and incorporated hereto for all purposes (the "**Property**").

1.07 Open Space: This includes all parks, trails, right-of-ways, and any common areas which benefit the community as a whole rather than being the private domain of individual lot owners. All of these areas shall be platted and maintained by Developer; the Project property owners' association (the "**POA**"); where applicable; or the District, through the funds provided by taxes, property owners' association dues, or the District revenues.

1.08 Permit Application: Any applicable preliminary plat application, final plat application, construction plans or other development approval applications for the City as required by the Applicable Rules.

1.09 Project: The Land, as it will be developed under this Agreement.

1.10 Project Approvals: The approvals, variances, waivers and exceptions to the Applicable Rules approved by the City with respect to the development of the Land, as set forth on the Project Master Plan, Exhibit "B", or as otherwise provided in this Development Agreement (the "**Project Approvals**").

1.11 Platted Lots and FORHA: When the Property has been annexed and platted by the City of Fair Oaks Ranch, Developer shall submit the recorded platted lots for submission into the Fair Oaks Ranch Homeowners Association (FORHA).

1.12 Project Preliminary Master Plan: The Preliminary Master Plan of the Project (the "**Master Plan**") attached hereto as Exhibit "B", incorporated herein by reference, and including any amendments or revisions thereto as provided for in this Agreement.

1.13 Affiliate: Affiliate shall mean any person or entity that directly or indirectly controls, is controlled by, or is under common control with Trio Residential Developers, Inc. As used in the definition of "Affiliate," the term "control" means the possession, directly or indirectly, of the power to direct or cause the direction of the management and policies of a person or entity, whether through ownership of voting securities, by contract or otherwise.

ARTICLE II
General Terms

2.01 Master Plan Revisions: Due to the fact that the Project comprises a significant land area and that Development will occur in phases over a number of years, modifications to the Master Plan may become desirable due to changes in market conditions or other factors. In order to provide flexibility with respect to the development of the Project, Developer may periodically modify lot layouts, roadway alignments, phasing schedule, lot product mix, land use allocations and other development plan modifications as approved between Developer and the City. The overall density of 645 Living Unit Equivalents (LUE) on the Property shall not be changed by any modifications.

2.02 Water Design and Inspections: The Developer acknowledges that the City, in accordance with TCEQ requirements, will be responsible for the establishment of all water design specifications, and construction inspections ("**Wet Utilities**"), and will accordingly review and approve all plans and specifications for Wet Utilities prior to construction and will inspect completed Wet Utilities prior to acceptance for operation and maintenance. The water design specifications shall meet the standards and specifications as set forth by the San Antonio Water System ("SAWS"). No construction of the Wet Utilities will occur by Developer until the City has issued the requisite permit.

2.03 Street and Drainage Construction Plans: Following, or in conjunction with, the final plat approval, Developer shall prepare and submit construction plans and specifications for review and approval by the City of all streets and drainage.

2.04 Project Continuation: In consideration of Developer's covenants in this Agreement, the City agrees that during the term of this Agreement it will not impose any moratorium on land use or development regulation that limits the timing of development approvals, whether such moratoriums affect preliminary subdivision plans, final plats, or site plans within the Project.

ARTICLE III
The Project

3.01 The Project: The Project is a master planned community that shall include the construction of streets internal to the Project, sidewalks, lighting as identified by the Camp Bullis Joint Land Use Study, street and land drainage, centralized water utilities, electric utilities, telephone and other data communication, or other facilities necessary to implement the Project Master Plan.

3.02 Drainage and Detention Facilities: Drainage shall be designed and constructed in accordance with all drainage requirements as provided by the Applicable Rules. The drainage facilities shall be designed to serve only the Project and shall not be required to assume developed conditions of any off-site properties.

3.03 Wet Utilities: All centralized water utility services serving the Project and provided by the Developer shall be reviewed, approved and inspected by the City and any other required agency.

3.04 Water Agreement: The Developer will be responsible for providing a water source for the Development. The source shall be groundwater obtained from the drilling of a public water supply well(s). The well(s) must meet the minimum peak demand requirements for 645 LUEs as set forth by TCEQ regulations. The Developer shall perform a water availability study agreed upon by the City. and drill test wells to substantiate supply goals for the Project. A copy of the water availability study will be provided the City within 30 days of its completion.

a) Contribution in Aid of Construction. Owner agrees to pay to City a one-time charge ("Owners Contribution in Aid of Construction") equal to the product of Property's total potential residential customers, which shall not exceed 645 LUE's times $1,669.58, or One Million Seventy-Six Thousand Nine Hundred Fifty-Two

Dollars and Ten Cents ($1,076,879.10). The Contribution in Aid shall be payable in two (2) equal payments of $538,439.55. The first installment shall be due and payable within thirty (30) days after the final plat approval of the first section or area within the Development, and the second installment shall be due and payable within ten (10) days after the City awards a contract to construct the elevated storage tank. The Contribution in Aid of Construction shall be refunded to the Developer pro rata on a quarterly basis for each building permit issued with respect to a residential lot on the Property and receipt by the City of the Impact Fee in the amount of $1,669.58 for such lot.

b) The City shall extend its CCN to include the project area. All cost for design, permitting and construction of the wells, water mains and appurtenances, and storage facilities will be included in the PID by the Developer. Connection fees at the time of "hook-up" will apply at the rate established for customers of Fair Oaks Ranch Utilities.

3.05 Wastewater Agreement: The Developer will construct a centralized wastewater collection and wastewater treatment facility ("**WWTP**") to serve the Development. The WWTP will be permitted through TCEQ. City consents to and will not offer any oral or written objection of (a) Developer's application to the TCEQ for a Certificate of Convenience and Necessity to provide retail wastewater service for the Property and (b) Developer's application for a discharge permit or any other permit necessary to operate the WWTP and (c) the creation of any type of district necessary to construct and operate the WWTP

3.06 Dry Utilities: Any natural gas, electric, telephone and data communication utility infrastructure plans shall be designed to meet the requirements of the specific utility service provider and shall be inspected and accepted for maintenance by said utility service provider.

3.07 Parks: The Project will include at least one neighborhood park area. Any such park will be dedicated to the POA for operation and maintenance.

3.08 Open Space: Open Space will be owned and maintained by the POA.

3.09 Easement Grants. City agrees to grant easements currently controlled by City, if requested by the Developer, as needed for Developer's intended use of the Property.

3.10 Density of the Project. Overall density for the Development shall not exceed a total of 645 Living Unit Equivalents (LUE) on the Property: 635 LUE for lots and 10 LUE for amenity center and landscape irrigation services.

ARTICLE IV
Annexation

4.01 **DEVELOPER, DISTRICT, AND ALL FUTURE OWNERS OF THE PROPERTY, INCLUDING END-BUYERS IRREVOCABLY AND UNCONDITIONALLY CONSENT TO THE FULL PURPOSE ANNEXATION OF THE PROPERTY INTO THE CORPORATE LIMITS OF THE CITY IN ACCORDANCE WITH THIS AGREEMENT AND WAIVE ALL OBJECTIONS AND PROTESTS TO SUCH ANNEXATION AND WAIVE ALL RIGHTS TO ARBITRATION OR MEDIATION REGARDING THE ANNEXATION. UPON EXECUTION OF THIS AGREEMENT, DEVELOPER SHALL FILE ITS PETITION TO BEGIN THE FORMAL PROCESS OF FULL PURPOSE ANNEXATION OF THE PROPERTY INTO THE CORPORATE LIMITS OF THE CITY IN ACCORDANCE WITH THIS AGREEMENT.**

ARTICLE V
Public Improvement District

5.01 PID Creation. The Developer shall file a petition for the creation and implementation of a Public Improvement District, "**Fair Oaks Ranch PID #1**", encompassing the boundaries of the Project and other related infrastructure improvements; the approval of which shall not be unreasonably withheld or denied by the City.

5.02 Authority. Subject to the conditions contained in the petition of the Developer, the PID is to be authorized by and to operate pursuant to the provisions of Chapter 372 of the Texas Local Government Code, with directors to be named, and an ad valorem tax or assessment to be authorized and implemented within the boundaries of the District.

5.03 Purpose. Subject to the conditions contained in Texas Local Government Code §372.003 the PID is to be authorized to reimburse the costs for capital improvements and maintenance/administrative expenses as authorized by law.

ARTICLE VI
Assignment of Commitments and Additional Land

6.01. Assignment. The Developer may assign the Developer's rights and obligations under this Agreement to Trio Residential Developers, Inc., a Texas Corporation or to an affiliate without the necessity of consent or approval of the City. Any such assignment shall release the Developer named herein from the rights, obligations, and liabilities under this Agreement. City shall have the right to approve an assignment, which shall not be unreasonably withheld for all other assignments except for those for conveyances of 20 acres or more of the Property, which shall not require the consent or approval of the City.

6.02 Additional Land. At any time, if the Developer desires to acquire additional property adjacent to, and including property sharing frontage on a public roadway, the Land or any other land in the future that Developer desires to be bound by this Agreement ("**Additional Land**"), the Developer shall submit a request to the City to revise the Project Master Plan to reflect the Additional Land. In conjunction with this request the Developer shall provide a revised Exhibit "A" and Exhibit "B" incorporating the Additional Land into the revised Land and Project Master Plan, respectively. The Additional Land shall have all of the rights and obligations under this Agreement.

ARTICLE VII
Default

7.01 Developer Event of Default. Developer shall be in default under this Agreement if the Developer fails to comply with any obligations it has under this Agreement.

The foregoing is referred to herein as the "**Developer Event of Default**". Notwithstanding anything herein to the contrary, Developer shall not be deemed to be in default hereunder until the passage of thirty (30) business days after receipt from the City of a "**Notice of Default**". Such notice shall include a description of the specific Event of Default. Upon the passage of thirty (30) business days without cure of the default, Developer shall be deemed to have defaulted for purposes of this Agreement.

However, if the breach is not reasonably susceptible to cure by the Developer within such 30-day period (such inability is reported to, and acknowledged by the City) and the City shall not bring any action so long as the Developer has commenced to cure the default within such 30-day period and diligently completes the cure within a reasonable time without unreasonable cessation of the work.

7.02 City Event of Default. City shall be in default under this Agreement if the City fails to comply with any obligations it has under this Agreement.

The foregoing is referred to herein as the "**City Event of Default**". Notwithstanding anything herein to the contrary, City shall not be deemed to be in default hereunder until the passage of thirty (30) business days after receipt by the Developer of a "**Notice of Default**". Such notice shall include a description of the specific Event of Default. Upon the passage of thirty (30) business days without cure of the default, City shall be deemed to have defaulted for purposes of this Agreement. However, if the breach is not reasonably susceptible to cure from the City within such 30-day period (such inability is reported to, and acknowledged by the Developer) and the Developer shall not bring any action so long as the City has commenced to cure the default within such 30-day period and diligently completes the cure within a reasonable time without unreasonable cessation of the work.

7.03 Remedies for Breach. If the breaching Party does not cure such breach within the stated period of time, the non-breaching Party may, in its sole discretion, and without prejudice to any other right under this Agreement, law, or equity, seek an action under applicable law, specific performance, mandamus, injunctive relief, and other remedies described in this Agreement; provided, however, (a) the non-breaching Party shall not be entitled to terminate this Agreement, (b) each Party specifically waives any right such Party has or in the future may have to terminate this Agreement unless and until the breach is cured or the alleged breaching party is found through the remedial action to not be in breach, and (c) it is understood and agreed that no Party will seek or recover actual, consequential or any other type of monetary damages or awards.

ARTICLE VIII
Notices

8.01 Notices. All notices, consents, requests, reports, demands or other communications hereunder (collectively, "**Notices**") shall be in writing and may be given personally, by registered or certified mail, by facsimile transmission, by electronic mail, by courier, or by Federal Express (or other reputable overnight delivery service) for overnight delivery. Notice shall also be deemed given when deposited with the United States Postal Service with sufficient postage affixed as follows:

To City:
City Administrator
City of Fair Oaks Ranch
7286 Dietz Elkhorn
Fair Oaks Ranch, Texas 78015
Attn: John Hobson
Telephone: 210-698-0900
Fax: 210-698-3565
E-mail: jhobson@fairoaksranchtx.org

To Developer:
R.W. Pfeiffer Properties LLC
R.W. Pfeiffer, Manager
418 Ammann Road
Boerne, Texas 78015
Attn: Russell Pfeiffer
Telephone:
Fax:
E-mail:

With Copy to:
Trio Residential Developers, Inc. and/or assigns
12345 Alameda Trace Circle, Suite 522
Austin, Texas 78727
Attn: Marc Frease
Telephone: 512-230-7555
E-mail: marc@triodevelopers.com

or to such other address or such other person as the addressee party shall have last designated by Notice to the other party. The inability to deliver a Notice because of a changed address of which no Notice was given or an inoperative facsimile number for which no Notice was given of a substitute number, or any rejection or other refusal to accept any Notice, shall be deemed to be the receipt of the Notice as of the date of such inability to deliver or rejection or refusal to accept. Any Notice to be given by any party hereto may be given by legal counsel for such party. Telephone numbers are provided herein for convenience only and shall not alter the manner of giving Notice set forth in this section.

ARTICLE IX
General Provisions

9.01. Entire Agreement. This Agreement, including the exhibits attached hereto constitutes the entire agreement between Developer and City pertaining to the subject matter hereof and supersedes all prior agreements, understandings, letters of intent, term sheets, negotiations, and discussions, whether oral or written, of the parties, and there are no warranties, representations, or other agreements, express or implied, made to either party by the other party in connection with the subject matter hereof except as specifically set forth herein or in the documents delivered pursuant hereto or in connection herewith, and may not be amended except by a written instrument signed by all Parties and dated subsequent to the date thereof.

9.02 No Waiver. No supplement, modification, waiver, or termination of this Agreement shall be binding unless executed in writing by the party to be bound thereby. No waiver of any provision of this Agreement shall be deemed or shall constitute a waiver of any other provision hereof (whether or not similar), nor shall such waiver constitute a continuing waiver unless otherwise expressly provided.

9.03 Governing Law and Venue. This Agreement and the legal relations between the parties hereto shall be governed by, and construed and enforced in accordance with, the laws of the State of Texas, without regard to its principles of conflicts of law. Venue for any action brought to interpret or enforce this Agreement shall be in Bexar County, Texas.

9.04 Authority to Execute. The City warrants that this Agreement has been approved by the City Council in accordance with all applicable public meeting and public notice requirements (including, but not limited to, notices required by the Texas Open Meetings Act) and that the individual executing this Agreement on behalf of the City has been

authorized to do so. Developer warrants that the execution of this Agreement is duly authorized in conformity with the articles of incorporation, bylaws, partnership agreement, or other applicable organizational documents of Developer and that the individual executing this Agreement on behalf of Developer has been authorized to do so.

9.05 Severability. The provisions of this Agreement are severable and, in the event any word, phrase, clause, sentence, paragraph, section, or other provision of this Agreement, or the application thereof to any person or circumstance, shall ever be held or determined to be invalid, illegal, or unenforceable for any reason, and the extent of such invalidity or unenforceability does not cause substantial deviation from the underlying intent of the parties as expressed in this Agreement, then such provision shall be deemed severed from this Agreement with respect to such person, entity or circumstance, without invalidating the remainder of this Agreement or the application of such provision to other persons, entities or circumstances except to the extent that the severed provision(s) is a dependent substantive term the removal of which affects the intent and effect of the remaining provisions.

9.06 Changes in State or Federal Laws. If any state or federal law changes so as to make it impossible for the City or the Developer to perform its obligations under this Agreement, the Parties will cooperate to amend the Agreement in such a manner that is most consistent with the original intent of the Agreement as legally possible.

9.07 Additional Documents and Acts. The Parties agree that at any time after execution of this Agreement, they will, upon the request of any other Party, execute and/or exchange any other documents necessary to effectuate the terms of this Agreement and perform any further acts or things as the other Party may reasonably request to effectuate the terms of this Agreement.

9.08 Amendment. This Agreement may be amended only with the written consent of all Parties and with approval of the governing bodies of the City and the Developer.

9.09 Business Days. As used herein, the term "**Business Day**" shall mean a day that is not a Saturday, Sunday, or legal holiday. In the event that the date for the performance of any covenant or obligation under this Agreement shall fall on a Saturday, Sunday, or legal holiday, the date for performance thereof shall be extended to the next Business Day. Similarly, in the event that the day for the performance of any covenant or obligation under this Agreement involving Escrow Agent shall fall on a Business Day on which Escrow Agent is closed for business to the public the date for performance thereof shall

be extended to the next Business Day on which Escrow Agent is open for business to the public.

9.10 Time of Essence. Time shall be of essence with respect to all matters contemplated by this Agreement.

9.11 No Third Party Beneficiary. This Agreement is solely for the benefit of the Parties, and neither the City nor the Developer intends by any provision of this Agreement to create any rights in any third-party beneficiaries or to confer any benefit upon or enforceable rights under this Agreement or otherwise upon anyone other than the City and the Developer. This provision does not apply to Additional Land until Exhibits "A" and "B" are amended according to the provisions of Section 6.02. Further, this provision does not prohibit the Developer from assigning its rights and obligations as allowed in Section 6.01.

9.12 Construction. As used in this Agreement, the masculine, feminine, and neuter gender and the singular or plural shall each be construed to include the other whenever the context so requires. This Agreement shall be construed as a whole and in accordance with its fair meaning, without regard to any presumption or rule of construction causing this Agreement or any part of it to be construed against the party causing the Agreement to be written. The parties acknowledge that each has had a full and fair opportunity to review the Agreement and to have it reviewed by counsel. If any words or phrases in this Agreement have been stricken, whether or not replaced by other words or phrases, this Agreement shall be construed (if otherwise clear and unambiguous) as if the stricken matter never appeared and no inference shall be drawn from the former presence of the stricken matters in this Agreement or from the fact that such matters were stricken.

9.13 Counterpart Originals. This Agreement may be executed in as many counterparts as may be deemed necessary and convenient, and by the different parties hereto on separate counterparts, each of which, when so executed, shall be deemed an original, but all such counterparts shall constitute one and the same instrument.

9.14 Binding Agreement. The execution and delivery of this Agreement and the performances of the transactions contemplated thereby have been duly authorized by all necessary corporate and governmental action of the City. This Agreement, when duly executed and delivered by each party, constitutes a legal, valid, and binding obligation of each party enforceable in accordance with the terms herein as of the Effective Date. The terms and conditions of this Agreement are binding upon the successors and assigns of all parties hereto.

9.15 Further Assurances. In addition to the actions recited herein and contemplated to be performed, executed, and/or delivered by Developer and City, the Parties agree to perform, execute, and/or deliver or cause to be performed, executed, and/or delivered at or after the Effective Date any and all such further acts, instruments, deeds, and assurances as may be reasonably required to consummate the transaction contemplated hereby.

9.16 Attorney's Fees. Should any party be required to resort to litigation to enforce the terms of this Agreement, the prevailing party, plaintiff, or defendant shall be entitled to recover its costs, including reasonable attorney's fees, court costs, and expert witness fees, from the other party. If the court awards relief to both the City and the Developer, all parties will bear its own costs in their entirety.

9.17 Binding Effect. The covenants, restrictions, and conditions contained in this Development Agreement will operate as covenants running with the land and will be binding upon the Developer and the City and their respective successors and assigns. The parties agree that upon execution, this Development Agreement shall be filed in the Official Public Records of Kendall and Comal Counties, Texas.

EXECUTED by the parties to be effective on November 20, 2013 (the "**Effective Date**").

SIGNATURE PAGES TO FOLLOW

CITY:

CITY OF FAIR OAKS RANCH, a Texas General Law Type A city

By: Cheryl Landman

Name: Cheryl Landman

Its: Mayor

Date: Nov 21, 2013

STATE OF TEXAS §

§

COUNTY OF Bexar §

BEFORE ME, a Notary Public, on this day personally appeared _____, Cheryl Landman, a Texas General Law Type A city, and known to me to be the person whose name is subscribed to the foregoing instrument and acknowledged to me that he executed the same for the purposes and consideration therein expressed on behalf of said limited partnership.

GIVEN UNDER MY HAND AND SEAL of office this 21 day of November, 200_.

C. Vanzant

Notary Public in and for the State of Texas

C. VANZANT
My Commission Expires
June 25, 2014

DEVELOPER:

R.W. PFEIFFER PROPERTIES, LLC, a Texas limited liability company

By: Russell W Pfeiffer

Name: Russell W Pfeiffer

Its: Manager of LLC

Date: 25 Nov 13

STATE OF TEXAS §
§
COUNTY OF Kendall & Comal §

BEFORE ME, a Notary Public, on this day personally appeared Russell Pfeiffer, Manager of R.W. Pfeiffer Properties, LLC, a Texas limited liability company, and known to me to be the person whose name is subscribed to the foregoing instrument and acknowledged to me that he executed the same for the purposes and consideration therein expressed on behalf of said limited partnership.

GIVEN UNDER MY HAND AND SEAL of office this 25 day of November, 2013.

Notary Public in and for the State of Texas

NOTARY PUBLIC STATE OF TEXAS
JAMES R TAYLOR
My Commission Expires
July 7, 2017

EXHIBIT A

FIELD NOTES
FOR 344.65 ACRES

BEING A 344.65 acre tract of land, all of a 344.979 acre tract of land as recorded and conveyed to Russell W. Pfeiffer in Volume 289, Pages 398-400 of the Official Records of Comal County, Texas, and in Volume 137, Page 679 of the Official Records of Kendall County, Texas, out of the David Bradbury Survey No. 214, Abstract No. 989 of Comal County, Texas and the David Bradbury Survey No. 214, Abstract No. 33 of Kendall County, Texas, said 344.65 acre tract being more particularly described by metes and bounds as follows:

BEGINNING at a found ½' iron rod in the east right of way of Ammann Road for the northwest corner of this tract and the southwest corner of a 131.013 acre tract as recorded in Volume 113, Page 834 of the Deed Records of Kendall County, Texas;

THENCE South 88° 15' 14 East for a distance of 3926.52 feet with a fence the north line of this tract, and the south line os said 131.013 acre tract to a set ½" iron rod with "ACES" cap at a corner for the northeast corner of this tract, the southeast corner of said 131.013 acre tract and in the west lines of a 140.452 acre tract as recorded in Volume 113, Page 836 of the Deed Records of Kendall County, Texas;

THENCE South 02° 11' 11" East for a distance of 3822.63 feet with a fence and the west line of said 140.452 acre tract to a set ½" iron rod with "ACES" cap in the north right of way of Ammann Road for the southeast corner of this tract;

THENCE with the north right of way of Ammann Road and fence the following:
North 88° 35' 14" West for a distance of 7.43 feet for an angle point;
North 88° 26' 14" West for a distance of 522.50 feet for an angle point;
North 88° 06' 14" West for a distance of 318.70 feet for an angle point;
North 87° 19' 14" West for a distance of 923.90 feet for an angle point;
North 89° 33' 14" West for a distance of 727.10 feet for an angle point;
North 89° 45' 46" West for a distance of 830.80 feet for an angle point;
North 89° 42' 46" East for a distance of 587.60 feet for southwest corner of this tract;

THENCE with the east right of way of Ammann Road and a fence the following:
North 44° 35' 14" West for a distance of 20.60 feet to an angle point;
North 01° 59' 14" West for a distance of 1933.70 feet for an angle point;
North 02° 09' 14" West for a distance of 1926.20 feet to the POINT OF BEGINNING and containing 344.65 acres of land, more or less, in Comal County, and Kendall Counties, Texas.

Plat of survey provided.

ALAMO CONSULTING ENGINEERING & SURVEYING, INC.

Kevin Conroy, R.P.L.S. 4198
August 28, 2013
Job # 115800
DCF/PROJECT/1100/115800/FIELD NOTES FOR 344.65 AC.

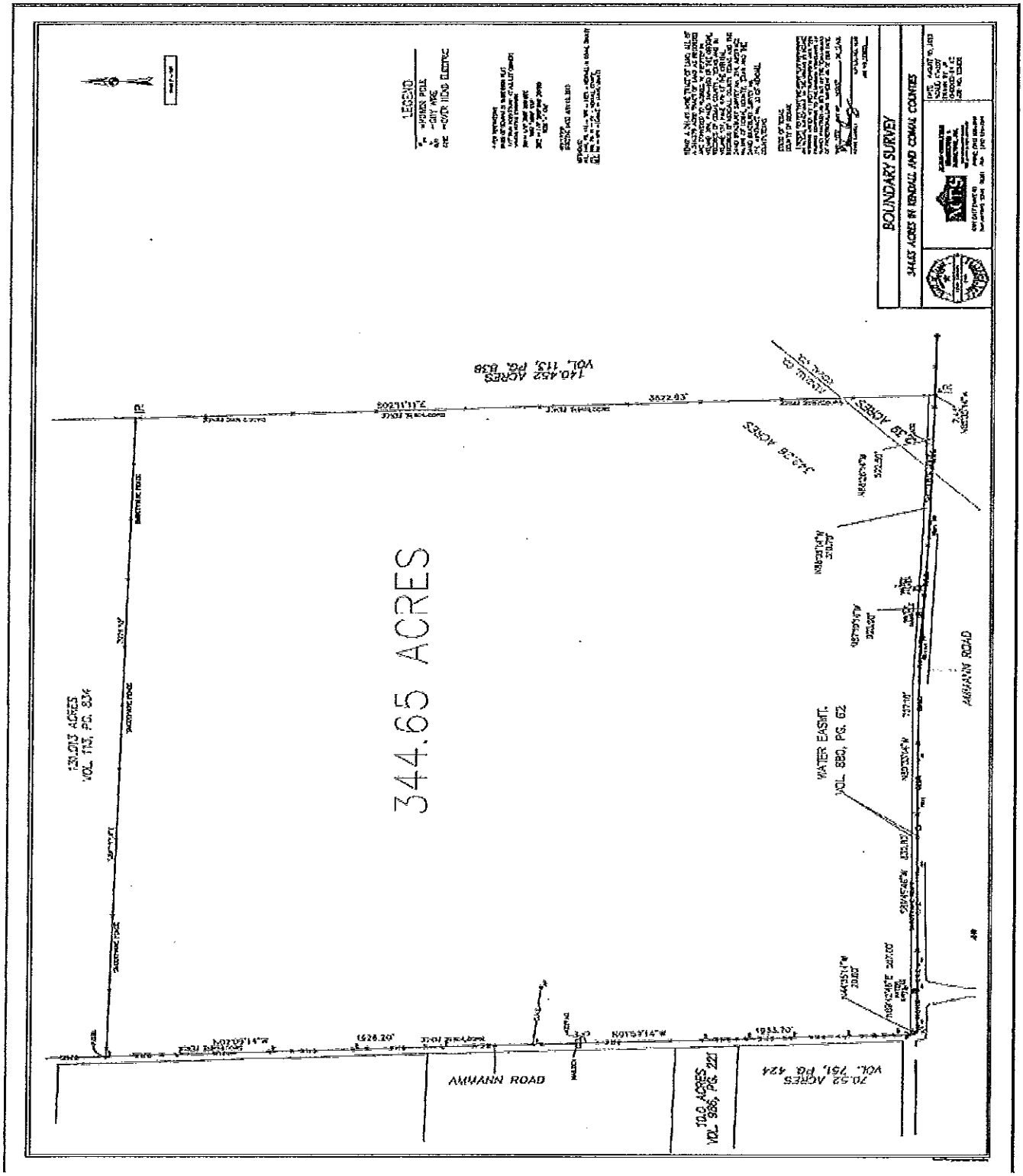

BOUNDARY SURVEY
344.65 ACRES IN KENDALL AND COMAL COUNTIES
LEGEND
344.65 ACRES
AMMANN ROAD
WATER EASMT.
VOL. 880, PG. 62
140.452 ACRES
VOL. 113, PG. 838
70.52 ACRES
VOL. 751, PG. 424
10.0 ACRES
VOL. 880, PG. 221
AMMANN ROAD

EXHIBIT B

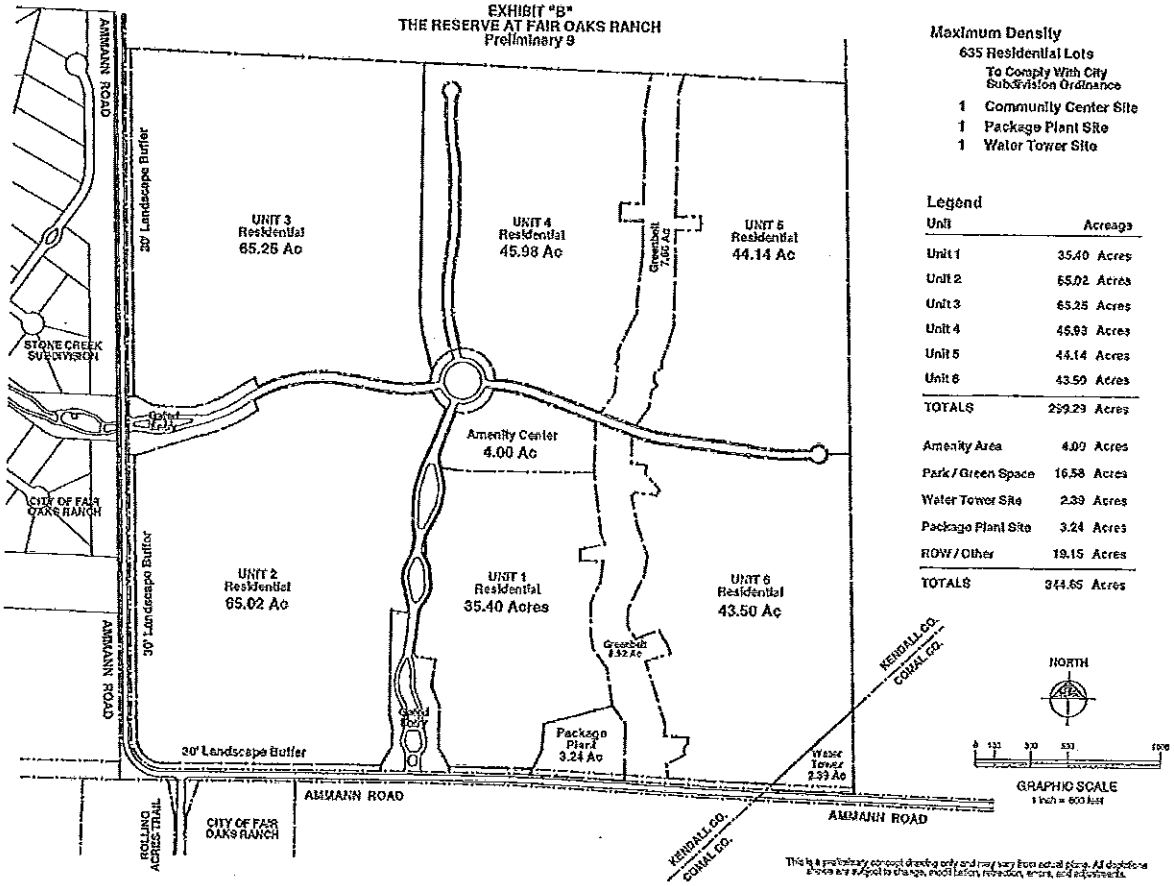


EXHIBIT "B"
THE RESERVE AT FAIR OAKS RANCH
Preliminary 9
AMMANN ROAD
30' Landscape Buffer
UNIT 3
Residential
65.25 Ac
UNIT 4
Residential
45.98 Ac
Greenbelt
7.65 Ac
UNIT 5
Residential
44.14 Ac
STONE CREEK SUBDIVISION
Canal
Amenity Center
4.00 Ac
CITY OF FAIR OAKS RANCH
UNIT 2
Residential
65.02 Ac
UNIT 1
Residential
35.40 Acres
UNIT 6
Residential
43.50 Ac
Greenbelt
8.52 Ac
Canal
Package
Plant
3.24 Ac
Water
Tower
2.39 Ac
KENDALL CO.
COMAL CO.
30' Landscape Buffer
AMMANN ROAD
ROLLING ACRES TRAIL
CITY OF FAIR OAKS RANCH
AMMANN ROAD
KENDALL CO.
COMAL CO.
Maximum Density
635 Residential Lots
To Comply With City Subdivision Ordinance
1 Community Center Site
1 Package Plant Site
1 Water Tower Site
Legend
Unit Acreage
Unit 1 35.40 Acres
Unit 2 65.02 Acres
Unit 3 65.25 Acres
Unit 4 45.98 Acres
Unit 5 44.14 Acres
Unit 6 43.50 Acres
TOTALS 299.29 Acres
Amenity Area 4.00 Acres
Park / Green Space 16.58 Acres
Water Tower Site 2.39 Acres
Package Plant Site 3.24 Acres
ROW / Other 19.15 Acres
TOTALS 344.65 Acres
NORTH
GRAPHIC SCALE

WATER SUPPLY AGREEMENT

CITY OF FAIR OAKS RANCH / GREEN LAND VENTURES

This Water Supply Agreement ("Agreement") is made and entered into by and between Green Land Ventures, its successors and assigns ("Owner") and the City of Fair Oaks Ranch, Texas, a municipal corporation ("City").

RECITALS

WHEREAS, Owner owns a certain 358.625+/- acre tract of real property (the "Property") more fully described in Exhibit "A" attached hereto and incorporated herein; and

WHEREAS, Owner petitioned to have the Property annexed into the corporate limits of the City, and the City annexed the property on January 18, 2007 and March 15, 2007; and

WHEREAS, the City has requested that Owner enter into this Agreement to memorialize certain agreements and commitments by the Owner with respect to its planned development of the Property and the provision of water services to the Property; and

WHEREAS, Owner has requested that the City enter into this Agreement to memorialize certain agreements and commitments by the City with respect to the development of the Property and the provision of water services to the Property; and

NOW, THEREFORE, in consideration of the mutual benefits and promises and for other good and valuable consideration, the receipt and sufficiency of which are hereby acknowledged, the City and Owner agree as follows:

I.
AUTHORITY AND TERM

A. Authority. The City's execution of this Agreement is authorized by The City Council of the City of Fair Oaks Ranch and constitutes a valid and binding obligation of the City. Owner's execution and performance of this Agreement constitutes a valid and binding obligation of Owner as the Owner proceeds with the development of the Property. The City acknowledges and agrees that Owner is acting in reliance upon the City's performance of its obligations under this Agreement in making its decision to commit substantial resources and money to the development of the Property.

B. Term. This Agreement shall become enforceable upon execution by the City and Owner. This Agreement shall terminate on the earlier of (i) the 15th anniversary of its execution or (ii) upon conveyance by Owner of all of the Property to third parties (each a "Lot Owner" and collectively, the "Lot Owners"), unless extended by mutual agreement of the parties.

II.
LAND USE PLAN

Consistent with the existing general land uses that exist within the City, it is the intent of Owner to design a large lot residential subdivision whereby the actual location and design of its roadway system will comprise local streets only.

A. Lot Use Summarization. As of the date hereof, it is anticipated that the Property when developed will contain the following approximate types and sizes of lots to be allocated to the various builders:

(1) Single Family	maximum of 238 Lots	358.625 Acres

III.
OBLIGATIONS OF THE PARTIES

For and in consideration of the mutual promises, covenants, obligations, and benefits described in this Agreement, and other good and valuable consideration the receipt and sufficiency of which is hereby acknowledged, Owner and the City agree as follows:

A. Potable Water Service. The City will provide treated water from the City's Water Production, Storage, and Distribution system; as such system may be expanded or modified from time to time. The water to be delivered may be from any source or combination of sources that may be available to the City including, without limitation, water from Canyon Reservoir under the City's Western Canyon Water supply contract and or from the City's Trinity Aquifer well fields.

B. Extension of Utilities. Owner will extend utilities from their present locations to the boundaries of the Property at its sole expense and pay for any increase in size of all appurtenances necessary to provide utility service to the lots within the Property at the level required in the City of Fair Oaks Ranch Subdivision Ordinance.

C. Offsets and Credits. This Agreement shall constitute an application for offsets or credits for the Contributions in Aid of Construction, provided by the owner to facilitate utility service to the Property, against impact fees due for the property. The City shall credit the amount of the Contributions in Aid of Construction provided by the Owner against the amount of Impact Fees due for the Property. Impact fee is the cost allocated to the property owner by the City to provide water service to that lot.

D. Water Service Capacity. Upon execution of this Agreement ,the City shall reserve water service capacity to the Property for 238 Living Unit Equivalents ("LUEs"), to support the development of the Property. The City shall also reserve 135 acre-feet of water to serve this development (Annual Reservation). The City shall provide an initial annual commitment (Capacity Reservation) of 27 acre-feet of water. If necessary, the annual Reservation shall be increased in January of each year up to a maximum total of 135 acre-feet.

E. Water Replacement Charge. Upon execution of this Agreement, Owner shall pay, within 30 calendar days, to the City a one-time charge ("Owner's Water Replacement Charge") equal to the product of Owner's Water Reservation (135 acre-feet) times $275, or Thirty Seven Thousand One Hundred Twenty Five Dollars ($37,125.00).

F. Contribution in Aid of Construction. Upon execution of this Agreement, Owner shall pay to City a one-time charge ("Owners Contribution in Aid of Construction") equal to the product of Property's total potential residential customers (238 LUE's) times $1,669.58, or Three Hundred Ninety-Seven Thousand Three Hundred Sixty Dollars and Four Cents ($397,360.04). The Contribution in Aid shall be payable in two (2) equal payments of $198,680.02. The first installment shall be due and payable within ten (10) days after execution of this Agreement, and the second installment shall be due and payable within ten (10) days after the City awards a contract to construct the elevated storage tank. The Contribution in Aid of Construction shall be refunded to the Developer pro rata on a quarterly basis for each building permit issued with respect to a residential lot on the Property and receipt by the City of the Impact Fee in the amount of $1,669.58 for such lot.

G. Water Reservation fees. Upon the execution of the Agreement, Owner shall within 30 calendar days begin paying the monthly Water Reservation Fee. Such fee shall be the monthly rate the City pays for the reservation of an acre foot of water for that year and shall be adjusted annually to be equal to the City of Fair Oaks Ranch's cost for the reservation of water necessary to provide for the development of the Property. The Water Reservation Fee will be equal to the product of 1/12th of the annual Reservation times the Firm Water Rate in effect during that month. The initial Owner's Water Reservation Fee will be $1,125 per month based on the current rate of $100 per acre-foot per year and the Owners annual reservation of 135 acre-feet per year. The Owner shall continue to pay the Water Reservation fee until such time as all of the 238 LUE's within the Property have been developed and connected to the City's water system minus those LUE's which have been connected (water meter has been set for domestic use.) This shall continue until the development is complete.

H. Capacity Reservation Fees. Upon execution of this Agreement, Owner shall, within 30 calendar days begin paying the monthly Capacity Reservation Fee. Such fee shall be the monthly rate the City pays for Capacity Reservation of an acre foot of water for that year and shall be adjusted annually to be equal to the City's cost for the reservation of water necessary to provide for the development of the Property. This fee is equal to the product of 1/12th of the annual Capacity Reservation times the Capacity Reservation Rate in effect during that month. The initial Owner's Capacity Reservation Fee will be $1,175.42 per month based on the current rate of $522.41 per acre-foot per year and the Owner's annual capacity reservation of 27 acre-feet per year. The Owner shall continue to pay said Capacity Reservation Fee until such time as all of the 238 LUE's within the Property have been developed and connected to the City's water system minus those LUE's which have been connected (water meter has been set for domestic use.) Developer shall continue to pay said Capacity Reservation Fee with respect to each lot comprising the Property until such time as one of the following events occurs:

1. Developer conveys one or more lots to new lot Owner(s) and by such conveyance liability for said Reservation Fee for the designated lot(s) transfers to the new Lot Owner(s): or

2. Developer is granted a permit for connection of the lot(s) to the City's water system and developer applies for a building permit for construction of any kind on the lots.

I. Billing. The City will render bills to Owner once each month for the charges required to be paid by Owner pursuant to this Agreement. The City shall, until further notice, render such bills on or before the 10th day of each month and such bills shall be due and payable at the City's office indicated below by the 20th day of each month or fifteen (15) days after such bill is deposited into the United States mail, properly stamped, addressed and postmarked to Owner, whichever is later. The City may, however, by sixty (60) days written notice change the monthly date by which it shall render bills, and all bills shall thereafter be due and payable ten (10) days after such date or fifteen (15) days after such bill is deposited into the United States mail, properly stamped, addressed and postmarked to Owner, whichever is later. Owner shall make all payments in such coin or currency of the United States of America as at the time of payment shall be legal tender for the payment of public and private debts and shall make payment to the City of Fair Oaks Ranch at its office in the City of Fair Oaks Ranch, Texas, or at such other place as the City may from time to time designate by sixty (60) days written notice.

J. Delinquency in Payment. All amounts due and owing to the City by Owner shall, if not paid when due, bear interest at the maximum rate permitted by law, provided that such rate shall never be usurious. If any amount due and owing by Owner is placed with an attorney for collection by the City, Owner shall pay to the City, in addition to all other payments provided for by this Agreement, including interest, the City's collection expenses, including court costs and attorney's fees. Owner further agrees that the City may, at its option, discontinue taking some or all actions to fulfill its obligations under this Agreement until all amounts due and unpaid are paid in full with interest as herein specified.

K. Use of Groundwater Wells for Supplementary Supply. Owner owns one groundwater well, which is located on the Property. Owner agrees to donate this groundwater well and surrounding sanitary easement to the City at no cost. The groundwater well will be utilized for supplementary supply of water.

L. Elevated Storage Tank Site. The Owner shall, at Owner's sole cost and expense, secure a suitable one-half acre tract of land within one-half mile of the Property for the future location and construction of an elevated water storage tank. Owner agrees to donate this elevated storage tank site and surrounding sanitary easement to the City at no cost.

M. Cooperation. The City agrees to reasonably cooperate with Owner in Owner's efforts to meet Owner's obligations set forth above and to assist Owner in preparing and entering into any and all instruments necessary to memorialize the future agreements of the parties pertaining to the development of the Property. The City agrees to use its best efforts and if necessary its power of condemnation, at the Owner's reasonable expense, in order to facilitate serving City-owned utilities to the boundary of the Property.

IV.
DISANNEXATION

It is expressly understood if the Owner submits, a request for disannexation of the Property described in "Exhibit A" and the City Council honors that request, this Agreement shall become null and void. All amounts paid by Owner pursuant to this Agreement shall be non-refundable.

V.
MISCELLANEOUS

A. Mutual Assistance. City and Owner will do all things reasonably necessary or appropriate to carry out the terms and provisions of this Agreement, and to aid and assist each other in carrying out such terms and provisions.

B. Representations and Warranties. The City represents and warrants to Owner that this Agreement is within its authority, and that it is duly authorized and empowered to enter into this Agreement, unless otherwise ordered by a court of competent jurisdiction. Owner represents and warrants to City that it has the requisite authority to enter into this Agreement.

C. Default. If either the City or Owner should default in the performance of any obligations of this Agreement, the other party shall provide such defaulting party written notice of the default, and a minimum period of thirty (30) days to cure such default, prior to instituting an action for breach or pursuing any other remedy for default. Both parties agree that if either party should default on any of the conditions and convenants hereunder, the party found to be responsible for said default aggress to pay to the prevailing party a reasonable amount for the prevailing party's reasonable costs, litigation expenses and attorney's fees.

D. Entire Agreement. This Agreement contains the entire agreement between the parties. This Agreement may only be amended, altered or revoked by written instrument signed by the City and Owner.

E. Binding Effect. This Agreement shall be binding on and inure to the benefit of the parties, their respective successors and assigns.

F. Assignment. Except as provided, Owner may not assign all or part of its rights and obligations under this Agreement to a third party without prior written approval of the City. Such approval shall not be unreasonably withheld or denied.

G. Notice. Any notice and or statement required and permitted to be delivered shall be deemed delivered by actual delivery, facsimile with receipt of confirmation, or by depositing the same in the United States mail, certified with return receipt requested, postage prepaid, addressed to the appropriate party:

Owner: Green Land Ventures
505 Madison Oak Drive
San Antonio TX 78258

City: City Administrator
City of Fair Oaks Ranch
7286 Dietz Elkhorn
Fair Oaks Ranch, TX 78015

H. Interpretation. Each of the parties has been represented by counsel of their choosing in the negotiation and preparation of this Agreement. Regardless of which party prepared the initial draft of this Agreement, this Agreement shall, in the event of any dispute, however its meaning or application, be interpreted fairly and reasonably and neither more strongly for or against any party.

I. Applicable Law. This Agreement is made, and shall be construed and interpreted, under the laws of the State of Texas and venue shall lie in Kendall County, Texas.

J. Severability. In the event any provisions of this Agreement are illegal, invalid or unenforceable under present or future laws, and in that event, it is the intention of the parties that the remainder of this Agreement shall not be affected. It is also the intention of the parties of this Agreement that in lieu of each clause and provision that is found to be illegal, invalid or unenforceable, a provision be added to this Agreement which is legal, valid or enforceable and is as similar in terms as possible to the provision found to be illegal, invalid or unenforceable.

K. ADR. The City and the Owner agree that they shall first submit any and all unsettled claims, counterclaims, disputes and other matter in question between them arising out of or relating to this Agreement or breach thereof to an alternate dispute resolution process before filing suit concerning this agreement. A mediator shall be selected by mutual agreement of the Parties and the cost of said mediator shall be paid equally by both parties.

L. Paragraph Headings. The paragraph headings contained in this Agreement are for convenience only and will in no way enlarge or limit the scope or meaning of the various and several paragraphs.

M. No Joint Venture. It is acknowledged and agreed by the parties that the terms of this Agreement are not intended to and shall not be deemed to create any partnership or joint venture among the parties. The City, its past and future officers, elected officials, employees and agents do not assume any responsibilities or liabilities to any third party in connection with the development of the Property

N. Exhibits. The Exhibits attached hereto are incorporated by reference for all purposes.

O. Force Majeure. If performance by either Party hereunder is prevented by reason of any act of God, strike, governmental restriction or regulation or interference, terrorist acts, fire, tornado, embargoes, unusually severe weather, shortages of supplies of raw materials, or components or finished goods, or other casualty, unreasonable delay in any necessary governmental approval, or any other force majeure beyond the control of the Parties, the other Party agrees to grant the non-preforming Party a reasonable time to take action to overcome the force majeure and resume performance of the duties hereunder.

EXECUTED in duplicate and, to be effective on 16 day of June Sept, 2008.

Green Land Ventures:

By: Dana Green

Printed Name: Dana Green

Date: 6-16-2008

City of Fair Oaks Ranch, Texas, a municipal corporation:

By: Daniel E Kasprowicz

Printed Name: Daniel E. Kasprowicz

Date:

APPROVED as to form:

Adolph D. Jacobson

City Attorney

Exhibit "A" - Metes and Bounds of 358.625 acre tract

THE STATE OF TEXAS

COUNTY OF BEXAR

BEFORE ME, the undersigned, a Notary Public in and for said State, on this day personally appeared Dana Green known to me to be the person whose name is subscribed to the foregoing instrument and acknowledged to me that the same was the act of the GREEN LAND VENTURES, and that he executed the same for the purposes and consideration therein expressed, and in the capacity therein stated.

GIVEN UNDER MY HAND AND SEAL OF OFFICE this the 16 day of June, 2008.

RITA A. RANKIN
Notary Public, State of Texas
My Commission Expires
April 05, 2011

Rita A. Rankin
Notary Public
The State of Texas

THE STATE OF TEXAS

COUNTY OF BEXAR

BEFORE ME, the undersigned, a Notary Public in and for said State, on this day personally appeared Daniel E. Kasprowicz known to me to be the person whose name is subscribed to the foregoing instrument and acknowledged to me that the same was the act of the CITY OF FAIR OAKS RANCH, and that he executed the same for the purposes and consideration therein expressed, and in the capacity therein stated.

GIVEN UNDER MY HAND AND SEAL OF OFFICE this the 2 day of Sept, 2008.

C. VANZANT
Notary Public, State of Texas
My Commission Expires
JUNE 25, 2010

C. Vanzant
Notary Public
The State of Texas

Exhibit A

FIELD NOTES FOR ANNEXATION
INTO THE CITY OF FAIR OAKS RANCH

BEING all of the called 215.251 acres in the William D. Lusk Survey No. 211, Abstract 306 in Kendall County, Texas described in deed recorded in Volume 978, Page 1021 of the Real Property Records of Kendall County, Texas said tract of land being described in said deed of record as follows:

BEGINNING at a point in a fence on the west line of Ammann Road for the southeast corner of this tract, said point being N 00° 06' E 1,949.4', N 00° 12' E 158.0' and N 00° 07' E 227.8' from the southeast corner of the Wm. D. Lusk Survey No. 211;

THENCE N 86° 14' W 5,285.9' to a point in a fence;

THENCE with fence as follows:

N 02° 08' W	166.9'
N 02° 15' W	561.0'
N 02° 19' W	706.0'
N 01° 41' W	154.2' and
N 02° 30' W	183.5' to the northwest corner of this tract;

THENCE S 86° 14' E 5,353.3' (with the south line of Ammann Farms Subdivision as shown on plat recorded in Volume 2, Page 76 of the Records of Deeds and Plats of Kendall County, Texas) to a 1/2" iron rod in a fence on the west line of Ammann Road;

THENCE with fence on this line of road S 00° 07' E 1,386.4' and S 00° 07' W 330.5' to the place of beginning and containing 215.251 acres of land according to a Survey made on the ground on January 28 and 29 and April 11, 1978 by Edgar Schwartz, Jr., Registered Professional Engineer.

This document was prepared under 22 TAC Section 663.21, does not reflect the results of an on the ground survey, and is not to be used to convey or establish interests in real property except those rights and interests implied or established by the creation or reconfiguration of the boundary of the political subdivision for which it was prepared.

ALAMO CONSULTING ENGINEERING
& SURVEYING, INC.

Kevin Conroy, R.P.L.S.
October 23, 2006
Job No. 50100.58

DOC # WORD FN 2006 102302 JC

Exhibit A

FIELD NOTES FOR ANNEXATION
INTO THE CITY OF FAIR OAKS RANCH

BEING all of the called 143.374 acres in the William D. Lusk Survey No. 211, Abstract 306 in Kendall County, Texas described in deed recorded in Volume 978, Page 1021 of the Real Property Records of Kendall County, Texas said tract of land being described in said deed of record as follows:

BEGINNING at a 1/2" iron rod in a fence on the west line of Ammann Road for the southeast corner of this tract, said pin being N 00° 06' E 1,148.7' from the southeast corner of this Wm. D. Lusk Survey No. 211;

THENCE N 86° 14' W 5,283.0' (with the north line of a called 10.0 acre tract recorded in Volume 986, Page 221, a called 70.52 acre tract shown on survey plat recorded in Volume 751, Page 424 and the remainder of a called 143.434 acre tract recorded in Volume 130, Page 161, all in the Real Property Records of Kendall County, Texas) to the southwest corner;

THENCE with fence N 02° 21' E 626.6' and N 02° 08' W 567.1' to the northwest corner of this tract;

THENCE S 86° 14' E 5,285.9' to a point in a fence on the west line of Ammann Road;

THENCE with fence on this line of road S 00° 07' W 227.8', S 00° 12' W 158.0' and S 00° 06' W 800.7' to the place of beginning and containing 143.374 acres of land, according to a Survey made on the ground on January 28 and 29 and April 11, 1978 by Edgar Schwartz, Jr., Registered Professional Engineer.

This document was prepared under 22 TAC Section 663.21, does not reflect the results of an on the ground survey, and is not to be used to convey or establish interests in real property except those rights and interests implied or established by the creation or reconfiguration of the boundary of the political subdivision for which it was prepared.

ALAMO CONSULTING ENGINEERING
& SURVEYING, INC.

Kevin Conroy, R.P.L.S.
October 23, 2006
Job No. 50100.58

DOC F WORD FN 2006-102303 1C

revised 10/30/06

Exhibit A

FIELD NOTES FOR AMMANN ROAD ANNEXATION
INTO THE CITY OF FAIR OAKS RANCH

BEING a portion of the Ammann Road right-of-way containing approximately 2.0 acres of land out of the Maria de la Luz Guerra Survey No. 172, Abstract 178 and the David Bradbury Survey No. 214, Abstract 33 in Kendall County, Texas and adjoining the present City of Fair Oaks Ranch city limits line along the south right-of-way line of Ammann Road at the intersection with Rolling Acres Trail and extending west and north on Ammann Road, said tract of land being further described from deeds and plats of record as follows:

BEGINNING at a found 1/2" iron rod at the northeast curve return of Rolling Acres Trail as shown on plat of Fair Oaks Ranch, Kendall County Unit 1 as recorded in Volume 1, Pages 68-72 of the Plat Records of Kendall County, Texas and being on the south right-of-way line of Ammann Road and north city limits line of the City of Fair Oaks Ranch, for the southeast corner of this tract;

THENCE with the north line of said Kendall County Unit 1 and the south line of Ammann Road the following courses recited from said plat of Kendall County Unit 1 as follows:

South 89° 34' 15" West, a distance of 281.95 feet to a found 1/2" iron rod for an angle point in the north line of Lot 47 of said Kendall County Unit 1;

North 88° 03' 22" West, a distance of 90.95 feet to found 1/2" iron rod for angle point in the north line of said Lot 47;

North 17° 43' 22" West, a distance of 48.95 feet to a found 1/2" iron rod for a north exterior corner of said Lot 47 and the southeast corner of the remainder of a called 143.434 acre tract as recorded in Volume 130, Page 161, also being at the fence post shown at the southeast corner of a called 63.00 acre tract shown on survey plat recorded in Volume 751, Page 424 of the Real Property Records of Kendall County, Texas;

THENCE with the west right-of-way line of Ammann Road and east line of said 63.00 acres and 70.52 acres as shown on said survey plat recorded in Volume 751, Page 424 of the Real Property Records of Kendall County, Texas the following courses cited from said survey plat:

North 00° 01' 47" East, a distance of 60.05 feet to the southeast corner of a said 70.52 acre tract;

North 00° 00' 08" East, a distance of 787.91 feet to a found 1/2" iron rod for the northeast corner of said 70.52 acre tract, also being the east corner of a called 0.32 acre tract and southeast corner of a called 10.0 acre tract as recorded in Volume 986, Page 221 of the Real Property Records of Kendall County, Texas;

THENCE N 00° 06' 00" East, a distance of 300.00 feet (course recited from said deed for 10.0 acres) to a found 1/2" iron rod for the northeast corner of said 10.0 acre tract and the southeast corner of a called 143.374 acre tract as recorded in Volume 978, Page 1021 of the Real Property Records of Kendall County, Texas;

Exhibit B

THENCE North 00° 06' 00" East, a distance of 500.00 feet (course recited from said deed for 143.374 acres) continuing with the west right-of-way line of Ammann Road and east line of said 143.374 acres to a point for the northwest corner of the herein described tract;

THENCE crossing the right-of-way line of Ammann Road at a 90° angle with the west right-of-way line, a distance of about 42 feet, to a point on the east right-of-way line and west line of a called 344.979 acre tract as recorded in Volume 136, Page 167 of the Real Property Records of Kendall County, Texas;

THENCE with the east and north right-of-way line of Ammann Road and the west and south line of said 344.979 acre tract the following courses recited from said deed for 344.979 acres:

South 00° 06' West, to the cutback corner with the north line of Ammann Road;

South 42° 30' East, a distance of 20.06 feet, with the cutback line, to the north line of Ammann Road;

South 88° 12' East to a point across from said northeast curve return of Rolling Acres Trail;

THENCE crossing the right-of-way line of Ammann Road at a 90° angle with the south right-of-way line, a distance of about 42 feet, to the **POINT OF BEGINNING** in Kendall County, Texas.

This document was prepared under 22 TAC Section 663.21, does not reflect the results of an on the ground survey, and is not to be used to convey or establish interests in real property except those rights and interests implied or established by the creation or reconfiguration of the boundary of the political subdivision for which it was prepared.

ALAMO CONSULTING ENGINEERING
& SURVEYING, INC.

Kevin Conroy, R.P.L.S.
October 23, 2006
Job No. 50100.58

DOC:F:WORD:FN 2006 102301 JC