

HAWTHORNE STREET C-051B WELL SITE SPECIAL EXCEPTION PRELIMINARY DEVELOPMENT PACKAGE



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Hawthorne Street Well C-051B SCADA Upgrade Special Exception

5301 E Hawthorne Street
Tucson, Arizona 85711

Submitted to:

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I. INTRODUCTION



Hawthorne St
5300 E

This document is submitted on behalf of the City of Tucson Water Department (Tucson Water) as a requirement for a Special Exception application for minor technology improvements to the existing well located at 5301 East Hawthorne Street. The site is south of Speedway Boulevard and west of Craycroft Road at the northeast corner of East Hawthorne Street and North Beverly Avenue in Township 14, Range 14 East, Section 11.

The well site occupies a 0.19-acre parcel owned by the City of Tucson. The parcel is identified by Assessor's Parcel Number (APN) 127-023-170 and is zoned R-1 (Residence Zone). See *Exhibit I.A: Project Location*.

Per Unified Development Code Section 4.7.4, the proposed utility distribution use is permitted as a special exception use within the R-1 Zone upon approval from the Zoning Examiner.

A. Background

Tucson Water's Water Quality and Operations Division have been diligently working to install several technology and instrument upgrades to better monitor water service at more than 200 wells, 61 reservoirs, and 266 sampling stations throughout the Tucson Water service area as part of a long-term water management strategy to improve water quality and delivery services. The Hawthorne Street Well Site (Well C-051B) serves as a critical water supply facility within the Tucson Water service area and requires some upgrades to the existing Supervisory Control and Data Acquisition (SCADA) system in the well yard's southeast corner.

The SCADA system is a computerized remote monitoring system that moves water efficiently throughout the community, maintains water pressure, collects water system data, and regulates water monitoring. The upgrades are primarily technology improvements; however, such modifications require adding equipment to the existing well and installing a new shade structure to protect new and existing electrical components. Due to the site's existing zoning and the proposed modifications, it was determined that approval of a special exception was necessary. The new shade structure, the new SCADA system, the addition of a 10-foot landscape border, and new privacy slats in the chain link fence are the only improvements anticipated. No other site modifications are proposed.





Legend
[Red Box] Well Site
[Black Box] Parcels



File Name: C-051--Project Location
Source: Pima County GIS 2020



B. Tucson Water Policy Guidance

Tucson Water has a long-term strategy to improve water system redundancy and upgrade existing infrastructure elements to monitor water service throughout the City's distribution system. Water supply redundancy is being accomplished by drilling replacement wells within the older Central Well Field System. Substantial capital investment has already been made in replacing the 30-year-old SCADA system, and the main central control system hardware and software have already been replaced. The next step involves upgrading the SCADA system capabilities at remote locations, including well sites, booster stations, and reservoirs.

Policy guidance for this work is provided through the 2020 Drought Preparedness and Response Plan. Further authorization for completing upgrades to the SCADA system is also provided in the Department's Capital Improvement Plan budgets. 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 the over-drafting of local aquifers. One of the consequences of over-drafting aquifers is lowering the water table, ultimately rendering older wells inoperable.

C. Conformance with Plan Tucson and Area Plan

The project site is subject to the policies put forth in the City of Tucson's General and Sustainability Plan, *Plan Tucson*, and the *Broadway-Craycroft Area Plan*.

1. Plan Tucson

The subject property is within an area designated by *Plan Tucson* as an "Existing Neighborhood." The proposed SCADA upgrade aligns with this designation as it provides a low-impact upgrade to an existing use in a predominantly residential area. The SCADA system upgrade allows Tucson Water to continue to provide a safe and sustainable clean drinking water supply for the community while creating little to no negative impact on neighboring properties. The following policies in *Plan Tucson* support the proposed well site:

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

A new shade structure will be installed to protect electrical equipment, and painted to match the existing equipment and shade structure as part of the improvements. The chain-link fencing will be refreshed with new tan colored privacy slats and a landscape border will be installed along Hawthorne Street and a portion of Beverly Avenue to further screen the well site.

- *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.*



Existing healthy landscape material will remain in place and continue screening the utility equipment from surrounding neighbors. A landscape border will be provided and additional healthy vegetation will be added along Hawthorne Street and a portion of Beverly Avenue.

Other policies that support the SCADA upgrade 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. Broadway-Craycroft Area Plan

The Broadway-Craycroft Area Plan was adopted by Mayor and Council on September 26th, 1988, and provides policy direction for a three-square-mile area in the central part of Tucson. The L-shaped plan area is bounded by Speedway Boulevard and Broadway Boulevard on the north, 22nd Street on the south, Craycroft Road and Wilmot Road on the east, and Swan Road on the west. The well site is located in the northernmost portion of the plan area. (see [*Exhibit I.C.2: Location Within Broadway-Craycroft Area Plan Boundary*](#)).

The intent of the Broadway-Craycroft Area Plan is to ensure that new development, both residential and non-residential, is designed in harmony with existing neighborhoods. All residential and non-residential development should strive to preserve and enhance the residential character of the Broadway-Craycroft plan area.

Tucson Water's SCADA improvements to the existing well site conform to the following Broadway-Craycroft Area Plan policies:

- New non-residential developments must require appropriate design elements and buffering techniques during the rezoning and related development review processes to ensure the sensitive design of new development in established neighborhoods (see General Design and Buffering policies).
 - The new additions to the well site are set back at least 20 feet from the adjacent residential properties. The proposed shade structure is about 9 feet tall and will have a very minimal impact on the character of the existing neighborhood, as it will be screened by opaque fencing and landscaping.



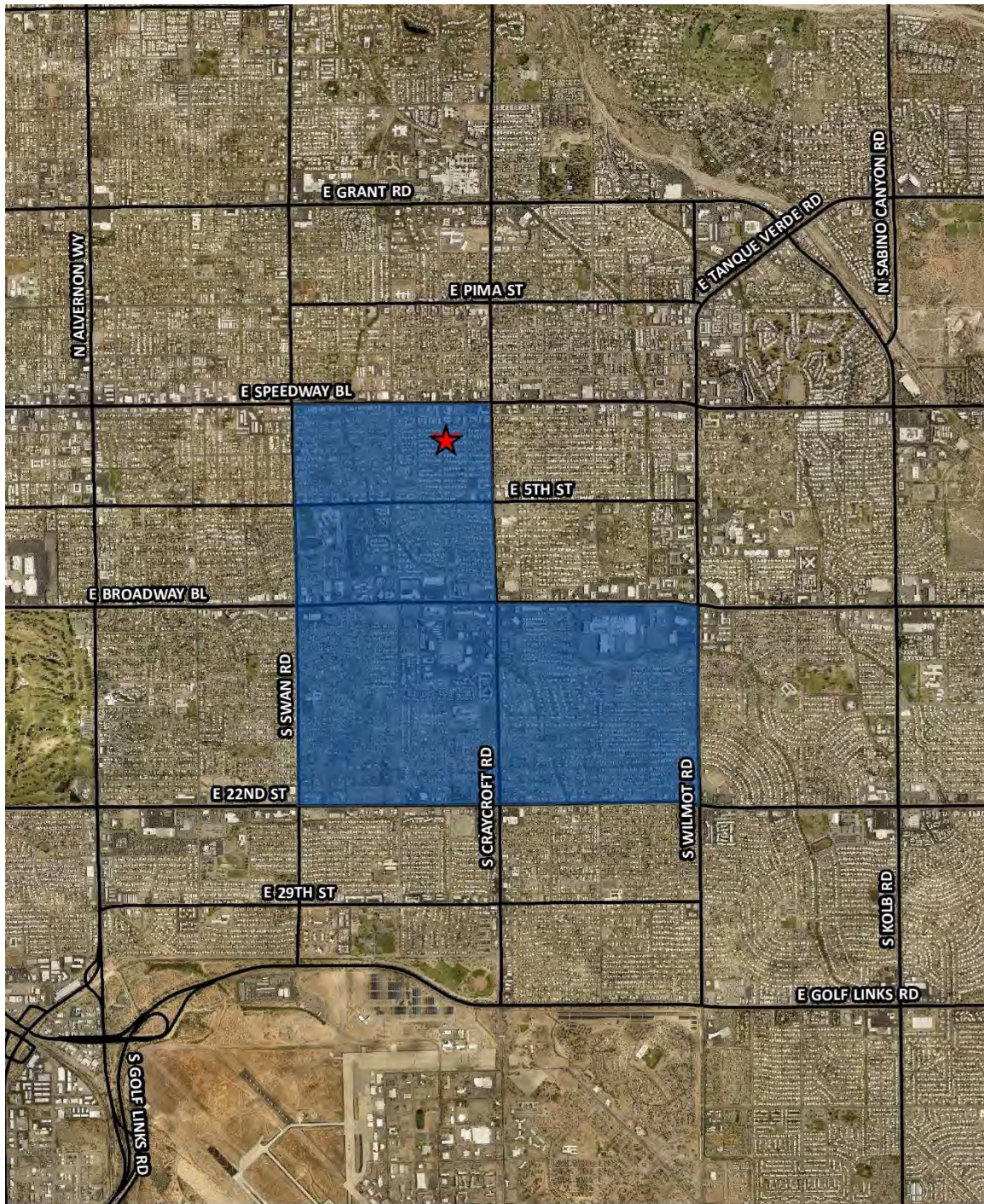
- New non-residential developments must require the use of low maintenance and drought-tolerant vegetation in landscaping along major street frontages and the perimeters of new development. Landscaping should include a balanced mix of canopy trees and understory shrubs and groundcover.
 - All healthy vegetation will remain as it is, and a 10-foot landscape border that consists of native and low-maintenance plants will be installed along Hawthorne Street and a portion of Beverly Avenue.
- New non-residential developments must provide all required parking, loading, and vehicle maneuvering areas to be located off-street.
 - All parking spaces will be provided onsite north of the existing fencing.
- New non-residential developments should use colors found predominantly in the natural desert landscape.
 - The current tan privacy slats will be refreshed to camouflage the well site. All new equipment will be painted to match the existing color scheme within the yard.

D. Conflicts with Adopted City Ordinances or Policy

The proposed utility use does not conflict with the *Broadway-Craycroft 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.

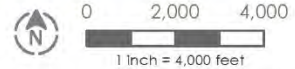


Exhibit I.C.2: Location within Broadway-Craycroft Area Plan Boundary



Legend

-  Well Site
-  Broadway-Craycroft Area Plan
-  Major Streets



File Name: C-051-Area-Plan
Source: Pima County GIS 2020



II. SITE ANALYSIS



A. General Information

1. Project Location

The area subject to this request is a 0.19-acre city-owned parcel located at 5301 East Hawthorne Street, identified by APN 127-023-170. The site is in the Duffy Neighborhood at the northeast corner of Beverly Avenue and Hawthorne Street. (See *Exhibit I: Project Location*).

2. Onsite Land Uses

As demonstrated on *Exhibit II.A.2: Existing Conditions*, the site contains the following:

- Two wells (Active C-051B and Inactive C-051A)
- Electrical control components;
- Communication antenna (20' in height);
- Chlorine building;
- Enclosed monitor well;
- 6' chain-link fence topped with 1' of barbed wire and privacy slats;
- 5,000-gallon hydrotank; and
- Piping and other necessary equipment to properly function the well.

3. Surrounding Zoning and Land Uses

The site and adjacent properties are zoned R-1 (Residence Zone). Single-family, medium-density homes surround the property. One residential parcel directly abuts the well property to the east while an alleyway runs between the well site and the neighboring residential property to the north. Single-family homes are located across Beverly Avenue and Hawthorne Street to the west and south.

Refer to *Exhibit II.A.3: Surrounding Zoning and Land Uses* and *Exhibit II.E: Site Photos*.



Exhibit II.A.2: Existing Conditions

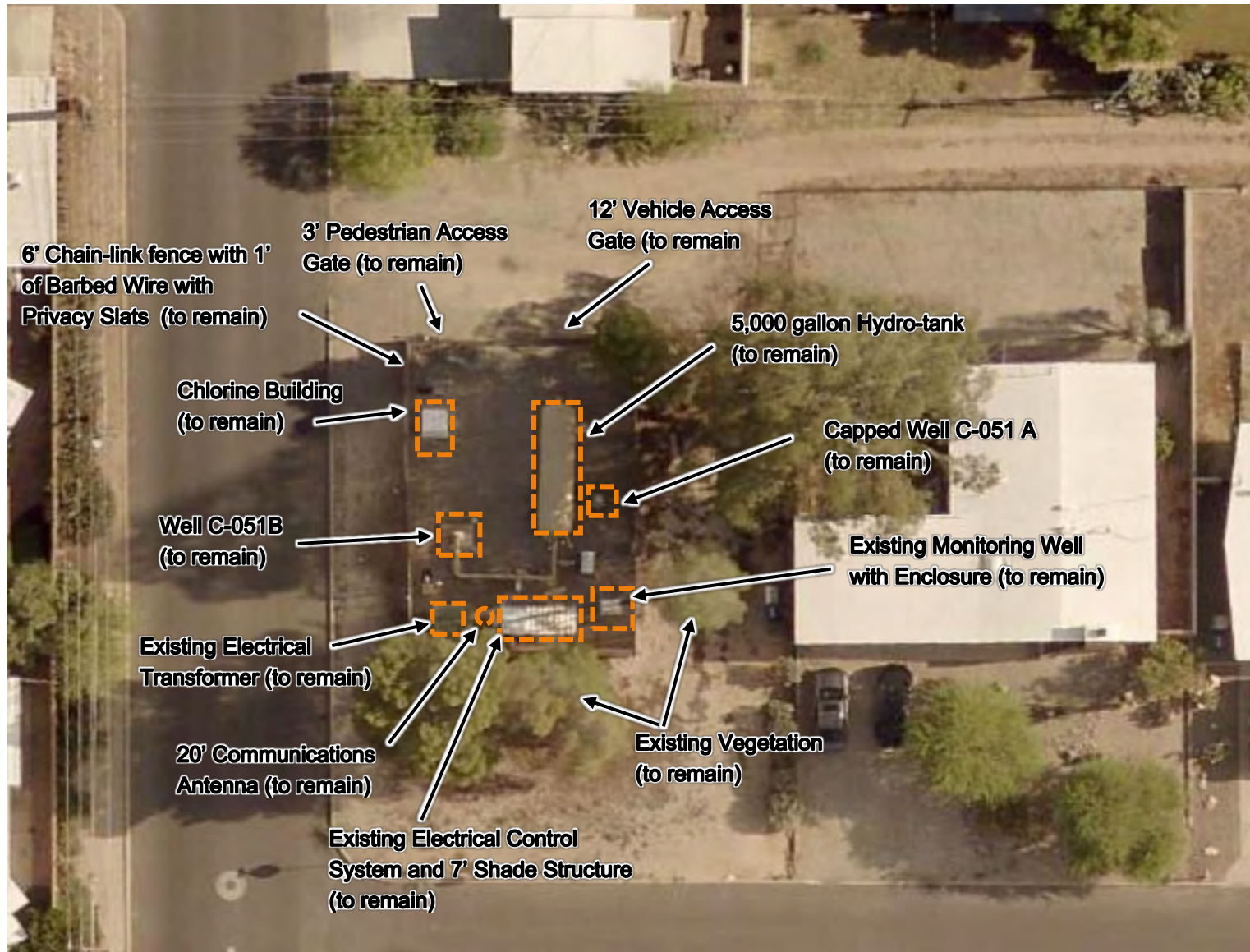
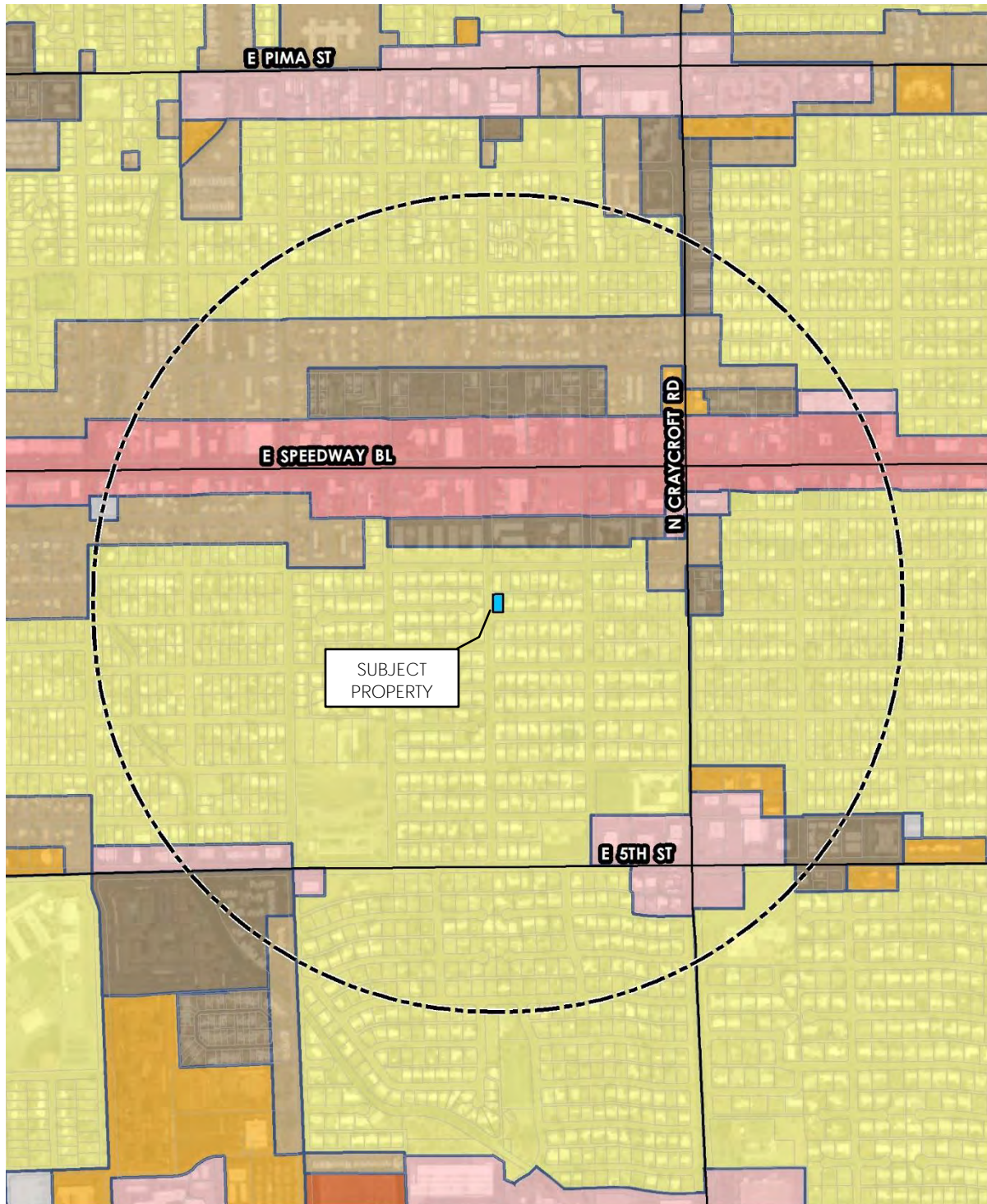


Exhibit II.A.3: Surrounding Zoning and Land Uses



Legend

-  Site Boundary
-  Half Mile Buffer
-  Parcels
-  Major Streets

Zoning - City of Tucson

- | | | |
|---|---|---|
|  R-1 |  C-1 |  O-3 |
|  R-2 |  C-2 |  P |
|  R-3 |  C-3 |  OCR-2 |



File Name: C-051-Half-Mile-buffer6x8
Source: Pima County GIS 2020



B. Circulation & Trips

The site subject to this request is at the northeast corner of North Beverly Avenue and East Hawthorne Street, which are minor local roads. Speedway Boulevard and Craycroft Road are the nearest arterial streets which are approximately 0.15 miles to the north and 0.2 miles to the east. Beverly Avenue and Hawthorne Street are both two-lane roads with rights-of-way of widths of 60 feet each. Both streets feature vertical curbs and do not have sidewalks or striping.

Primary ingress/egress is from Beverly Avenue via an existing curb cut near the northeast corner of the property. Vehicular access to the well yard is provided through a locked vehicular access gate on the yard's northern border. A pedestrian gate is also located on the northern border west of the vehicle gate. These access points will remain in their current configuration.

The only trips generated for this well site are those generated for routine maintenance. As such, the proposed improvements will have no significant traffic impacts on the existing street network.

C. Cultural Resources

The well site has been in use for decades, with numerous improvements and maintenance occurring over time. The site is also fully graded. Given this, it is unlikely any significant cultural resources are present on the site.

D. Hydrology & Drainage

The site has been entirely graded, and the internal yard has been covered with gravel to prevent erosion. The subject property is not located within the FEMA 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

A chain-link fence with tan privacy slats encloses the well yard. It is 6 feet in height and topped with an additional 1-foot of barbed wire for security purposes. The existing vegetation on the site's east side, in conjunction with the proposed landscape border on the south side and a portion of the west side, screen the well yard from neighboring properties.

Two onsite structures extend above the wall/fence, the communications antenna (approximately 20 feet high) and the shade structure over the electrical control panel (approximately 9 feet high). However, both structures are low-profile and should not pose significant impacts to the views from neighboring properties.

The existing healthy vegetation will remain unaltered and will continue to screen well equipment from neighboring views. Additional landscaping will be provided along Hawthorne Street and a portion of Beverly Avenue. With such minimal alterations to the site, the improvements will have little to no view impacts. See *Exhibit II.E: Site Photos*.





Exhibit II.E: Site Photos (continued)



Exhibit II.E: Site Photos (continued)





III. PLAN PROPOSAL



Hawthorne St
5300 E

A. Site Layout

As demonstrated in *Exhibit III.A: Preliminary Development Plan (PDP)*, the proposed improvements consist of constructing an additional shade structure to protect the existing electrical control panel, repairing or replacing existing equipment, and installing SCADA upgrades.

Shade Structure

This plan proposes installing a similar shade structure as the existing one over the second control panel to protect it from the elements. A shade structure currently covers one of the two electrical control stations. The new shade structure will be 9 feet and similar to the existing shade structure. The new shade structure will be set back approximately 25' from the property line.



Circulation

Tucson Water technicians will enter the site through the existing vehicular and pedestrian gates on the northern border of the well yard to service the equipment as necessary. Onsite parking is provided for technicians, eliminating the need for on-street parking.



Screening

Landscaping and chain-link fencing with privacy slats screen the well yard from neighboring views. The 6-foot chain-link fence spans the entire well yard with an additional 1-foot of barbed wire on top to provide security. Refreshed tan privacy slats will be inserted into the chain-link to enhance the overall appearance.



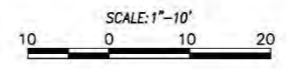
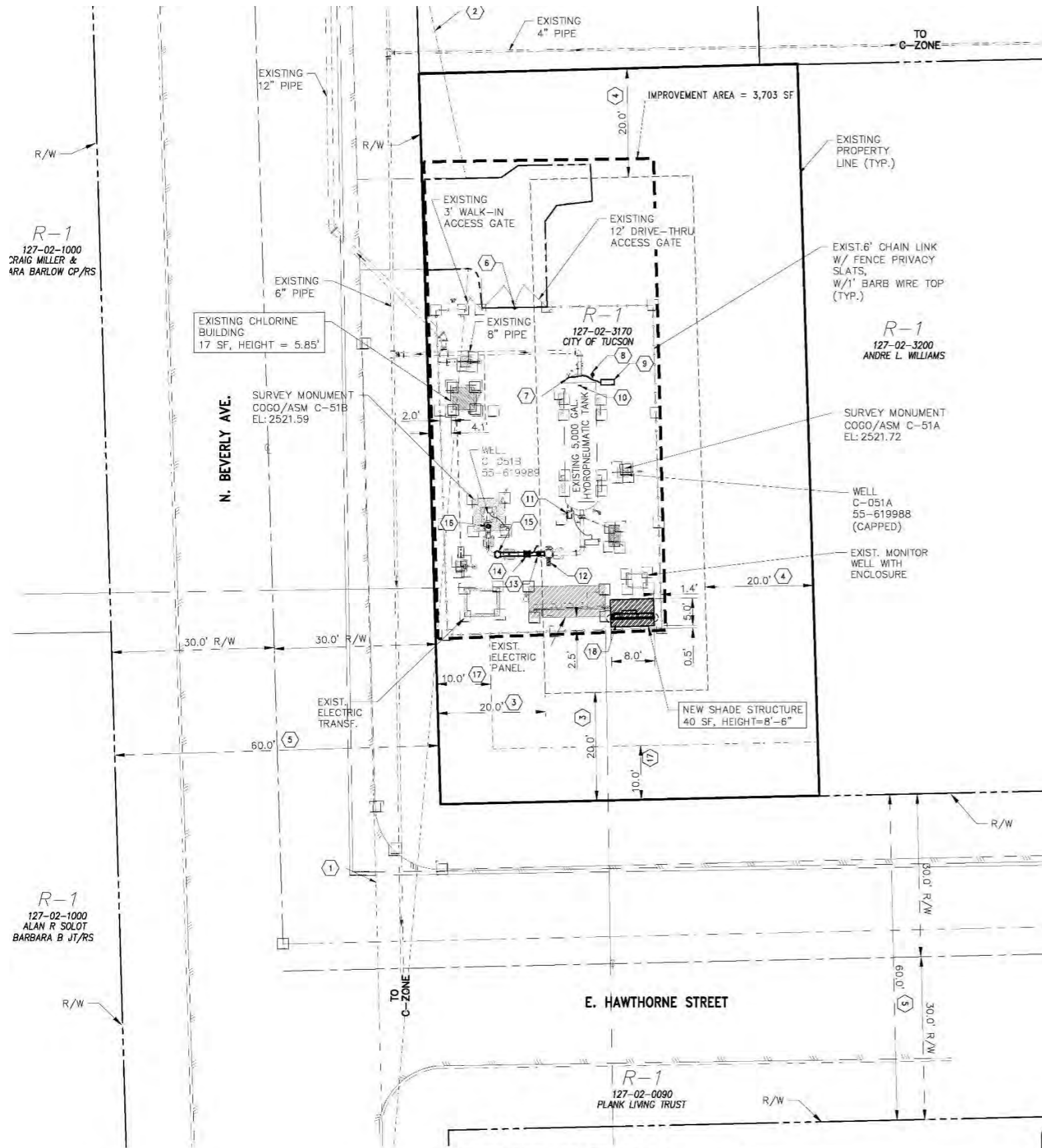
Existing screening around the entire perimeter of the well yard.

Four large pine trees further screen and soften the site blending it in with its surroundings. If the current vegetation is healthy and doesn't pose any health or safety risks, these screening elements will remain in place.



Landscape borders on the southern and eastern borders of the property

Exhibit III.A: Preliminary Development Plan



- 1 SITE KEYNOTES**
- 1 SIGHT VISIBILITY TRIANGLE (DRIVE/LOCAL) - 180' NEAR SIDE.
 - 2 SIGHT VISIBILITY TRIANGLE (DRIVE/LOCAL) - 110' FAR SIDE.
 - 3 STREET PERIMETER YARD: 20' PER UDC SECTION 6.4.5.C.1.a.
 - 4 PERIMETER YARD: 20' PER UDC SECTION 4.9.11.A.1 (FROM ANY ADJACENT RESIDENTIAL ZONE).
 - 5 60' PUBLIC R/W PER BK. 9 M&P, PG. 102.
 - 6 NEW MUSHROOM STOP
 - 7 NEW PLUG BOTTOM COUPLING
 - 8 NEW 1" AIR RELEASE VALVE
 - 9 NEW PRESSURE CONTROL PEDESTAL
 - 10 NEW POP SAFETY VALVES (RECONFIGURED)
 - 11 NEW DUAL OIL SEPARATORS & PIPING ASSEMBLY
 - 12 NEW POLYETHYLENE INJECTION POINT
 - 13 NEW 8" DEPEND-O-LOK F&F RESTRAINED COUPLING (TYPE 2)
 - 14 NEW 8" FLOW METER
 - 15 RELOCATED 8" CHECK VALVE
 - 16 NEW 2" COMBINATION AIR VALVE FOR HIGH FLOW-NON SLAM
 - 17 STREET LANDSCAPE BORDER AND SCREENING.
 - 18 NEW SHADE STRUCTURE / PAINTED

EXISTING SITE LOCATION PLAN
SCALE: 1" = 10'

NO.	DATE	REVISION	BY	CHK	APPR



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DEVELOPMENT PACKAGE
FOR
**WELL SITE C-051B
SCADA UPGRADE**
A PORTION OF THE NORTHWEST QUARTER OF THE NORTHEAST QUARTER,
SECTION 11, T 14 S, R 14 E, G&SRM,
CITY OF TUCSON, PIMA COUNTY, ARIZONA

DP21-0257
REF: COT ADMINISTRATIVE ADDRESS:
5301 E. HAWTHORNE STREET
TUCSON, ARIZONA 85711
T21SE
SEPTEMBER 13, 2021
EEC JOB NO 15051.03

B. Design Compatibility

This Special Exception request allows Tucson Water to provide upgrades to the well's SCADA system and to install a new shade structure to protect a new electrical control panel. While individual well components may be replaced or added, the overall site layout maintains its current configuration and preserves existing screening and landscaping. The proposed shade structure is situated in the southeast corner of the well yard next to the existing shade structure and electrical controls. The new shade structure will be constructed of similar materials as the existing one and be similar in size, approximately 9 feet in height and covering 40 square feet. Vehicular access and parking will remain in the same configuration.

1. Applicable Use-Specific Standards

The proposed utility distribution system is appropriate within the R-1 zone when special consideration is given to minimize the adverse impacts of the use on adjacent properties. The following lists the applicable use-specific standards as required by the UDC for utility distribution systems in the R-1 zone and demonstrates how the SCADA control building meets the intent of all applicable use specific standards outlined in UDC Section 4.9.11.A.1, .2, .5, .8, .9, and .11.

- [Use Specific Standard 4.9.11.A.1](#): *The setback of the facility, including walls or equipment, shall be 20 feet from any adjacent residential zone.*

Exhibit III.A: Preliminary Development Plan demonstrates that the new shade structure will be located on the well yard's southern boundary, set back approximately 25 feet from the eastern property line, and approximately 30 feet from the southern property line. The existing well and associated equipment will remain in the same configuration as they have been for decades though some pieces may be replaced or added onto as part of the SCADA upgrade.

- [Use-Specific Standard 4.9.11.A.2](#): *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 well yard is enclosed by chain-link fencing with privacy slats. The SCADA system will be entirely contained within the well yard and the configuration of the well yard will remain unaltered by the SCADA upgrade.

- [Use-Specific Standard 4.9.11.A.5](#): *The use shall not have any service or storage yards.*

No permanent service or storage yards are proposed with this special exception application.



- *Use-Specific Standard 4.9.11.A.8:* 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.

If deemed necessary, an application will be submitted to the DRB to ensure the new shade structure design is compatible with the surrounding neighborhood.

- *Use-Specific Standard 4.9.11.A.9:* 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.

Exhibit III.A: Preliminary Development Plan demonstrates that the SCADA upgrade and new shade structure will be located within the well yard and enclosed by the existing chain-link fence with privacy slats. The existing landscape screening is comprised of four trees on the southern and eastern sides of the site. These will remain in place to continue screening the site from neighboring views. Additional landscaping will be provided along Hawthorne Street and a portion of Beverly Avenue to further screen the well yard.

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

The improvement area and entire well site are solely used for water pumping and distribution facilities. No other uses are proposed.

2. Building Setbacks

Exhibit III.A: Preliminary Development Plan shows that the proposed shade structure will be set back at least 25 feet from the property lines. The existing well equipment and structures will remain in their current configuration. Existing fencing around the well yard and surrounding vegetative screening will minimize any impacts created by the new structure.

3. Transition of Building Heights

The proposed shade structure will be approximately 9 feet tall and located next to the existing shade structure in the southeast corner of the well yard. The new shade structure will be constructed with similar materials as the existing



shade structure onsite. Because the proposed structure is screened by a 7-foot opaque fence with barbed wire, and other nearby properties utilize screening and walls that are similar in height, views of the 9-foot tall shade structure will be negligible. The location and materials of the new shade structure ensure it will blend in with the existing one to further minimize impacts on neighboring views.

4. Landscaping & Screening

The existing perimeter fences and any healthy landscape screening vegetation will remain unaltered. Any vegetation that is no longer healthy or poses a health or safety risk to residents will be removed. A 10-foot landscape border is proposed along the southern property boundary along Hawthorne street and along a portion of Beverly Avenue. Vegetation in the right-of-way along Beverly Avenue will be maintained as existing screening. These elements screen neighboring views while maintaining neighborhood character.

5. Vehicular Use Areas

The well site accommodates the minimum parking standards outlined in UDC Section 7.4.4. The Utilities Use Group requires one (1) parking space per 500 square feet of Gross Floor Area (GFA), with a minimum of two (2) parking spaces per facility. Space within the well yard via the vehicular gate and on the site's northern portion, outside the well yard, provides ample space for motor vehicle parking.

C. Post-Development Hydrology

The new shade structure is the only new impervious surface proposed. Runoff from such a small structure, approximately 40 square feet, will be minimal and contained onsite. The site's natural drainage condition will remain in its current state with no adverse impacts created by the proposed improvements.

D. Utilities

All utilities necessary for the well to properly function currently exist on the property.

