

Tucson Water Well Site (B-052B)

Special Exception

1937 North Nancy Rose Boulevard Tucson, Arizona 85712

Submitted to:

City of Tucson
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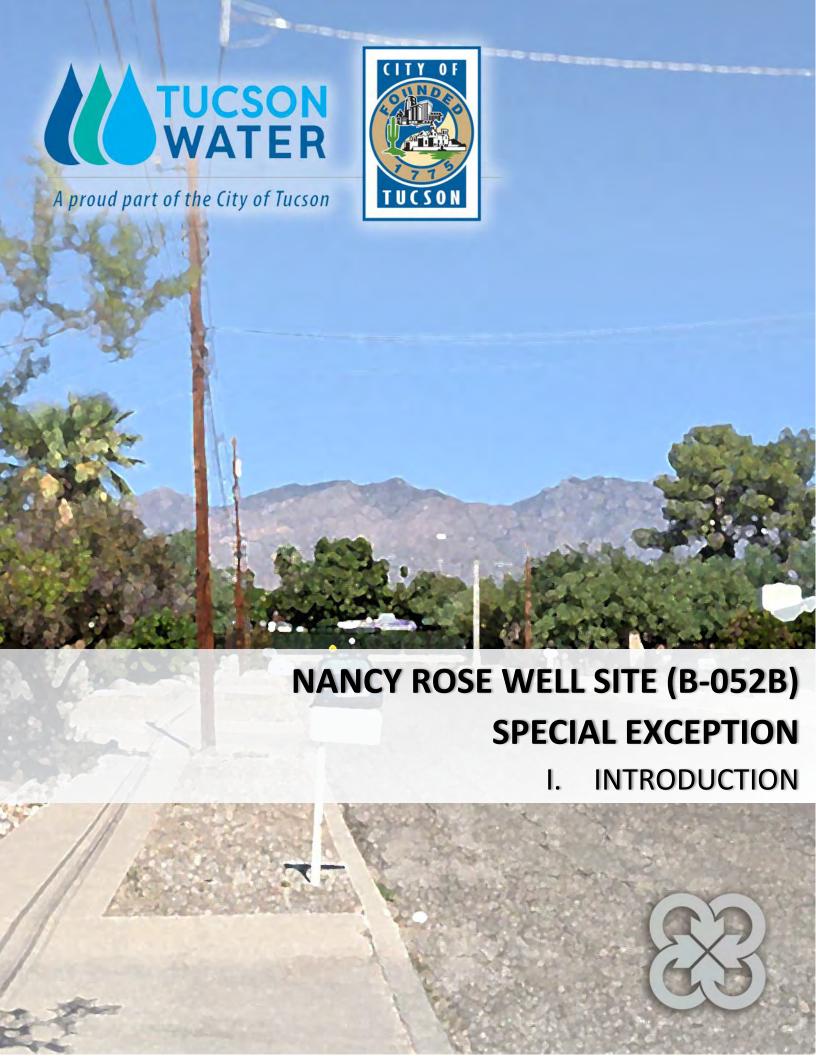
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I.	Introduction & Policy	
A.	Background	2
B.	Tucson Water Policy Guidance	2
C.	Conformance with Plan Tucson and Area Plan	3
1.	Plan Tucson	3
2.	Arcadia-Alamo Area Plan	4
D.	Conflicts with Adopted City Ordinances or Policy	5
II.	Site Analysis	6
A.	General Information	7
1.	Project Location	
2.	Onsite and Adjacent Land Uses	
3.	Boundary Dimensions	
В.	Circulation & Trips	
C.	Cultural Resources	13
D.	Hydrology & Drainage	13
E.	Views	13
III.	Plan Proposal	
A.	Site Layout	15
В.	Design Compatibility	19
1.	Design Criteria	19
2.	Applicable Use Specific Standards	19
3.	Building Setbacks	21
4.	Transition of Building Heights	21
5.	Landscaping & Screening	21
6.	Vehicular Use Areas	
K.	Post-Development Hydrology	
L.	Utilities	22
	f Exhibits	
	oit I: Location Within Area Plan Boundary	
	oit II.A.2.a: Current Site Conditions	
	oit II.A.2.b: Site Photos	
	oit II.A.2.b: Site Photos (continued)	
	oit II.A.2.c: Zoning and Land Uses	
Exhib	oit III.A: Preliminary Development Plan	18





This document is submitted on behalf of the City of Tucson Water Department (Tucson Water) as a requirement for the special exception and design review board applications for a 0.19-acre parcel located at 1937 North Nancy Rose Boulevard. The site is situated between East Pima Street and East Seneca Street. Given that this special exception also includes a direct ordinance adoption request and corresponding Development Package per Section 2-06.0.0 of the Unified Development Code (UDC), this is a condensed Preliminary Development Package. The Development Package is submitted under separate cover.

The project site, currently zoned R-1 (Residence Zone), is located within Township 14S, Range 14E, Section 2, and identified by Assessor Parcel Number (APN) 121-09-1680. In accordance with Unified Development Code Section 4.8.4 (Permitted Uses: Urban Residential Zones), the proposed utility distribution use is permitted as a special exception use within the R-1 (residence) zone, upon approval from the Zoning Examiner.

A. Background

The Vista del Monte Water Company established this well site in the 1950s to provide the surrounding properties with water service. The original well was drilled in 1953 and was operated by Vista del Monte Water Co. until 1957. In 1957, Tucson Water purchased Vista del Monte Water Co., including the parcel at 1937 North Nancy Rose Blvd., along with the original well, and continued to use the well as a source of groundwater delivered to customers living in the Cloverleaf Addition Subdivision and other nearby neighborhoods. Tucson Water designated the original well as B-052A, which was drilled to a depth of 275' and constructed with a 12" diameter casing.

The original well (B-052A) was in service until 1975, when water levels at that location dropped to the point that the well was no longer functional. In 1975 the existing well, B-052A, was deepened at the same location to a depth of 340' and had a 10" diameter casing installed in an attempt to reduce the amount of sand that was being produced. Tucson Water removed the well from production due to higher than acceptable sand production and the fact that the well boring alignment was very crooked at a 150' depth. This misalignment caused premature failure of bearings and pump bowls located below the 150' depth. Despite being removed from production, the parcel has been continually maintained by Tucson Water, and well B-052A has been used as a water level monitoring well since 1976.

A second well, designated B-052B, was drilled and constructed in 2019 as part of a long-term water management strategy designed to provide redundancy in water delivery. As part of the process to re-establish an active well at this location, Tucson Water proposes several improvements to ensure the utility use is compatible with the neighborhood's overall character. Improvements proposed for the property include the installation of a partial landscape border along Nancy Rose Boulevard that will not interfere with the water and other utility infrastructure located along the front of the property, and a small masonry control room to accommodate newer electronics technology used to monitor and operate the well from a remote location. Additionally, Tucson Water will install new perimeter screening designed per the adjacent property owners' preference on the property boundaries. Other site improvements will be made to accommodate current maintenance and operational needs.

B. Tucson Water Policy Guidance

In the early 2000s, Tucson Water discontinued pumping non-renewable groundwater resources and converted to renewable Colorado River water resources. This action has been taken to comply



with the 1980 Arizona Groundwater Code, which aims to reduce over-drafting of local aquifers. One of the consequences of over-drafting aquifers is lowering the water table, rendering older wells inoperable, as is the case with the original well B-052A.

A long-term water management strategy designed to provide redundancy in water delivery abilities is now being implemented as a means of addressing long term climate change issues and concerns about drought in the Colorado River basin. As a result, Tucson Water is replacing many of the existing or retired older Central Wellfield wells. Many of these wells were taken out of production in the early 2000s as the use of Colorado River water increased. Some others, like Well B-052B, were retired for other technical reasons. Tucson Water is currently replacing many of these wells so that they can be used to provide continuity of water service. Tucson Water is also working to increase system capacity within the midtown area to supplement existing wells that are declining to produce sufficient water quality. These improvements are critical for Tucson Water to be prepared in the event of a failure in the Colorado River system or the infrastructure which delivers recovered Colorado River water from the Avra Valley west of Tucson.

Policy guidance on this action is provided in the (Draft) 2020 Drought Preparedness and Response Plan, and funding has also been allocated in the Capital Improvement Program Budget. This includes the drilling and equipping of replacement wells and connecting them to the distribution system.

C. Conformance with Plan Tucson and Area Plan

The project site is subject to the policy laid forth in the City of Tucson's General and Sustainability Plan, *Plan Tucson*, and the Arcadia-Alamo Area Plan.

1. Plan Tucson

The subject property is located within an area designated by *Plan Tucson* as an "Existing Neighborhood." The re-established well site aligns with this designation as it continues a low-impact development on a parcel already serving that use. This well site allows Tucson Water to continue to provide a safe and sustainable clean drinking water supply for the community. The following policies in *Plan Tucson* support the proposed well site:

• LT28.1.3 – Improve the appearance of above-ground utilities and structures.

The well site's visual appearance will be improved by installing a landscape border along a portion of Nancy Rose Boulevard containing drought-tolerant trees, shrubs, and groundcovers. Furthermore, new perimeter screening will be installed on the property boundary to soften the appearance and provide site security. The site will also feature a 100 square-foot (SF) control building built out of concrete (roof) and CMU block finished with a tan 'Dryvit' stucco, which closely emulates the color of the hydro tank and other equipment, and nicely blends with the tan privacy slats that will be inserted in the fence. The structure and equipment have been strategically positioned onsite to minimize noise and visual impacts to the greatest extent feasible.

 LT28.2.12 — Support environmentally sensitive design that protects the integrity of existing neighborhoods, complements adjacent land uses, and



enhances the overall function and visual quality of the street, adjacent properties, and the community.

The landscape border along Nancy Rose Boulevard will incorporate drought-tolerant native vegetation, water-harvesting basins, and decorative rock that complements the neighborhood's character and integrity. The perimeter screening has been designed based on the individual preferences of each of the adjacent property owners. Tan privacy slats (colored similar to the control building, hydro tank, and other equipment onsite) will be inserted in the proposed chain-link fence adjacent to Nancy Rose Boulevard to soften the utility use as seen from the street perspective.

Other policies that support the expanded well site include:

- PI1 Invest in the highest priority needs to manage and maintain public infrastructure and facilities that are fundamental to economic development and to sustaining and enhancing living conditions in the community;
- PI2 Prioritize major public infrastructure investments in developed areas and for improvements of existing infrastructure; and
- PI3 Expand the use of state-of-the-art, cost-effective technologies, and services for public infrastructure and facilities.

2. Arcadia-Alamo Area Plan

Mayor and Council adopted the Arcadia-Alamo Area Plan (AAAP) in December of 1992 to guide future development for an area bounded by Wilmot Road to the east, Speedway Boulevard to the south, Swan Road to the west, and Glenn Street to the north, except for a section in the northwest corner where Fort Lowell Road between Swan Road and Columbus Boulevard constitutes the northern boundary and Grant Road constitutes the southern border. Swan Road and Pima Street are the major cross streets nearest to the site (see *Exhibit I: Location Within Area Plan Boundary*).

The Goal of the AAAP is to preserve and protect the integrity of established low-density neighborhoods. The existing well site has been a part of the neighborhood since the 1950s. Improvements to the well site are intended to maintain the neighborhood's integrity while enhancing water delivery service in the midtown area. As such, Tucson Water's re-establishment of the well and the associated improvements to the existing well site conform to the *Arcadia-Alamo Area Plan* by:

- Designing the perimeter screening per adjacent property owners' preference to minimize visual impacts;
- Installing a landscape border and tan privacy slats adjacent to Nancy Rose Boulevard to enhance the streetscape;
- Situating the control building and noise generating equipment on the property away from the neighboring homes to the greatest extent feasible;



- Providing an at least 10' building setback from all property boundaries;
- Preserving existing view corridors of the mountains; and
- Incorporating building materials consistent with neighborhood character.

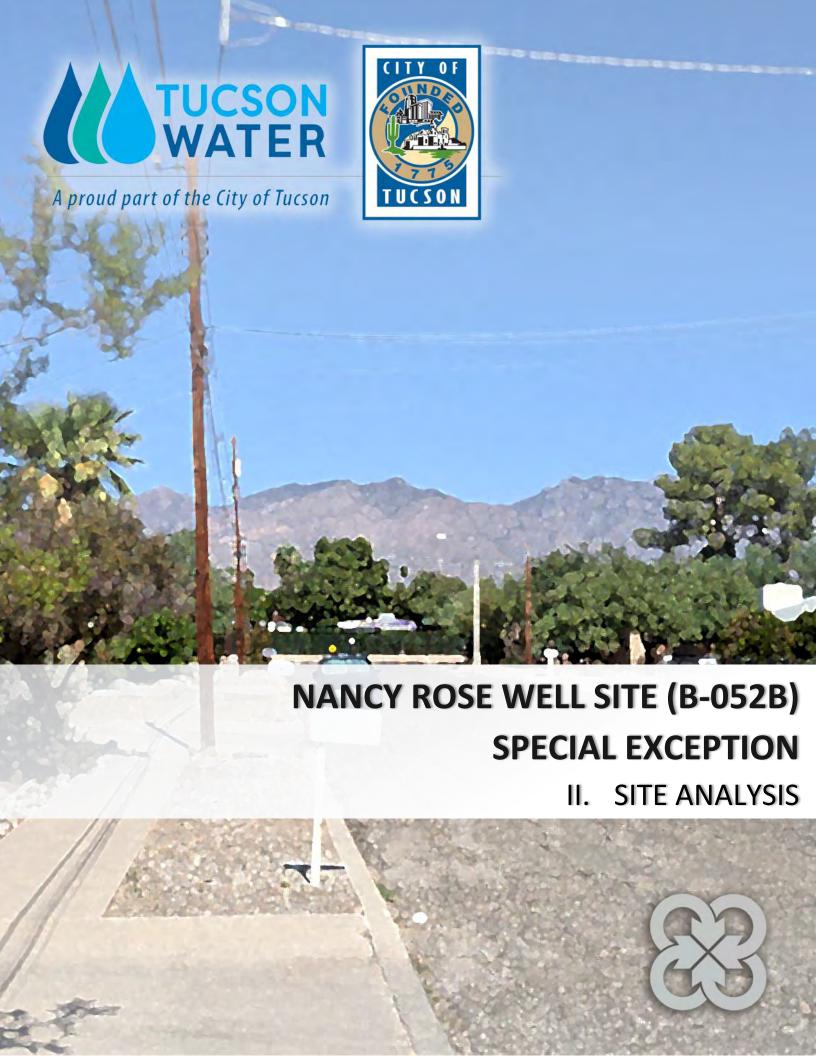
D. Conflicts with Adopted City Ordinances or Policy

The proposed utility use does not conflict with the *Arcadia-Alamo Area Plan* or *Plan Tucson*. The proposed use is permitted by the City of Tucson Unified Development Code pending the approval of the special exception application.

Legend Project Location Arcadia-Alamo Area Plan Major Street E FORT LOWELL RD **E GLENN ST** E GRANT RD 1 in = 0.5 mile

Exhibit I: Location Within Area Plan Boundary





A. General Information

1. Project Location

The site subject to this request is a 0.19-acre property located at 1937 North Nancy Rose Boulevard, identified by APN 121-09-1680. The property is situated between Pima Street and Seneca Street (see *Exhibit II.A.1: Project Location*). The parcel is categorized as a single-family residential lot located within the Cloverleaf Addition Subdivision. The site is approximately 900' north of Pima Street.

Exhibit II.A.1: Project Location





2. Onsite and Adjacent Land Uses

The 0.19-acre site is currently zoned R-1 and contains the former well (B-052A), the newly drilled well (B-052B), and a 5' chain-link perimeter fence. The internal yard is covered with gravel. Primary ingress/egress to the site is provided at one access point on North Nancy Rose Boulevard. *Refer to Exhibit II.A.2.a: Current Site Conditions* and *Exhibit II.A.2.b: Site Photos*.

The properties surrounding the existing well site are zoned R-1 and consist of one-story single-family residences. The Far Horizons Mobile Home Park, located approximately 450' to the north, is zoned MH-1.

Refer to Exhibit II.A.2.c: Zoning and Land Uses.

3. Boundary Dimensions

The subject property is rectangular (oriented in an east-west direction), with a length of approximately 135' and a width of roughly 59' (see Exhibit *II.A.1: Project Location*).



Exhibit II.A.2.a: Current Site Conditions 5' CHAIN-LINK FENGE 5° CHAIN-LINK FENCE WELL B-052B 5' CHAIN-LINK (Drilled in 2019) FENCE -EXISTING WELL B-052A DRIVEWAY / (Drilled in 1953, Deepended in 1975) VEHICULAR ACCESS GATE N NANCY ROSE BLVD 5' CHAIN-LINK FENCE

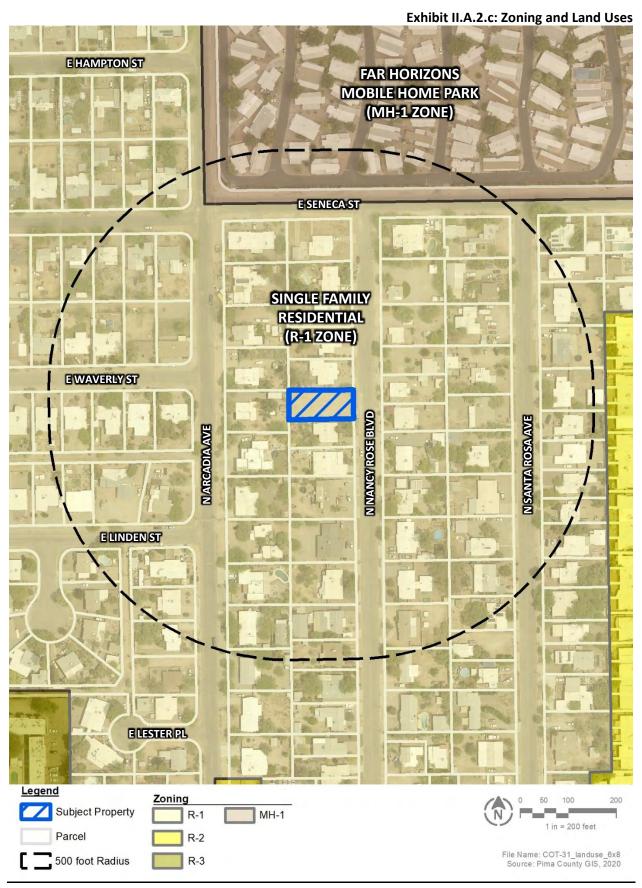


Exhibit II.A.2.b: Site Photos



Exhibit II.A.2.b: Site Photos (continued)







B. Circulation & Trips

The subject parcel is located on Nancy Rose Boulevard, approximately 900' north of Pima Street. Nancy Rose Boulevard is a minor local road with a right-of-way width of 60'. Pima Street is classified as a Collector with a right-of-way width of ninety feet. Grant Road is the nearest arterial street as classified by the City of Tucson's *Major Streets and Routes Plan*. It has a proposed right-of-way of 120' and consists of six (6) vehicular travel lanes; three (3) lanes in each direction with a central raised median. The speed limit is 40 miles per hour (mph) in both directions, and the roadway is equipped with curbs, gutters, sidewalks, and bicycle lanes on both sides.

Access is provided from Nancy Rose Boulevard utilizing an existing driveway at the southeast corner of the property. Given that the proposed use generates no traffic, except for trips generated as a result of routine maintenance, it is anticipated there will be no noticeable impact on the surrounding street network.

C. Cultural Resources

Given the age of the well and the numerous grading activities that have occurred on the property since the original drilling in 1953, it is unlikely that cultural resources of significance would be found on the site.

D. Hydrology & Drainage

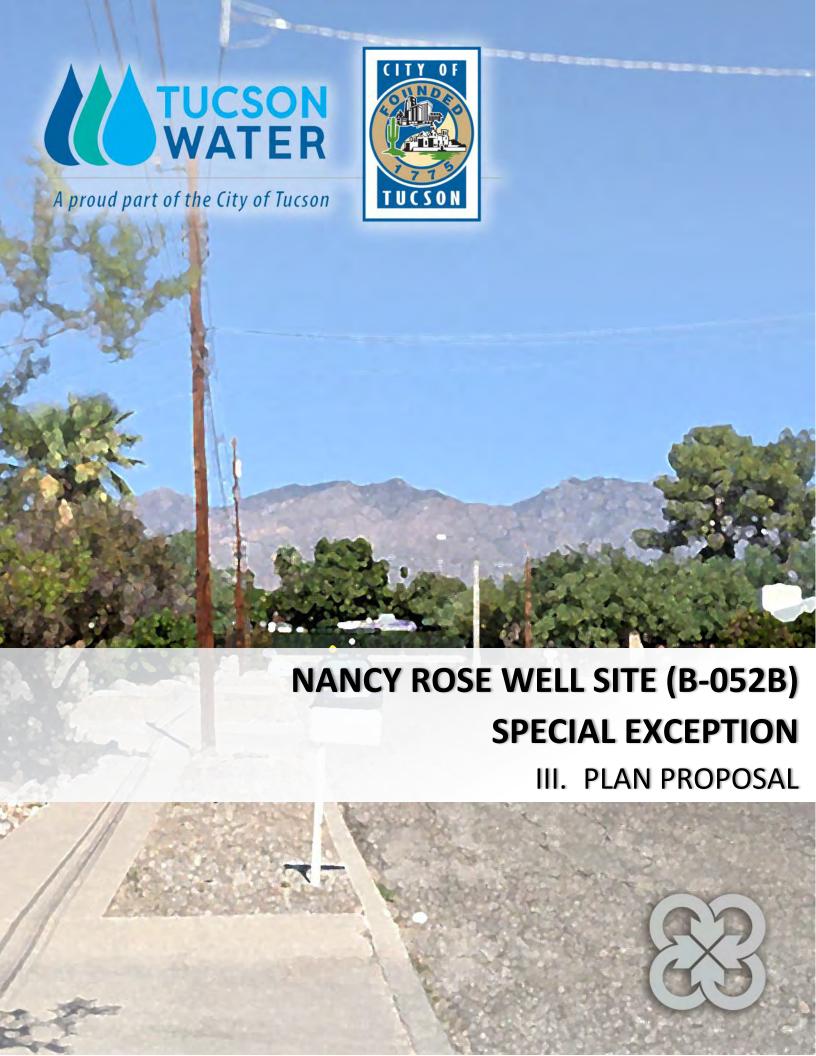
Considering that the site has been entirely graded and the impervious surfaces associated with the proposed well expansion are minimal, it is anticipated that this site's natural drainage conditions will largely remain in their current state.

The subject property is not located within a 100-year floodplain. It does not contain any drainageways subject to the Environmental Resource Zone (ERZ) provisions, Watercourse Amenities, Safety, and Habitat (WASH) ordinance, or erosion hazard setback areas.

E. Views

The site is currently enclosed with a 5' chain-link fence. As part of the proposed improvements and at immediately adjacent property owners' request, the chain-link fence on the north, east and south property boundaries will be increased to 7' tall, and an 8' decorative masonry wall will be installed on the west boundary. The control building, communication antenna, and hydro tank will be situated near the property's rear; thus, mountain views from adjacent properties are anticipated to be minimally impacted.





A. Site Layout

The purpose of this request is to allow Tucson Water to equip Well B-052B, drilled on the property in 2019, with the necessary infrastructure for the well to function and deliver water to the community. The proposed utility distribution is permitted as a Special Exception use in the existing Residence Zone (R-1) and requires a Zoning Examiner Special Exception Procedure, per section 3.4.3. of the Unified Development Code.

As shown on Exhibit III.A: Preliminary Development Plan, Tucson Water proposes to construct or install the following improvements on the site to accompany the existing wells on the property. It should be noted that while Well B-052A is no longer utilized for production purposes, the wells will remain and may be continued to be used for water level monitoring.

Control Building

A 100 square-foot (10' x 10') control building, similar to the example shown in the photo to the right, will be constructed in the southwestern quadrant of the site, approximately 35' from the western property



boundary and 10' from the southern border. The control building houses the well's monitoring system, communication equipment, and a pump.



The control building will be a 9'-8" in height and built with concrete (roof), and CMU masonry block finished with a tan 'Dryvit'stucco that matches the color of the equipment and privacy slats. The control building will have a single door that opens to the north, and a small A/C unit, similar to those mounted on residential homes, will be mounted on the building's exterior. The A/C unit and equipment inside are anticipated to be minimally heard from adjacent properties.

Communication Antenna

A communication antenna will be installed west of the proposed control building, similar to the one shown in the image to the left. The location of the communication has been selected to integrate the antenna with the control building visually. The antenna consists of a 2" low-profile steel mast that extends to a maximum of 20' in height and is set back



approximately 30' from the western boundary and about 15' from the southern boundary. The communication antenna will be finished in an earth-toned paint color. The communication antennae's radio will link the well site to the respective master station radio and the existing microwave system operated by the City of Tucson Communications Division.

<u>Hydro Tank with Air</u> <u>Compressor</u>

A 5,000-gallon hydro tank with a small air compressor, similar to that shown in the image to the right, will be installed in the northwestern quadrant of the site, approximately 10' from the northern property line and about 10' from the western property line. The hydro-tank stores water circulating through the system while the air compressor intermittently pumps air through the system for short periods throughout



the day. Given modern technology, the air compressor is not expected to pose significant noise impacts on the adjacent property owners. Tucson Water is committed to exploring mitigation techniques in the unlikely event that noise generated from the air compressor creates future issues for the adjacent property owners. Such mitigation techniques may include, but are not limited to, inserting vinyl privacy slats in the chain-link fence, installing a small pre-fabricated structure to house the compressor, or strategically installing vegetation on the neighboring property with the owner's consent.

Screening Improvements

Through this process, Tucson Water has worked closely with the property owners immediately abutting the well site to determine the most appropriate perimeter screening techniques. It was determined through a series of meetings with Tucson Water representatives and the adjacent property owners that the following screening treatments are most appropriate on the respective boundaries.

- North and south 7' chain-link fence without privacy slats
- East 7' chain-link fence with tan vinyl privacy slats
- West 8' decorative masonry wall built to City of Tucson typical standard with masonry material (smooth / split-face finishes) and earth tone colors. The final wall design will be coordinated with the adjacent property owner prior to construction.

<u>Landscape Improvements</u>

A minimum 12' x 11' landscape border will be installed adjacent to Nancy Rose Boulevard. The existing fence line will be shifted westwardly, and a portion of the right-of-way will be used to



accommodate the landscape border. The landscape border will feature rainwater harvesting techniques and drought-tolerant plant material typical to the desert southwest and neighborhood.

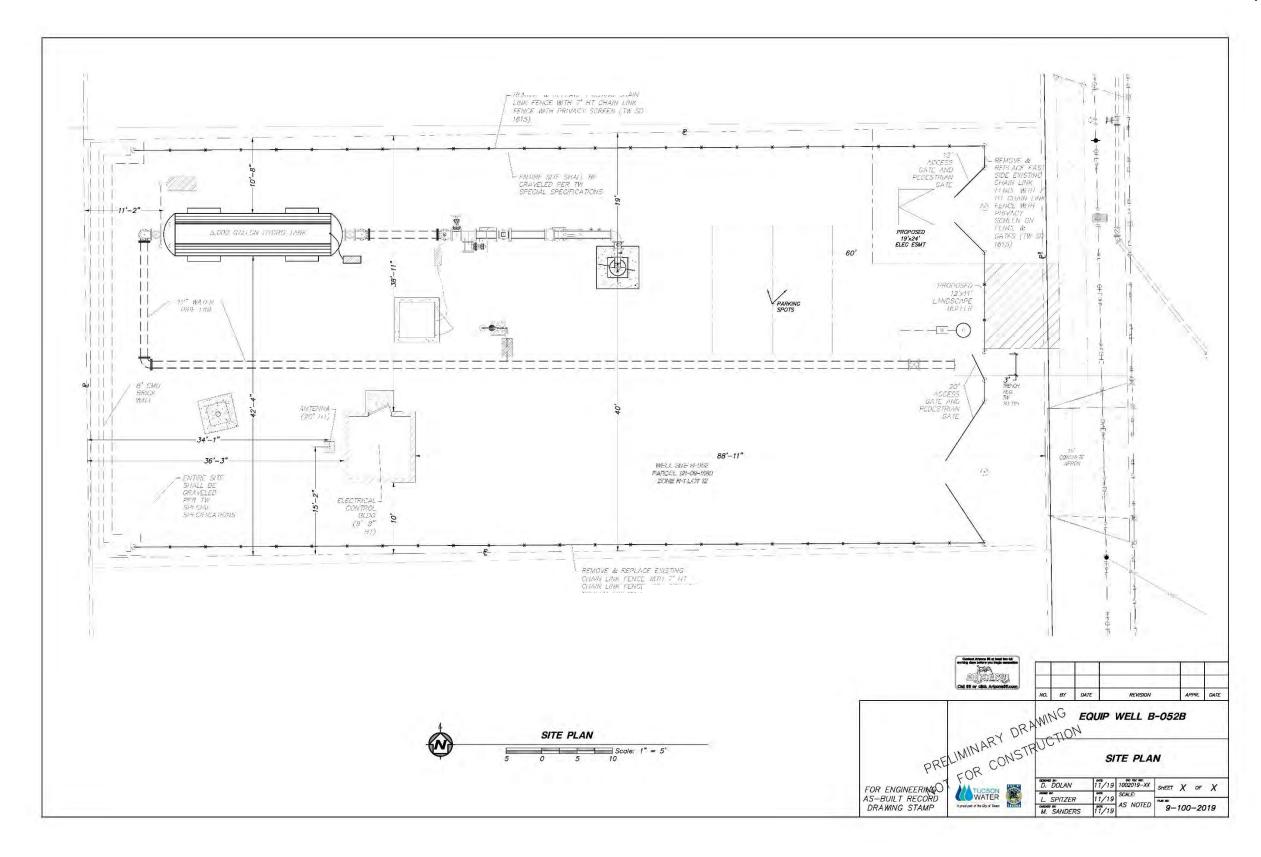
Other Site Improvements

Other improvements anticipated to occur on the site include the following:

- Installation of a TEP transformer box in the proposed 19' x 24' TEP electrical easement
- Installation of a disinfection system in the center of the site
- Installation of a submersible (underground) pump, piping, and other equipment necessary for the well to properly function
- Installation of two new access gates in addition to the existing vehicular gate
- Installation of two parking spaces internal to the yard, eliminating on-street parking of maintenance vehicles.



Exhibit III.A: Preliminary Development Plan





B. Design Compatibility

1. Design Criteria

The well site will be enclosed by a combination of a 7' chain-link fence and an 8' masonry wall. Additionally, landscaping will be provided in the landscape border along Nancy Rose Boulevard in accordance with the UDC to effectively blend the utility use in with the surrounding residences. The proposed electrical control building and antenna have been thoughtfully positioned onsite so that the existing vegetation screens them on the neighboring properties and to ensure that view impacts are minimized. The electrical control building will be constructed using concrete masonry. The building walls will be stuccoed with 'Dryvit' and painted tan in a manner compatible with the surrounding area and that is consistent with other Tucson Water well sites throughout the City. Colors, materials and styles will be complementary to surrounding existing development. Highly reflective materials are not proposed on this site and shall be avoided when possible.

2. Applicable Use Specific Standards

The proposed utility distribution system use of the subject property requires that all activities on the site will be conducted in conformance with applicable use specific standards outlined in UDC Section 4.9.11.A.1, .2, .5, .8, .9, and .11 to the greatest extent feasible. Given the unique nature of this site and its size limitations, not all use-specific standards cannot be met. However, the proposed site configuration aims to achieve the standards to the greatest extent feasible.

• <u>Use-Specific Standard 4.9.11.A.1</u>: the setback of the facility, including walls or equipment, shall be 20 feet from any adjacent residential zone.

The subject property and surrounding properties are zoned R-1 (residential). As demonstrated on the PDP, the well, electrical control building, hydro tank and communication antenna have been set back at least 10' from all property boundaries. While the use-standard suggests a minimum 20' foot building setback, the width of the property is too narrow to accommodate the required setbacks and still be functional for Tucson Water's purposes. Considering that the control building and onsite facilities have been strategically positioned on site and are anticipated to minimally, if at all, disturb the adjacent neighbors, Tucson Water respectfully requests relief from the 20' required setback and proposes to implement a minimum 10' setback from all property boundaries, which is consistent with the conventional setbacks for the R-1 zone.

• <u>Use-Specific Standard 4.9.11.A.2</u>: Where a facility is not enclosed within a building, the surrounding screen shall be used as the building wall for the purposes of setbacks.

As demonstrated in *Exhibit III.A: Preliminary Development Plan,* the perimeter screening (chain-link fence or masonry wall) is the basis for setback measurements.



• <u>Use-Specific Standard 4.9.11.A.5</u>: The use shall not have any service or storage yards.

The proposed well site will not have any permanent service or storage yards associated with the use.

• <u>Use-Specific Standard 4.9.11.A.8</u>: Any building housing such facility shall be in keeping with the character of the zone in which it is located. The Design Review Board (DRB) shall review all applications and make recommendations to the Zoning Examiner. The DRB shall review architectural style, building elevations, materials on exterior facades, color schemes, new mechanical equipment locations, light of outdoor areas, window locations and types, screening, landscaping, vehicular use areas, and other contributing design features.

An application will be submitted to the DRB to ensure the electrical control building and the site's overall design is compatible with the surrounding neighborhood.

• <u>Use-Specific Standard 4.9.11.A.9</u>: The use shall be located wholly within an enclosed building or within an area enclosed on all sides with a masonry wall or compact evergreen hedge, not less than six feet, nor more than ten feet, in height.

Representatives of Tucson Water met with each of the property owners immediately abutting the subject property to discuss their preferred screening mechanism. At the request of the property owners, a 7' chain-link fence without privacy slats will be installed on the north and south property lines, as this screening treatment allows them to "keep eyes on the property" while providing additional security and preserving existing views. At the request of the property owner abutting the western property boundary, an 8' decorative masonry wall will be constructed. A 7' chain-link fence with tan vinyl privacy slats will be installed on the eastern yard edge. This is Tucson Water's typical screening treatment in residential areas.

The structure housing the electrical controls for the well's operation will be enclosed by four walls. The well is submersible and operates underground, reducing or eliminating potential nuisance associated with noise during operation.

• <u>Use-Specific Standard 4.9.11.A.11:</u> The use shall be limited to water pumping and storage facilities, telephone exchanges, and power substations with an input voltage of no greater than 138 kilovolts.

The well site will solely be utilized for water pumping and storage facilities.



3. **Building Setbacks**

As shown on *Exhibit III.A: Preliminary Development Plan*, the proposed well, twelve-inch water line, electrical/control building, antenna, hydro tank with air compressor, disinfection system and parking areas have all been set back a minimum of 10' from the property boundaries.

4. Transition of Building Heights

The proposed well site will require the construction of a 100 SF foot building to house sensitive equipment associated with the well that is 9'-8" in height. A communications antenna will be installed onsite and will be a maximum of 20'. The proposed electrical control building and antenna have been thoughtfully positioned onsite so that they are near the rear of the lot as far as poossible away from the neighboring homes, and are screened by the proposed fencing and vegetation on the neighboring properties.

5. Landscaping & Screening

Landscape will take the form of a 12x11' (minimum) landscape border on the eastern property boundary to screen the site from Nancy Rose Boulevard. A portion of the landscape border will be within the Nancy Rose Boulevard right-of-way. The border will begin from the back of the existing adjacent sidewalk and extend at least 10' to the west. An electric easement in the northeast property corner and the entry drive in the southeast corner will limit the planting area.

As part of the site improvements, the existing fence will be removed. A new, seven-foothigh chain-link fence will be installed along the north, south and east property boundaries to protect utility equipment. Tan privacy slats will be incorporated with the fence along Nancy Rose Boulevard to screen the site from the street. No privacy slats will be installed in the new north and south fence lines. Neighboring fences along the north and south property boundaries currently screen the well site. An 8' decorative masonry wall will be built along the western property boundary. While the final wall design has not been completed, Tucson Water is committed to working with the property to the west to finalized the design of the wall. It is anticipated that the wall will be built to the City of Tucson typical standard featuring masonry material with smooth and split-face finishes and earth tone colors. The structures onsite that will extend above the perimeter wall/fences' height are the 100 SF control building and communications antenna used for well operation. The electrical/control building will be 9'-8" in height, and the antenna will be approximately 20' in height. With the addition of a 10' building setback, the well's equipment will have minimal view impacts.

6. Vehicular Use Areas

The well site accommodates the minimum parking standards outlined in UDC Section 7.4.4. The Utilities Use Group requires one parking space per 500 SF of Gross Floor Area (GFA), with a minimum of 2 parking spaces per facility. As demonstrated on the PDP, the proposed site plan provides two parking spaces east of the new well location, which are set back at least 10' from the northern property boundary.



K. Post-Development Hydrology

Considering that the site has been entirely graded and the impervious surfaces associated with the proposed well site are minimal, the natural drainage conditions of this site will largely remain in their current condition. The site will be engineered to ensure that water is properly conveyed, so the adjacent properties are not adversely impacted.

L. Utilities

All utilities necessary for the operation of the well site are provided at the eastern boundary of the site.

