

SORREL RIDGE ESTATES

P20RZ00011

REZONING SITE ANALYSIS

REC JN 4488D

October 2020

Revised December 2020



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REZONING SITE ANALYSIS P20RZ00011

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REC JN 4488A

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PART I SITE INVENTORY

I-A. LAND USE

1. Location and Regional Context

The subject property is made up of seven parcels, APN 138-29-002B, 002C, 002D, 002E, 002F, 002G and 002H, and is approximately 139.4-acres. The site is located at the northeast corner of Hermans Road and Sorrel Lane, in Section 20, Township 15 South, Range 13 East, in Pima County. (See **Exhibit I-A.1: Location Map**). The site is located immediately north of, and adjacent to the Tohono O'odham Reservation, San Xavier District.

2. Existing Land Uses On-Site

The subject property is vacant and undeveloped.

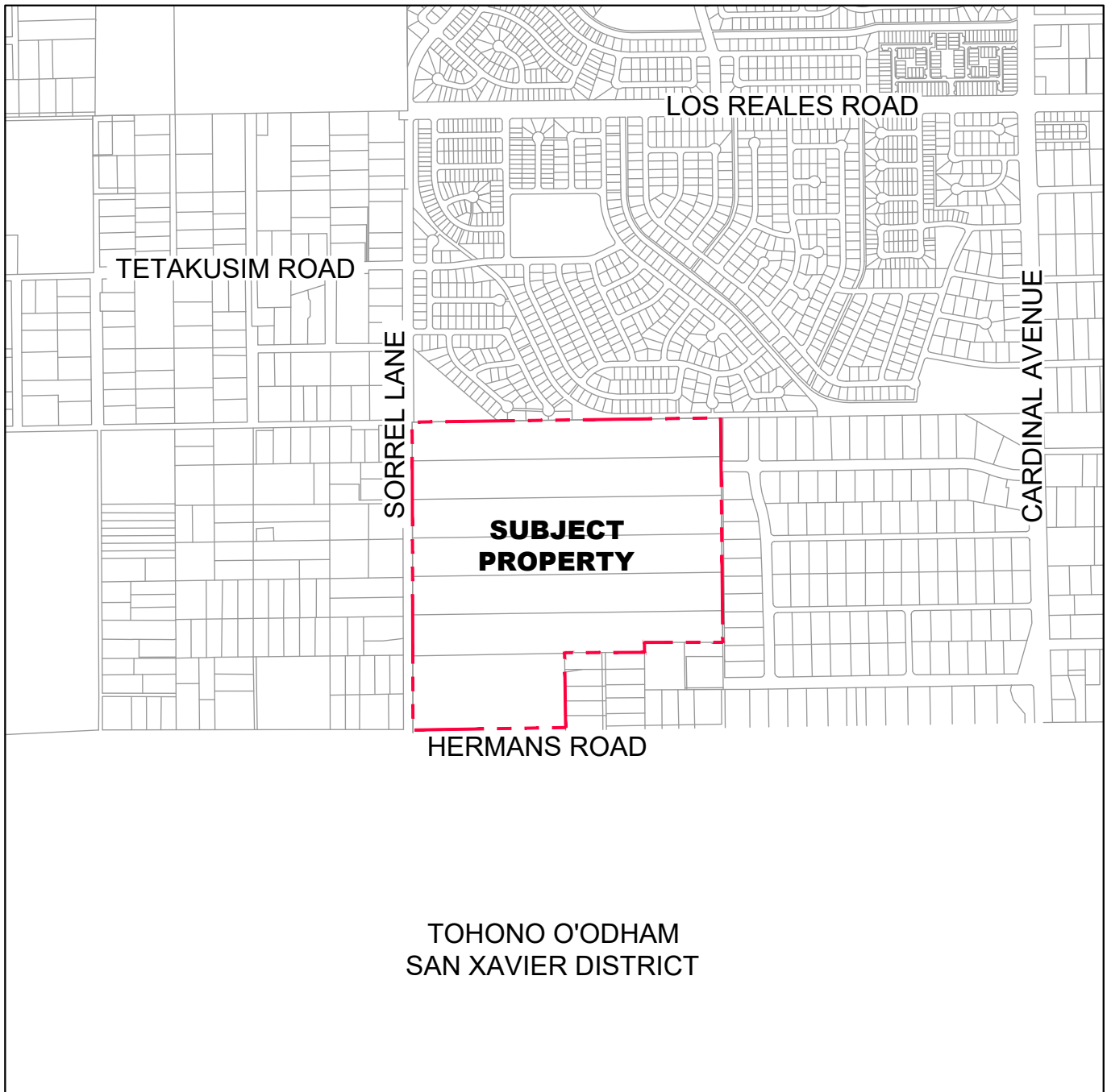
See **Exhibit I-A.2: Aerial Photo**

3. Existing Easements



The following existing easements can be found as part of Schedule B items on the title report. (See **Exhibit I-A.3: Existing On-Site Easements Map**).

- Docket 924, Page 40 – Electric Lines – This appears to be a blanket easement on the southeastern portion of the property.
- Docket 4576, Page 472 – Water Lines – This appears to be an easement along the southeastern boundary of property.
- Docket 3794 Page 426– Electric Lines – This appears to be an easement adjacent to the San Xavier subdivision.
- Docket 8207 Page 1648– Access Easement – This appears to be a 30' easement along the eastern boundary of property along the San Xavier subdivision.

EXHIBIT: I-A.1
LOCATION MAP



LEGEND

-  PROPERTY BOUNDARY
-  PARCELS

SCALE: 1"= 1/4 MILE



EXHIBIT: I-A.3
EASEMENTS MAP

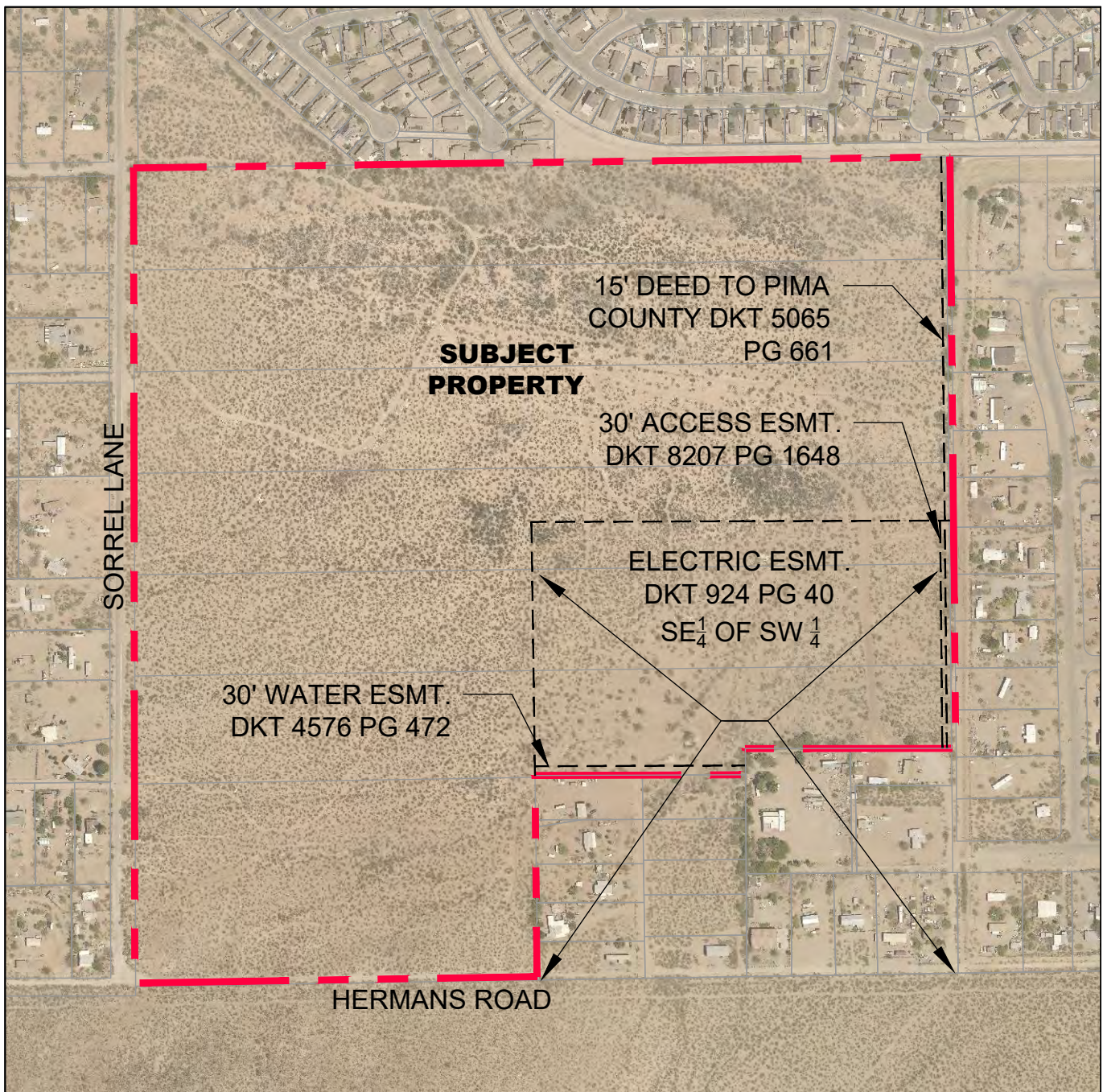


IMAGE SOURCE, PIMA COUNTY, 2018

LEGEND

--- PROPERTY BOUNDARY

PARCELS

SCALE: 1"=500'



4. Comprehensive Plan Designations on Site and Surrounding

Per the Pima County Comprehensive Plan (Pima Prospers), the project site is located within the Southwest Planning Area. The land use map designates the land use intensity for the site as Low Intensity Urban 3.0 (LIU-3.0). On March 17, 2020 the Pima County Board of Supervisors unanimously approved a comprehensive plan amendment to change the land use designation of approximately 68.42 acres of the site from Low Intensity Urban 1.2 (LIU 1.2) to Low Intensity Urban 3.0 (LIU 3.0). The approval was subject to a rezoning policy to ensure drainage improvements be enhanced with native riparian vegetation and Pima County Regulated Riparian Habitat mitigation occur on site. **(See Exhibit I-A.4: Comprehensive Plan Map).**

Pima Prospers indicates that the site lies within two Special Area Policy areas; the S-17 Tohono O’odham San Xavier District (SW) and the S-29 Southwest Infrastructure Plan (SWIP) Area (SW).

The S-17 Special Area Policy overlays all areas planned for urban land uses along the Nation boundaries. The general purpose of special area designation is to recognize tribal sovereignty and promote dialogue and coordination between the Nation, especially San Xavier District and Pima County. A more specific objective is to mitigate the negative impacts of incompatible urban development with setbacks and landscaping requirements. A 100-foot setback from the District Boundary will be required for all structures and improvements.

The S-29 Southwest Infrastructure Plan (SWIP) Area provides policy guidance for development in the SWIP area including Comprehensive Planning, Environmental Planning, Regional Flood Control, Waste Management and Infrastructure and transportation costs.

5. Surrounding Land Uses

a. Existing Off-Site Land Uses

**Table I-A.5.a
Existing Off-Site Land Uses**

	Land Use	Residential Density	Land Use Designation
North	SFR Subdivision	3.55 RA	MLIU
East	SFR Subdivision	1 RAC	LIU – 1.2
South	Vacant/Undeveloped	-----	-----
West	Unsubdivided	1 RAC	LIU – 1.2

6. Pending Rezoning, Plats and Development Plans

There is no pending or conditionally approved rezonings; subdivision plats or development plans within 1 mile of the subject property.

EXHIBIT: I-A.4
COMPREHENSIVE PLAN MAP

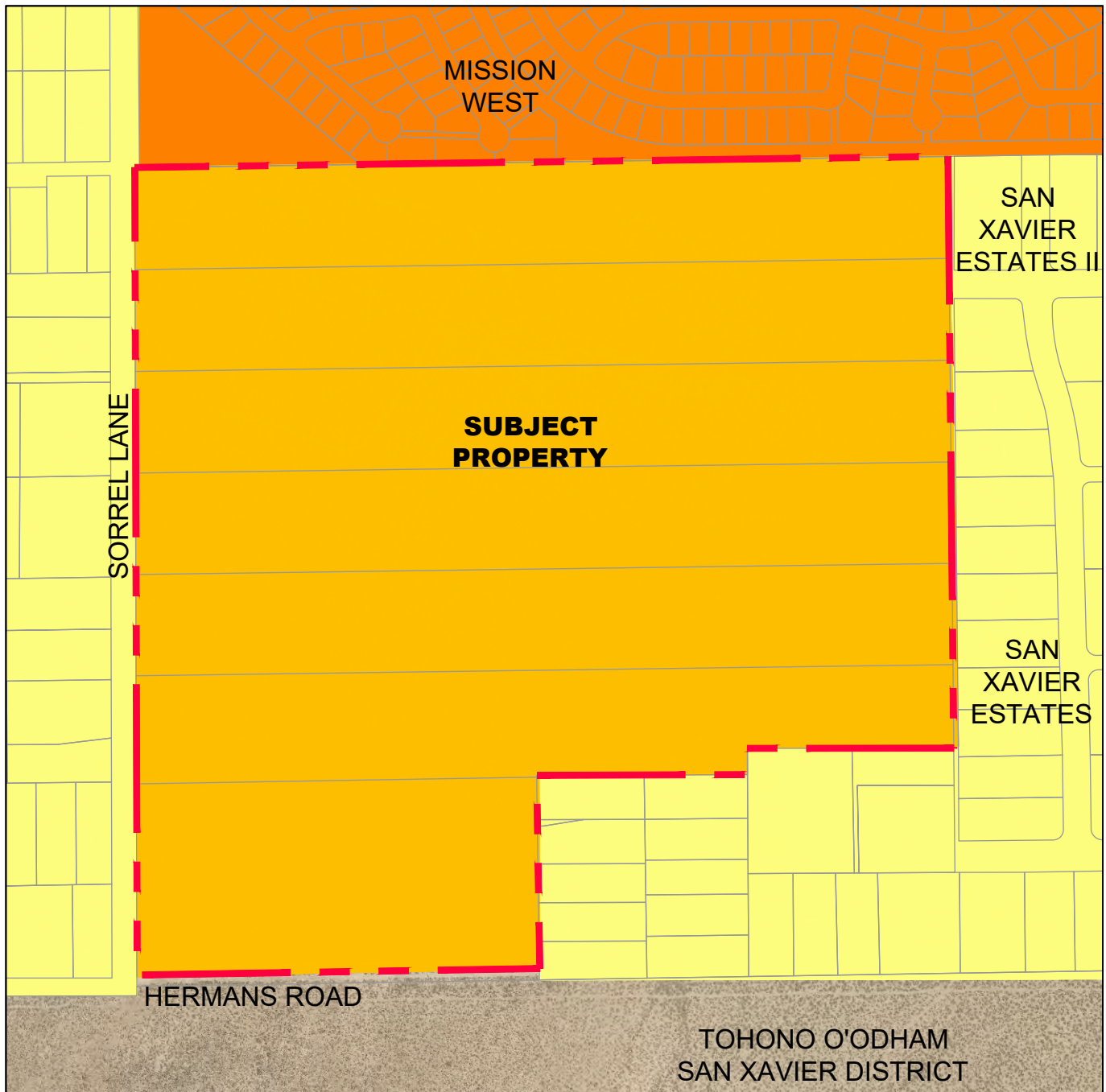







IMAGE SOURCE, PIMA COUNTY, 2018

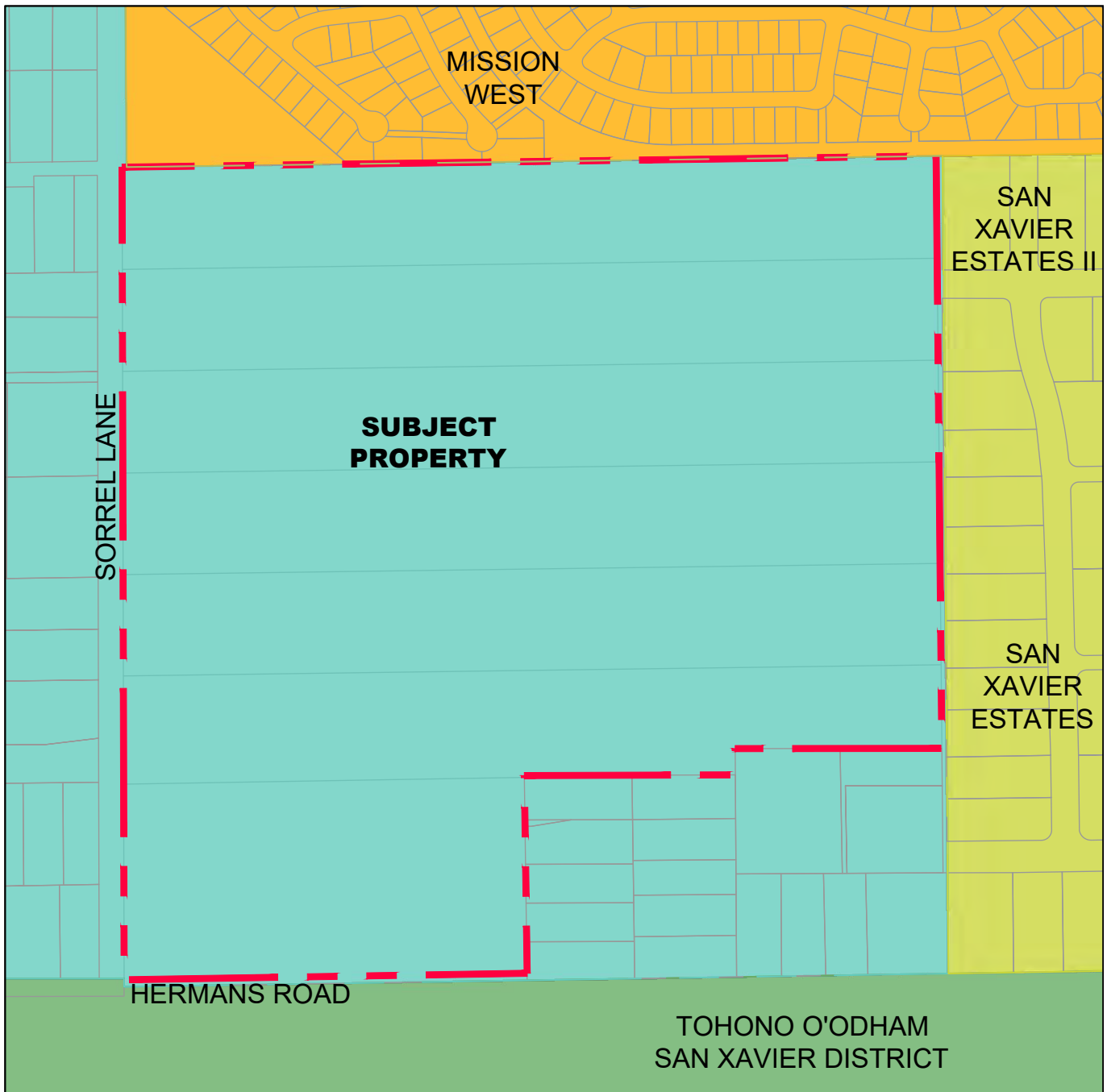
LEGEND

	PROPERTY BOUNDARY		LIU-3.0		LIU- MIU
	PARCELS		LIU- 1.2		







SCALE: 1"=500'



EXHIBIT: I -A.5.a
EXISTING ZONING MAP



LEGEND

	PROPERTY BOUNDARY		GR-1 ZONE		SH ZONE
	PARCELS		RH ZONE		CR-4 ZONE

SCALE: 1"=500'



EXHIBIT: I-A.5.b
SITE AERIAL

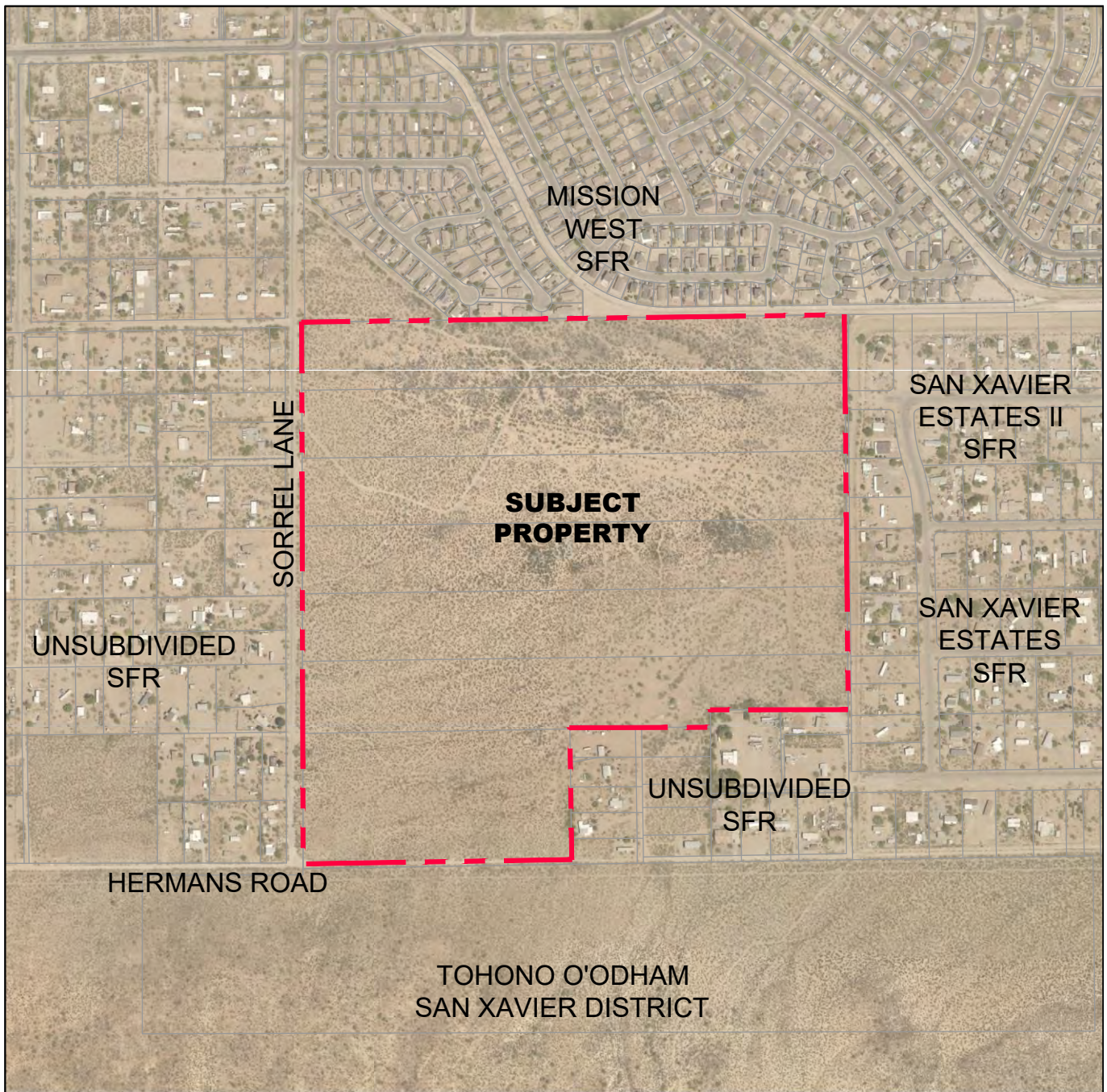


IMAGE SOURCE, PIMA COUNTY, 2018

LEGEND

- - - - - PROPERTY BOUNDARY
- PARCELS

NOT TO SCALE



I-B. TOPOGRAPHY AND GRADING

1. Topographic Characteristics

The topography of the site ranges in elevation from 2,558 along the southern boundary to 2,534 at the northeastern boundary of the site. The slopes on the site vary from 0.9% in the western section of the site to 0.7% in the eastern section of the site. The site appears to have grades that are generally conducive to development. (See Exhibit I-B.1: Topography Map).

a. Restricted Peaks and Ridges

There are no restricted peaks or ridges.

b. Rock Outcrops

There are no rock outcrops.

c. Slopes of 15% or Greater

There are no slopes of 15% or greater on the subject property.

d. Any Other Significant Topographic Features

There are no other significant topographic features on the site.

e. Existing Grading and Ground Disturbance

The site is vacant, and the majority of the site is undisturbed.

2. Pre-Development Average Cross Slope

The average cross slope of the site is 1.37%.

The following equation, as per Pima County Zoning Code Section 18.61.051, was used to determine the average cross slope utilizing 2-foot contours:

$$\text{Average Cross Slope} = \frac{I \times L \times 0.0023}{A}$$

$$\text{Average Cross Slope} = \frac{2 \times 41,506 \times 0.0023}{138.8}$$

$$\text{Average Cross Slope} = 1.37 \%$$

EXHIBIT: I-B.1
ON-SITE TOPOGRAPHY

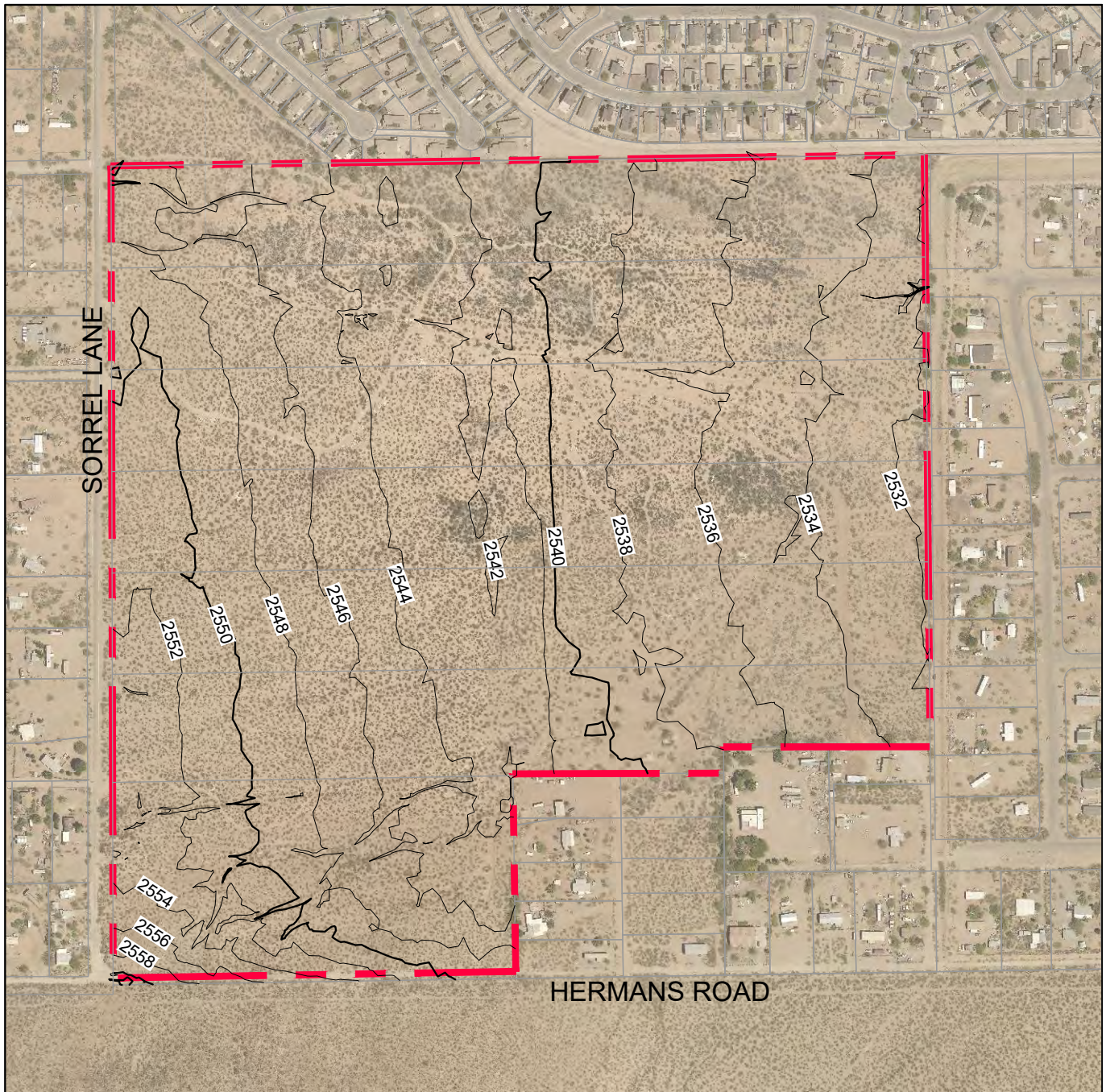


IMAGE SOURCE, PIMA COUNTY, 2018

LEGEND

--- PROPERTY BOUNDARY

PARCELS

SCALE: 1"=500'



I-C. HYDROLOGY

1. Off-Site Hydrology

The project site is located within the West Branch Santa Cruz River Watershed. Upstream drainage in the form of sheet flow inundates the subject property with approximate depths of 1 to 2 feet. Large offsite watersheds from the west and south produce peak flow values of approximately 5,000 and 2,200 cubic feet per second (cfs), respectively. All sheet flow entering the property exits the site to the northeast corner of the property which has a peak discharge of 6,700cfs.

Exhibit I-C.1: Pre-Development Off-Site Hydrology Map.

2. On-Site Hydrology

Please refer to **Exhibit I-C.2: Pre-Development On-Site Hydrology Map.**

a. Flood Control Resources Areas

The entirety of the subject property is within a Flood Control Resource Area.

b. Concentration Points and 100-year peak discharges

There are four unnamed washes entering the site as sheet flow with peak flows greater than 100 cfs for the 1% chance flood. All sheet flow entering the property exits the site to the northeast corner of the property which has a peak discharge of 6,700cfs.

See **Exhibit I-C.1: Pre-Development Off-Site Drainage Map.**

c. FEMA Designated Floodplains and Floodways

The entire project site is located within a FEMA Zone A designated area (FIRM Map Number 040192860L, revised June 16, 2011), as shown on **Exhibit I-C.2.c: FEMA FIRM Map**. The site is inundated by approximately 2-ft of sheet flooding.

EXHIBIT: I-C.1
PRE-DEVELOPMENT
HYDROLOGY

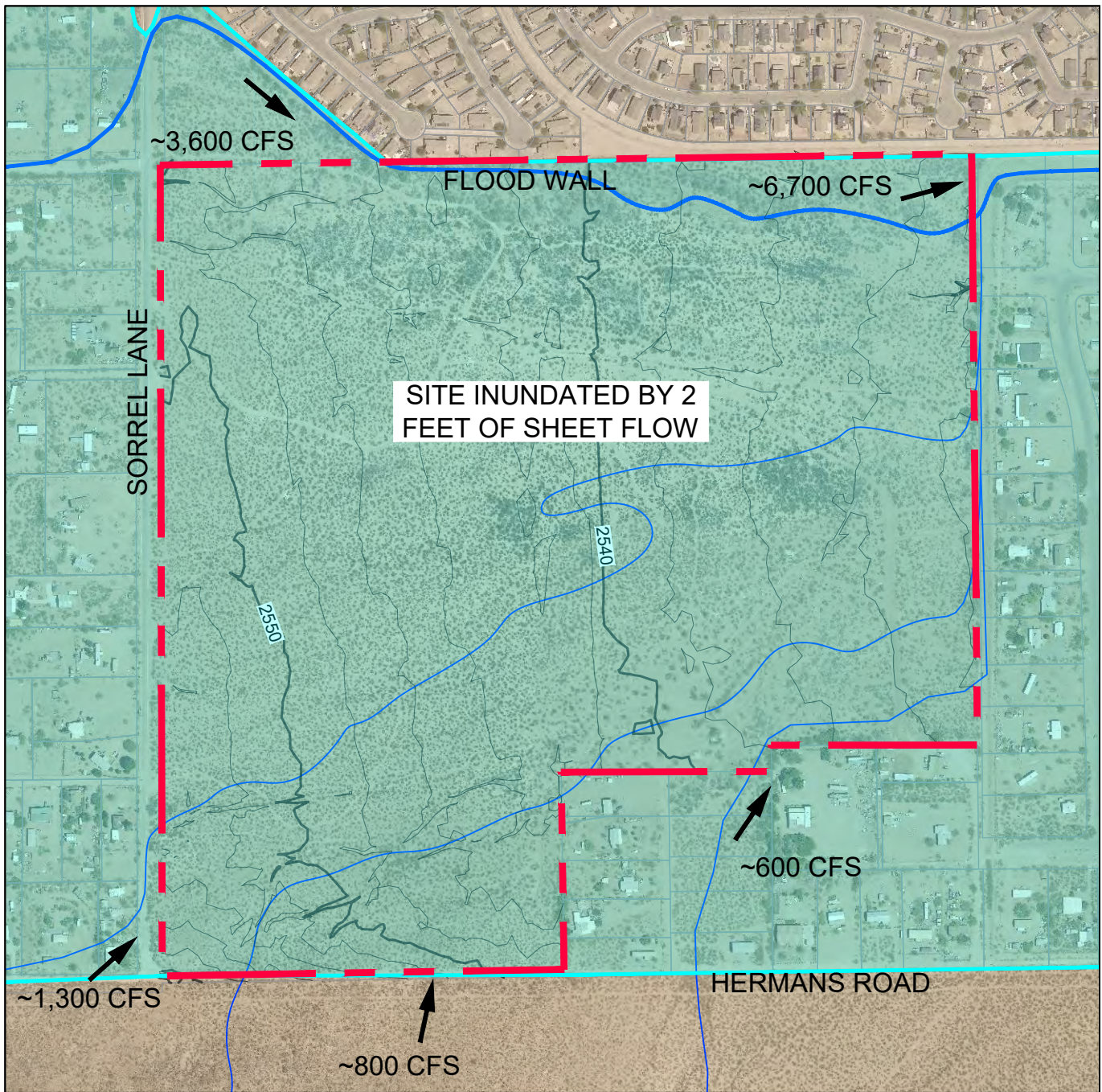


IMAGE SOURCE, PIMA COUNTY, 2018
2' CONTOURS

LEGEND

	PROPERTY BOUNDARY		WASH > 3,000 CFS
	PARCELS		WASH < 1,500 CFS

SCALE: 1"=500'



EXHIBIT: I-C.2.c
FEMA FIRM

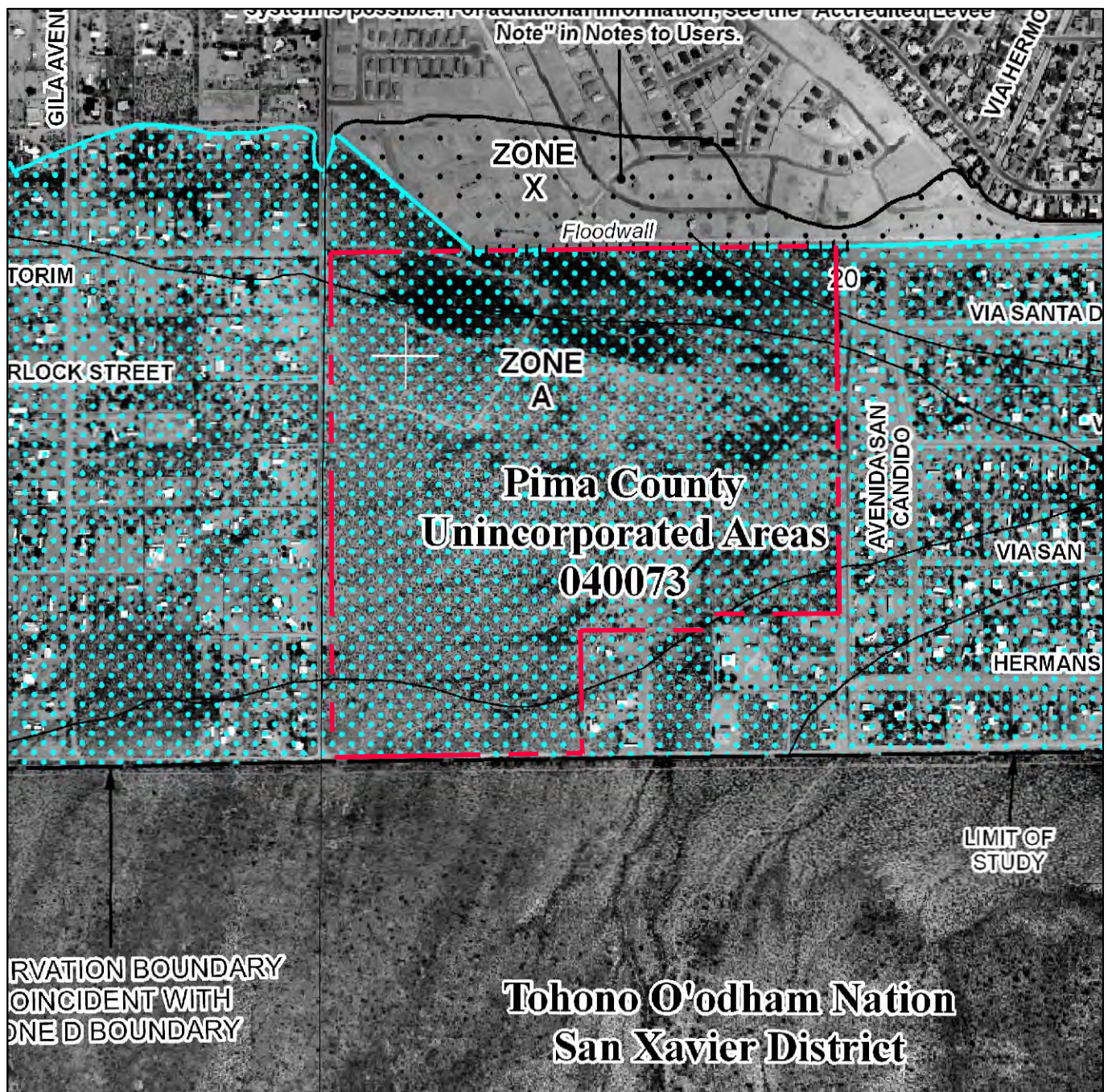


IMAGE SOURCE, FEMA FIRM
0400073-2860L

LEGEND

- PROPERTY BOUNDARY
- ZONE A- NO BASE FLOOD
ELEVATIONS DETERMINED

NOT TO SCALE



d. Floodplain Delineation of Previously Unmapped Regulatory Floodplain

There are no previously unmapped regulatory floodplains on the subject property.

e. Regulatory Sheet Flood Areas

The entire project site is located within a FEMA Zone A designated area (FIRM Map Number 040192860L, revised June 16, 2011), as shown on **Exhibit I-C.2.c: FEMA FIRM Map**. The site is inundated by approximately 2-ft of sheet flooding.

f. Any lakes, ponds, wetlands, springs, or other source(s) of perennial surface water.

There are no sources of perennial surface water on-site.

g. Erosion hazard setbacks

There are no erosion hazard setbacks as the entire project site is located within a FEMA Zone A. The site is inundated by approximately 2-ft of sheet flooding.

h. Pima County Regulated Riparian Habitat Limits and Classifications

There are two different Riparian Areas located on site. Xeroriparian Area B is located in the north and northeastern portions of the site. A small area of Xeroriparian C is located along the norther boundary of the site.

(See Exhibit I-C.2.h: Riparian Areas)

**Table I-C.2.h
Riparian Areas**

Riparian Area	Square Feet	Acres
Xeroriparian B	1,436,346.6	32.9
Xeroriparian C	138,209.3	3.2

EXHIBIT: I-C.2.H
RIPARIAN AREAS MAP

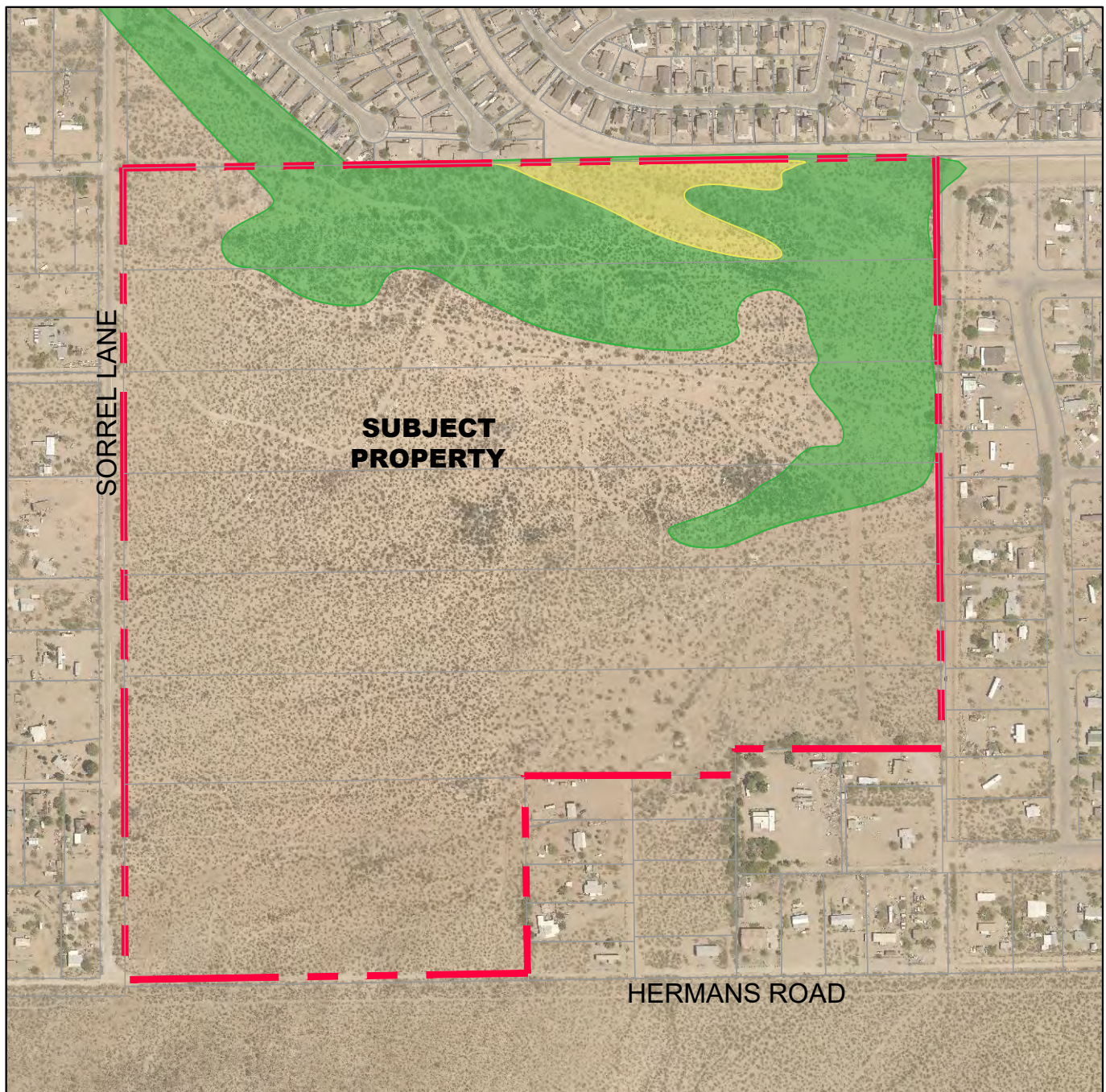


IMAGE SOURCE, PIMA COUNTY, 2018

LEGEND

	PROPERTY BOUNDARY		XERORIPARIAN B
	PARCELS		XERORIPARIAN C

SCALE: 1"=500'



i. Flow Arrows for Non-Regulatory Flows

There are no non-regulatory flows on the site.

j. Existing Drainage Easements

There are no existing drainage easements on the site. In the existing condition all drainage exits the subject property to the northeast corner into a 90-foot perpetual and exclusive drainageway easement recorded by the San Xavier Estates subdivision plat. **Exhibit I-C.2: Pre-Development On-Site Drainage Map.**

k. Existing Drainage Infrastructure on or Adjacent to the Site

There is an existing flood wall along the northern property line that was constructed with the adjacent subdivision.

3. Hydrology

a. Features of the watersheds that may affect or be affected by the conditions of the site including downstream drainage conditions and whether or not the site is within basin that has been designated critical.

The subject property is within the West Branch Santa Cruz River Watershed and has been designated as balanced. The entire site is located within a FEMA Zone A designated area as shown on Exhibit I-C.4.c. and is inundated by approximately 2-ft of sheet flooding. Sheet flow is conveyed to a 90-foot perpetual and exclusive drainageway easement located at the northeast corner of the subject property as part of the San Xavier Estates subdivision recorded in MP 20027.

b. Acreage and 100-Year Peak Discharge of upstream Off-Site Watersheds at Concentration Points Where Watercourse enters and Exits the Site.

See **Exhibit I-C.1: Pre-Development Off-Site Drainage Map.**

c. The methodology used to determine the Erosion Hazard Setbacks;

There are no erosion hazard setbacks as the entire project site is located within a FEMA Zone A. The site is inundated by approximately 2-ft of sheet flooding.

d. The methodology used to determine the 100- year floodplains for peak discharges greater than or equal to 100 cfs,

The peak discharge calculations were generated using the Pima County Flood Peak Procedure provided by the Regional Flood Control District with data obtained from the National Oceanic and Atmospheric Administration (NOAA).

I-D. BIOLOGICAL RESOURCES

A Biological Impact Report prepared by Novak Environmental is provided in **Appendix A**.

1. Conservation Lands System

The site is located outside the Conservation Land System (CLS) area per Pima County's online MapGuide. The closest CLS Important Riparian Area and Multiple Use Management Area are less than one-half mile to the west

2. Priority Conservation Area (PCA)

a. Pima Pineapple Cactus

According to the biological report, the project is within a PCA for the Pima pineapple cactus. No Pima pineapple cacti have been found on the project site.

b. Needle-Spined Pineapple Cactus

According to the biological report, the project is not within the PCA for Needle Spined Pineapple Cactus. No Pima pineapple cacti have been found on the project site.

c. Burrowing Owl

According to the biological report, the project is not within the PCA for the Burrowing Owl. No Burrowing Owls have been found on the project site.

3. Saguaros and Ironwood Trees

a. Saguaros

There were three viable saguaros located on the site. See the Composite Map at the end of the Site Inventory.

b. Ironwoods

There are no ironwood trees on the site.

4. **Habitat Protection/Community Open Space Priority Acquisition**

I-E. TRANSPORTATION

1. Existing and Proposed Off-Site Streets

There is currently paved physical access to the site from Sorrel Lane with frontage along the western property line. (See Exhibit I-A.5.b: Site Aerial).

Based on the conditions in the previous rezoning ordinance and the anticipated development density and number of units, off-site roadway improvements to Sorrel Lane are anticipated.

a. Existing Rights-Of-Way

The approximate rights-of-way for Major Streets and Routes within 1 mile of the development are shown in **Table I-E.1.a**.

Table I-E.1.a: Right-of-Way

Major Street or Route	From Road	To Road	Future ROW (Feet)	Existing ROW (Feet)	ROW Standards	Contin. ROW
Cardinal Avenue	Irvington Road	Los Reales Road	150	150	Yes	Yes
Los Reales Road	Sorrel Lane	Mission Road	150	150	Yes	Yes
Sorrel Lane	Los Reales	Hermans Road	Non MSSR	80	Non MSSR	Yes

b. The number of travel lanes, capacity, and posted speed limit on existing roads and proposed off-site streets

The capacity numbers listed below are based on Florida DOT Capacity Urbanized Areas Level of Service D Non-State Signalized Roadways. The rest of the information in **Table I-E.1.b** is based on Pima County MapGuide information found online.

Table I-E.1.b: Roadway Characteristics

Street Name	Travel Lanes	Capacity	Speed Limit (mph)	Paved Edge	Bicycle Route	Pedestrian Way
Cardinal Avenue	2	10,200 ADT	35	Yes	No	No
Los Reales Road	2	13,400 ADT	35	Yes	Yes	Yes - South Side
Sorrel Lane	2	10,200 ADT	35 North of Site	No	No	No

c. The present average daily trips (ADT) for existing streets.

Pima County Department of Transportation and Pima Association of Governments (PAG) ADT counts for existing major streets are listed in **Table I.E.1.c** for the area within 1 mile of the subdivision.

Table I-E.1.c: Average Daily Trips

Streets	From Road	To Road	ADT (Source, Year)
Sorrel Lane	Los Reales Road	Tetakusim Road	4,027 (PAG, 2019)
Los Reales Road	Sorrel Lane	Cardinal Ave	9,167 (PAG, 2019)
Cardinal Avenue	Hermans Road	Los Reales Road	2,348 (PAG, 2019)
Cardinal Avenue	Los Reales Road	Valencia Road	7,400 (PAG, 2019)

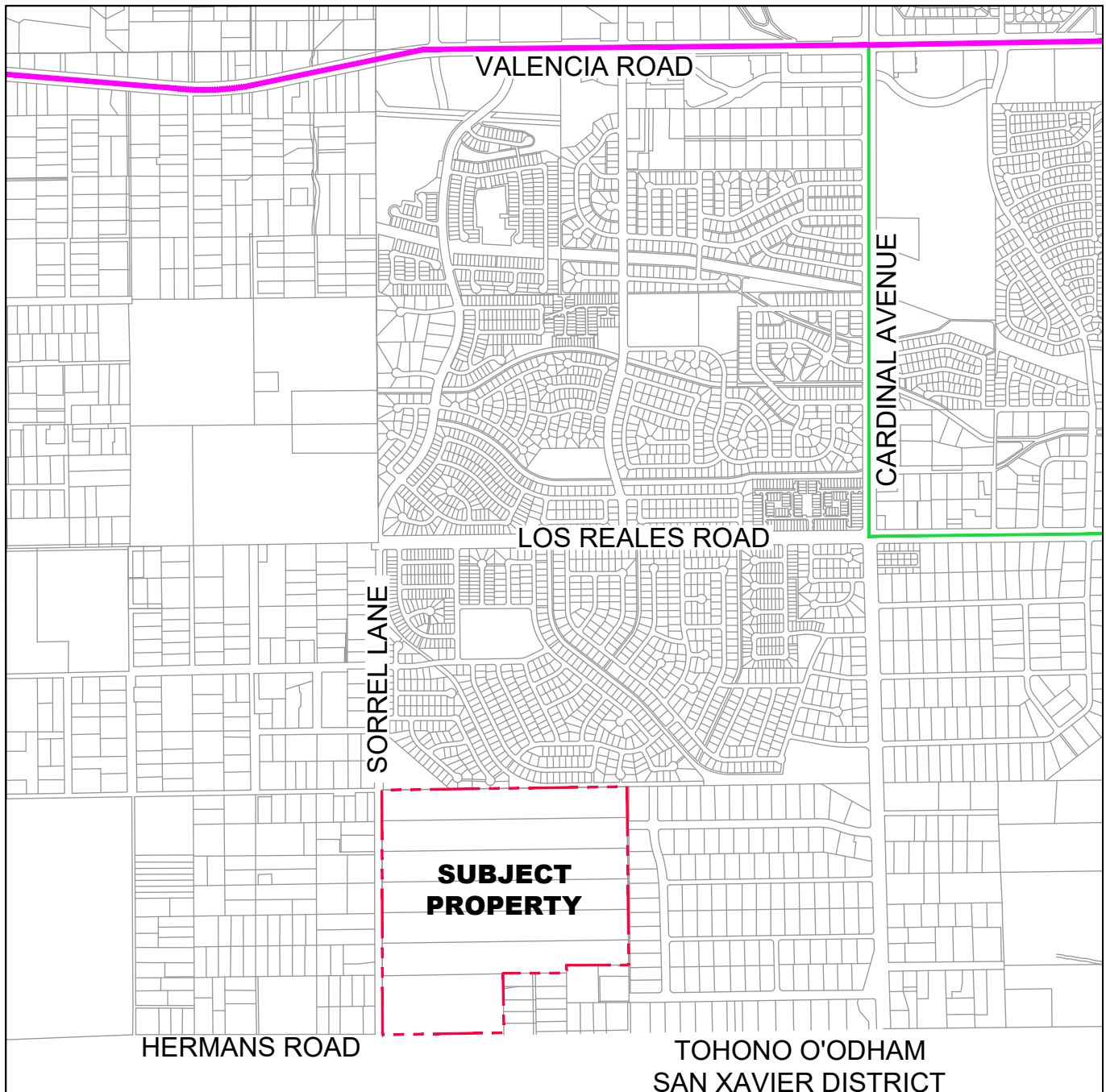
c. Existing bicycle and pedestrian ways

Tetakusim Road has an 8-foot shared use path between Camino de Oeste and Sorrel Lane. Sorrel Lane acts a key residential connector to Los Reales Road. Los Reales Road has striped bike lanes, a sidewalk on the south side and a multi-use path on the north side.

d. Public Roadway Improvements Underway or Scheduled Within 5-Years

There are no roadway improvements currently underway nor scheduled within the next five years within a mile of the subject property.

EXHIBIT: I-E.1
MAJOR STREETS MAP



LEGEND



PROPERTY
BOUNDARY



PARCELS



HIGH VOLUME
ARTERIAL 200' ROW

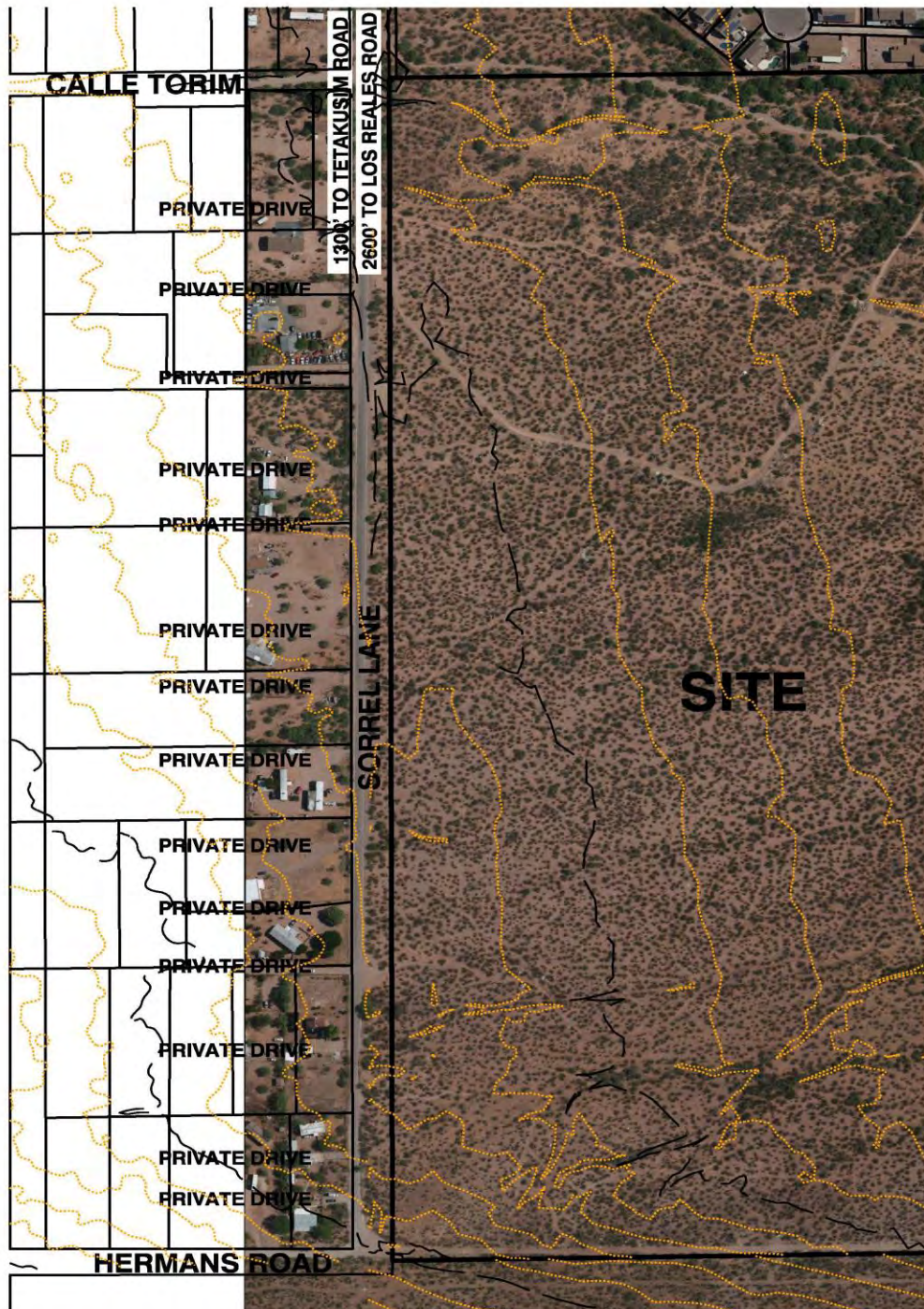


COLLECTOR
ROAD 80' ROW

SCALE: 1"= 1/4 MILE



Exhibit I-E.2.c:
Existing Intersections Map



2. Existing Driveways and Intersections

The project site does not abut a major street. Camino Torim is at the northwest corner of the property. Tetakusim Road is about There is one exiting driveway into the project site from the east at West Via Santa Dorotea part of the San Xavier Estates II Subdivision. **(See Exhibit I-E.2: Major Streets Map).**

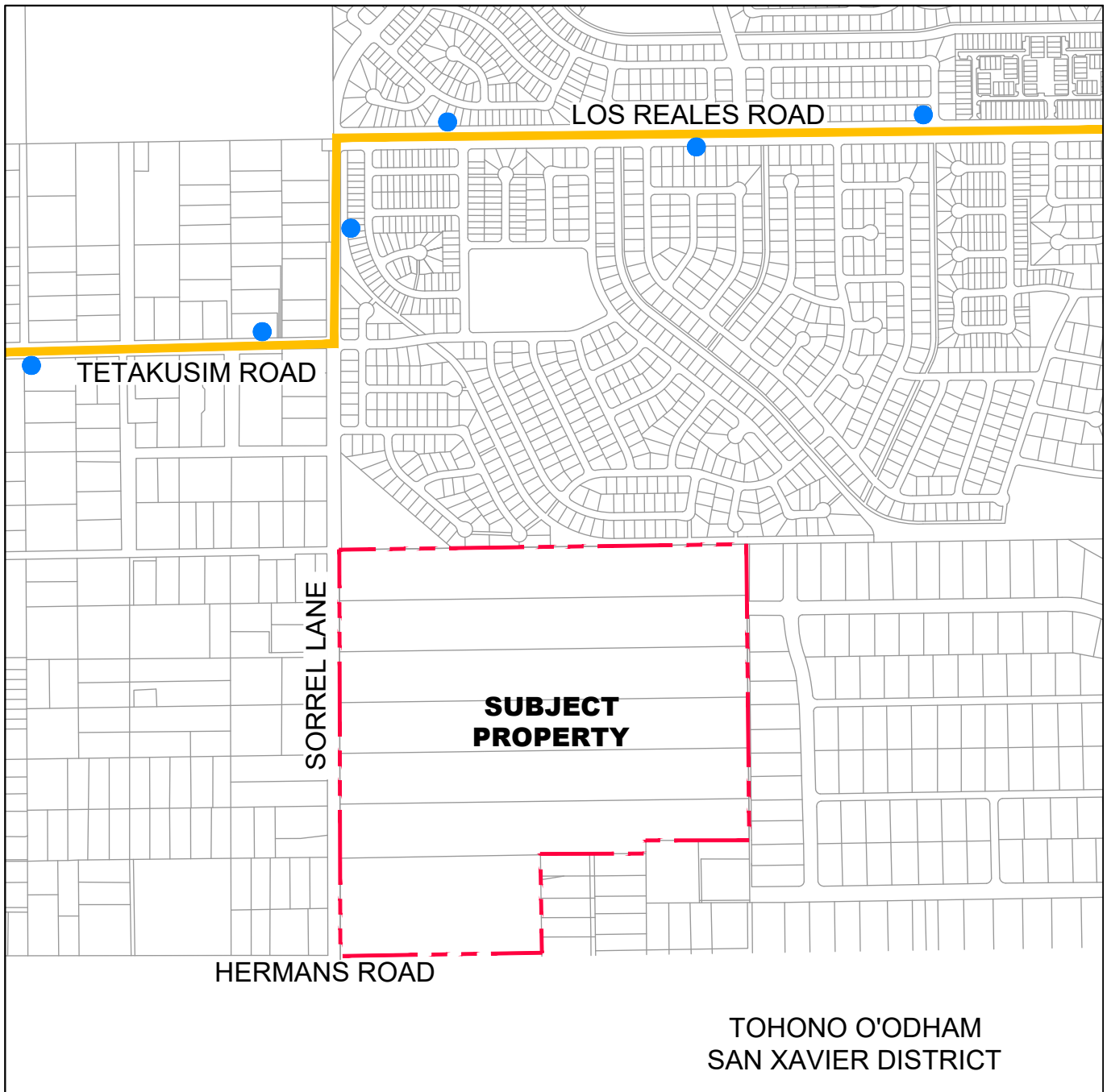
3. Transit Routes within One-Half Mile of Site

There is one Sun Tran bus route within one half mile of the subject property. Route number 29 – Valencia. **(See Table I-E.3)** There is an existing bus stop for east bound travel on Sorrel Lane and an existing bus stop for west bound travel on Tetakusim Road. **See Exhibit I-E.3: Public Transit Map**

Table I-E.3: Bus Transit Routes

Bus Route Number	Starting Point	Ending Point	Hours of Operation
29 Westbound	Laos Transit Center	Casino del Sol Park and Ride	Monday – Friday 5:35 a.m. – 10:05p.m.
29 Eastbound	Casino del Sol Park and Ride	Laos Transit Center	Monday – Friday 5:37 a.m. – 11:08 p.m.

EXHIBIT: I-E.3
PUBLIC TRANSIT MAP



LEGEND

- | | | | |
|---|-------------------|---|-----------------------------|
|  | PROPERTY BOUNDARY |  | SUN TRAN ROUTE 29- VALENCIA |
|  | PARCELS |  | BUS STOP |

SCALE: 1" = 1,000'



I-F. SEWERS

1. Existing Public Sewer

According to the Pima County GIS site, there are existing sewer lines running west to east immediately north of the site in South Derby Court. The capacity letter from Pima County Wastewater Reclamation Department, dated April 11, 2019, states that there is currently capacity in the public sewer G-2001-008 downstream from manhole 4465-17 in Derby Court. (See **Exhibit IIJ: Capacity Response Letters**)

Refer to **Exhibit I-F.1: Sewer Map** for the size and location of the existing public sewer lines in relation to the project site.

2. Sewer Constraints

The site has no known site constraints and can be served by public sewer.

EXHIBIT: I-F
SEWER FACILITIES MAP

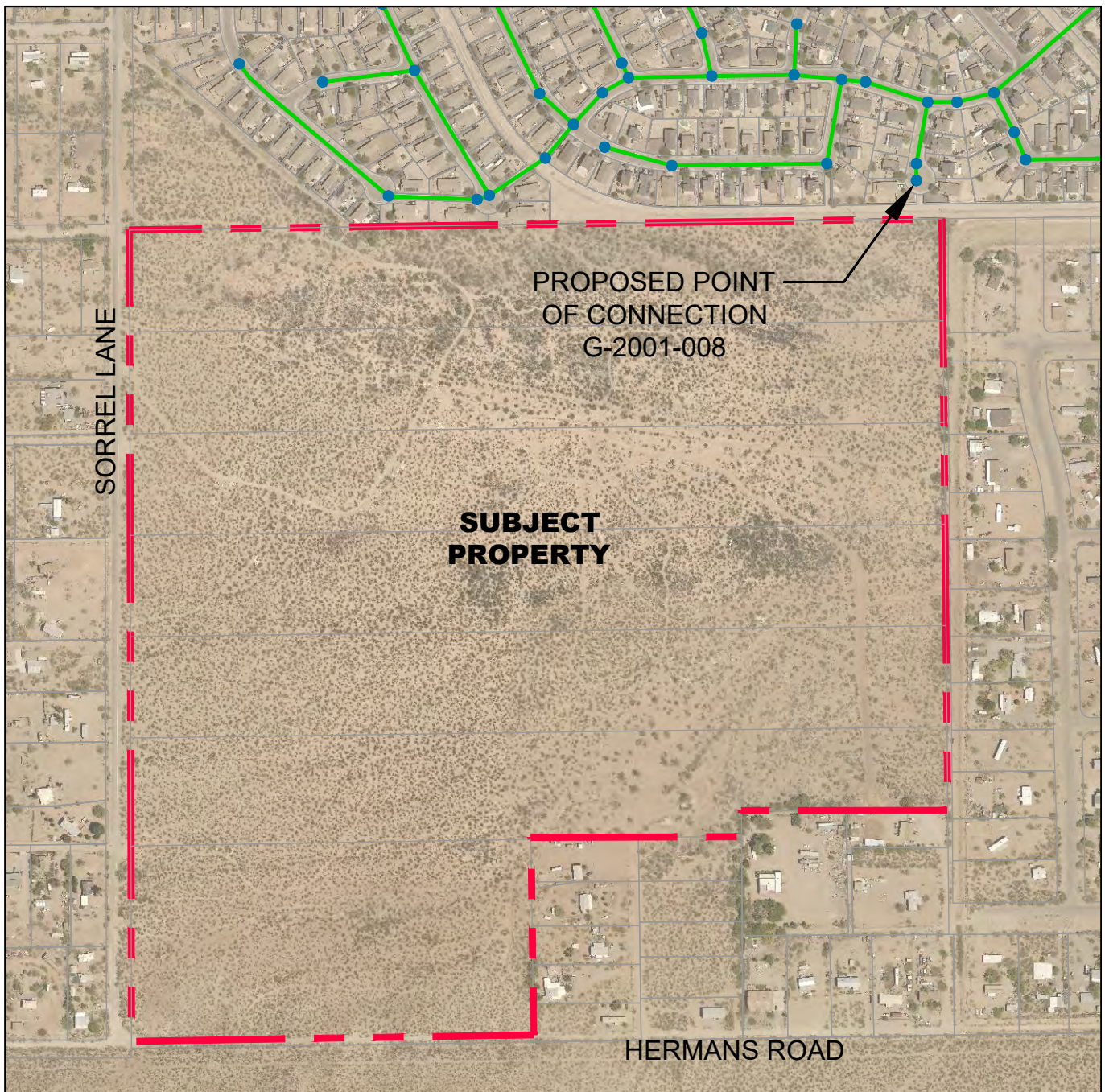






IMAGE SOURCE, PIMA COUNTY, 2018

LEGEND

- | | | | |
|---|----------------------|---|-------------------|
|  | PROPERTY
BOUNDARY |  | 8" PVC SEWER PIPE |
|  | PARCELS |  | MANHOLE |

SCALE: 1"=500'



I-G. RECREATION

1. Existing Recreation Facilities On-Site and Within 1-Mile

Pima County GIS Maps does not show a park within one mile of the site. The multi-use path on Tetakusim Road is located approximately ¼ mile to the north of the project site at Sorrel Lane. There are no other parks or public trails within one mile of the site. (See Exhibit I-G.1: Recreation and Trails Map).

2. Trail Rights-of-Way

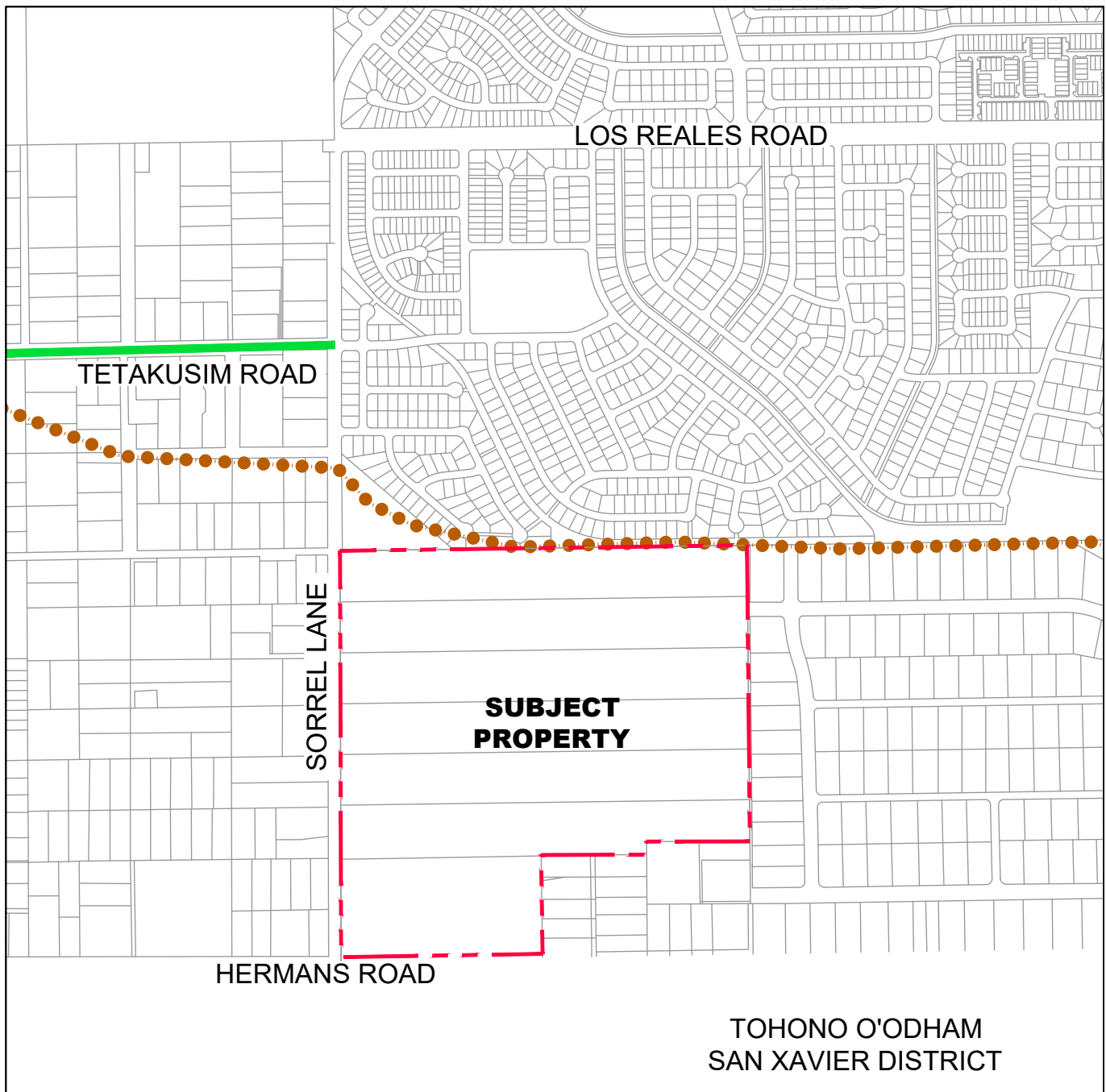
The Pima Regional Trail System Master Plan (PRTSMP) updated February 27, 2015, identifies the following trail rights-of-way within one mile of the site. Neither trail currently exists.

Table I-G.2: PRTSMP Trails



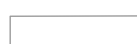

Trail Number	Trail Name	Trail Type
ST014	West Branch of Santa Cruz River	Single Track
ST109	Cardinal Avenue	Single Track

See Exhibit I-G.1: Recreation and Trails Map.

EXHIBIT: I-G
RECREATION AND
TRAILS MAP



LEGEND

- | | | | |
|---|-------------------|---|--|
|  | PROPERTY BOUNDARY |  | WEST BRANCH SANTA CRUZ RIVER TRAIL ST014 |
|  | PARCELS |  | PAVED MULTI-USE PATH |

SCALE: 1" = 1,000'



I-H. CULTURAL RESOURCES: ARCHAEOLOGICAL AND HISTORIC SITES

1. Records Check

One Site was found in survey in November 8, 2005 by Tierra Right of Way – AZ AAA:16.491(ASM).

The 2020 Cultural Resources Overview Letter from Tierra Right of Way notes that there was one site and scattered artifacts on the property. The letter states that the know site has been determined to be Not Eligible for the NRHP by SHPO. (See **Appendix D: A Cultural Resources Assessment Survey and Cultural Resources Overview Letter**)

2. Survey Title

A CULTURAL RESOURCES ASSESSMENT SURVEY OF 136 ACRES NORTH OF HERMANS ROAD AND EAST OF SORREL LANE IN PIMA COUNTY ARIZONA.

I-I. COMPOSITE MAP

The thorough site analysis presented in this section has determined that parcel is in a sheet flow flood area with the presence of Xeroriparian Class B and Class C habitat in the northern area. This information has been combined to form the composite map displayed as **Exhibit I-I: Composite Map**. Each constraint depicted on the Composite Map will be considered as the future development of this property is planned.

EXHIBIT: I-I
COMPOSITE MAP

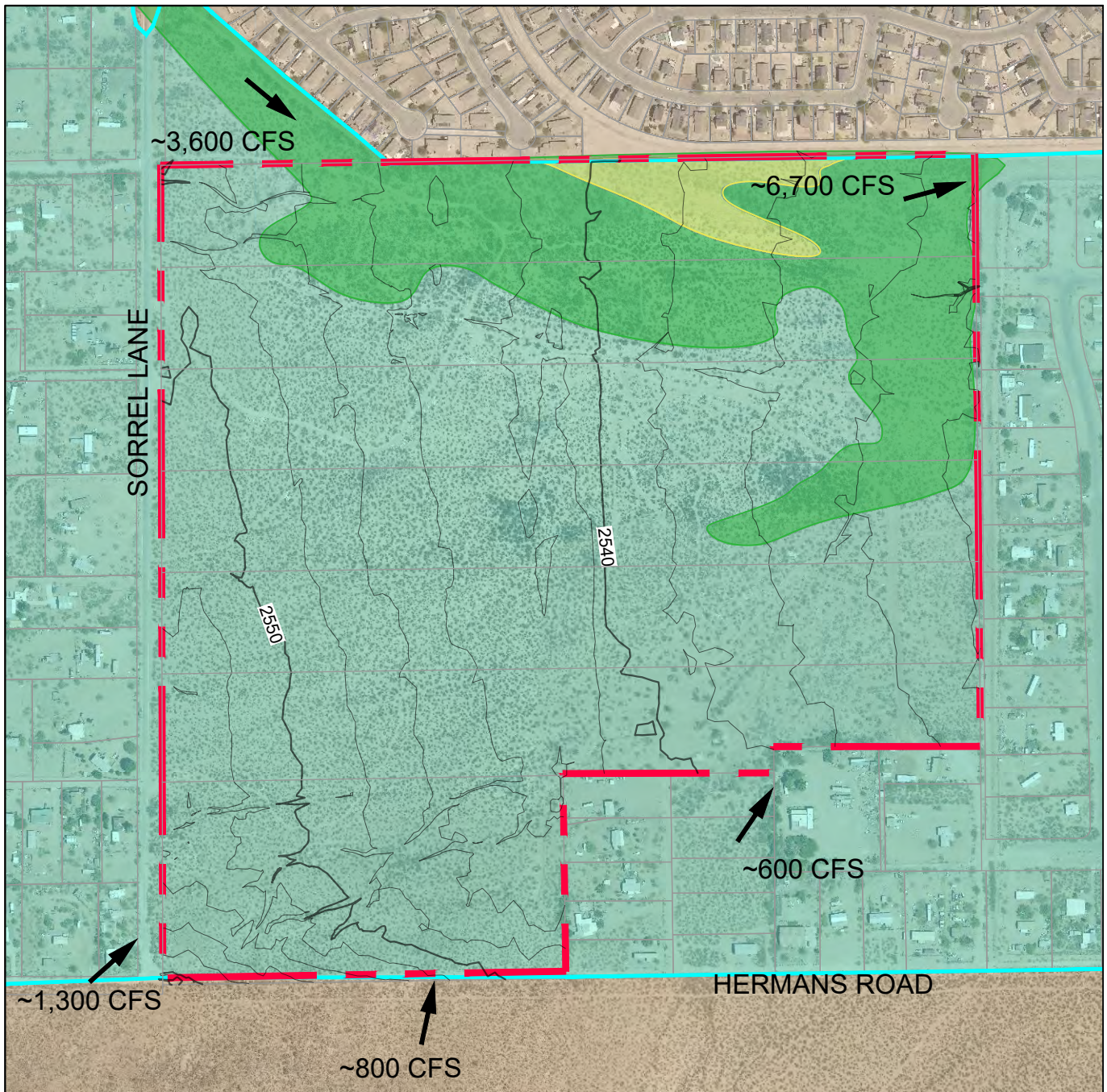


IMAGE SOURCE, PIMA COUNTY, 2018
2' CONTOURS

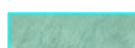
LEGEND



XERORIPARIAN B



XERORIPARIAN C



FEMA
ZONE A SHEET FLOW



SAGUARO
CACTUS

SCALE: 1"=500'



PART II LAND USE PROPOSAL

II-A. PROJECT OVERVIEW

The proposal is to rezone the property from GR-1(Rural Residential Zone) to CR-4 (Mixed Dwelling Type) Zone, with a density of 2.8 RAC. The CR-4 designation is consistent with the existing zoned subdivisions to the north, but with a gross density will be lower. The project to the north has a density of 3.55 RAC. Although this project has a higher density than the larger residential lots on the west and east sides of the project, the CR-4 development standards will allow for the provision of significant amounts of open space between the proposed residences and the existing homes.

1. Proposed Zoning Boundaries

The entire site is proposed to be rezoned to CR-4 (Mixed Dwelling Type) therefore there is no need to create a map.

2. Project Description

a. Proposed Development Use

The proposed use is a detached single-family residential community, with focus on passive and active recreational open space. The open space buffers, common area recreation and open space areas represent approximately 40% of the project. This represents about 50 acres of the project.

b. Best Design and Use

The site plan does respond to the site constraints while also providing substantial buffers on all the perimeters of the project. The use of this open space to create greater distance between the abutting residential developments and this project allows for future residents to feel a sense of space and separates the development from existing homes.

Since the project is surrounded by higher density residential to the north and lower density to the east and west the proposed residential density provides a transition between the neighbors.

c. Conformance to Comprehensive Plan

The Comprehensive Plan designates this area as LIU (Low Intensity Urban) 3.0 with a maximum residential density of 3 RAC. The proposed density under this proposal is 2.75 RAC, which conforms to the plan.

As a part of the Comprehensive Plan Amendment approval for the southern portion of the property, the site is subject to Rezoning Policy, RP-153, which requires the areas of the drainage improvements to be enhanced with native riparian vegetation.

d. Neighborhood Meetings

There have been two noticed Neighborhood meetings since the inception of this project. The first meeting was in November at the Maldonado School with 22 participants prior to the Planning and Zoning Commission meeting. The second was a Zoom meeting on October 7, 2020 prior to the submittal of the rezoning application. There was also a meeting with the immediate neighbors to the southeast on September 8th and a site tour on September 22nd with some neighbors, Supervisor Villegas and Pima County Flood Control and Planning staff.

The most frequent comments were about drainage and flooding and traffic and access. Neighbors were represented on all sides of the project. The project has been designed with the neighbor's concerns in mind. There will be further meetings as the project moves through the process. Neighborhood information and meeting notes are included in **Appendix D**.

e. Impacts to On-site and Off-site Land Uses

The site is currently vacant, and therefore there will be no impacts to the existing onsite land uses. Perimeter open space buffers ranging from 250' to more than 300' are provided to minimize the impact to existing

development's viewsheds. In addition, these very wide buffers will provide open space on the site for passive recreation.

f. Smart Growth

The development will contribute to meet smart growth principles by providing appropriate development for the area and compact building patterns that are more energy efficient. The project also will promote the residents' health by providing access to a variety of active and passive recreation options and transportation options, such as safe and reliable public transportation, sidewalks, bike paths, and walking trails.

3. Compliance with Pima County Zoning Code Ordinances

a. Buffer Overlay Zone (Section 18.67.050)

Not Applicable

b. Gateway Overlay Zone (Section 18.78.010)

Not Applicable

c. Hillside Development Overlay Zone (Sections 18.61.050 and 18.61.060.B)

Not Applicable

d. Cluster Development Option (Section 18.09.040)

Not Applicable.

e. Native Plant Preservation (Chapter 18.72)

A Native Plant Preservation Plan will be submitted at time of subdivision plat review.

f. Historic Zone (Chapter 18.63)

Not Applicable

g. Airport Environs and Facilities (Chapter 18.57)

Not Applicable

II-B. PRELIMINARY DEVELOPMENT PLAN (PDP)

1. Preliminary Development Plan

The PDP is included as **Exhibit II-B-1: Preliminary Development Plan**. In accordance with section 18.91.030E of the Pima County Code, the PDP shows surveyed property boundaries and dimensions, lot layout, internal circulation, adjacent rights of way, buffers, active open spaces, landscaped areas, common areas, natural area features and adjoining vacant developed and vacant properties.

2. PDP Support Data

a. Estimated Floor Area

Not applicable since this is a proposed residential subdivision.

b. Building Heights

A maximum building height of 30 feet. Buildings will be limited to single story on the perimeter of the developed area.

c. Total Number of Dwelling Units

383 detached single family dwelling units on 139.4 acres.

d. Maximum Residential Density

2.75 RAC

e. Landscaping

There will be landscape bufferyards between the lot back walls and the open space/drainage areas. Landscape areas will be provided at the subdivision entrances, within the active recreation areas and the passive recreation areas. the landscaping is an essential component of this project.

In addition, the proposed broad open space/drainage areas surrounding the development area will be enhanced with native riparian vegetation.

There will also be an HOA requirement to provide two trees in the front yard of each home.

f. Open Space

The proposed concept delineates approximately 30 percent of the property as open space provided around the perimeter of the project, as shown on **Exhibit II-B: Preliminary Development Plan**. Any revegetation for the disturbance caused by infrastructure improvements will follow the adopted landscape and other County ordinances, and Rezoning Policy 153.

EXHIBIT: II-B
PRELIMINARY
DEVELOPMENT PLAN

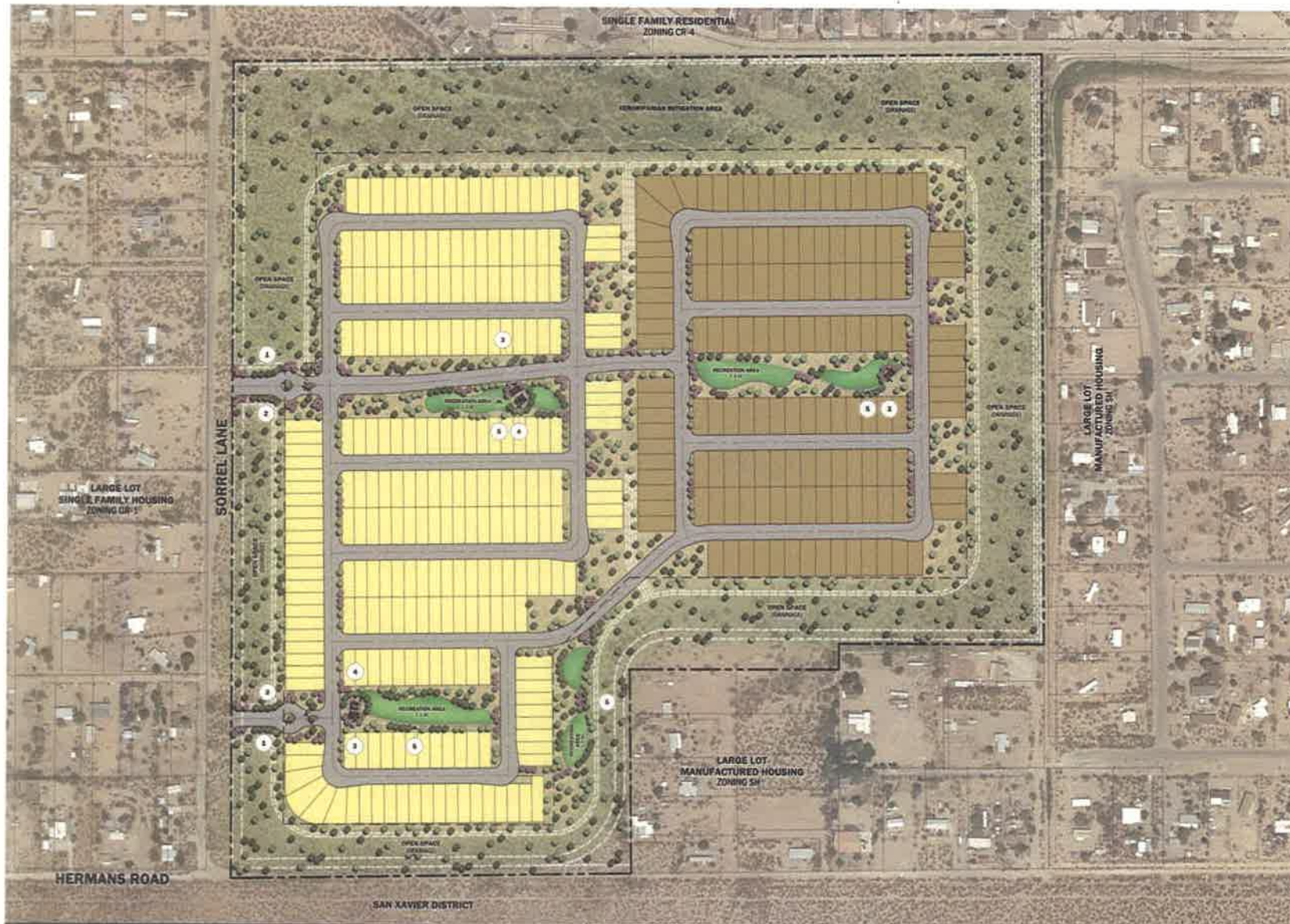


LEGEND

● ● ● ● ● WEST BRANCH SANTA
CRUZ RIVER TRAIL ST014

SCALE: 1"=500'





VICINITY MAP
PLAN N.T.S.

LOT TABLE

COLOR	LOT SIZE	QTY
Yellow	40' x 120'	237
Brown	30' x 120'	148
TOTAL LOTS		385

SITE DATA

CROSS SITE AREA	1/- 140 AC
EXISTING ZONING	CR-1
PROPOSED ZONING	CR-4
DENSITY	263 LOTS / 140 AC
RECREATION AREA REQUIRED	2.7 AC
RECREATION AREA PROVIDED	8.8 AC
OPEN SPACE	1/- 69 AC
	1/- 9 AC

KEYED NOTES

- 1 ENTRY MONUMENT
- 2 ENTRY GATES
- 3 RAMADA
- 4 TOT LOT
- 5 OPEN SPACE SIDEWALK

SCALE: 1" = 150'
0 15 30 45

II-C. TOPOGRAPHY AND GRADING

1. Development/Mitigation on Steep Slopes

Not Applicable

2. Natural Area under Hillside Development Zone

Not Applicable

3. Area to be Disturbed

As the subdivision will be mass graded, most of the site will be graded for roadways, drainage features, building pads and functional open space. Open space provided around the perimeter of the project, as shown on **Exhibit II-B-1: Preliminary Development Plan**, will be revegetated. All grading and revegetation will follow the adopted grading and landscape ordinances. (See **Exhibit II-C.3: Preliminary Grading Plan**).

a. Retained Area as Open Space

2%

b. Revegetated

30%

c. Graded or Disturbed

98%

4. Change in Natural Grade of more than 5 feet

There will be minimal areas in the project with more than five feet of cut or fill. The perimeter of the site will be lowered 2-4 feet to provide for acceptance of the drainage sheet flows. This material will be used to raise the interior development area. The elevations at these locations will be dictated by the specific drainage and roadway design requirements. The maximum fill will be 2-4 feet (See **Exhibit II-C.3: Preliminary Grading Plan**).

EXHIBIT: II-C.3
PRELIMINARY GRADING PLAN

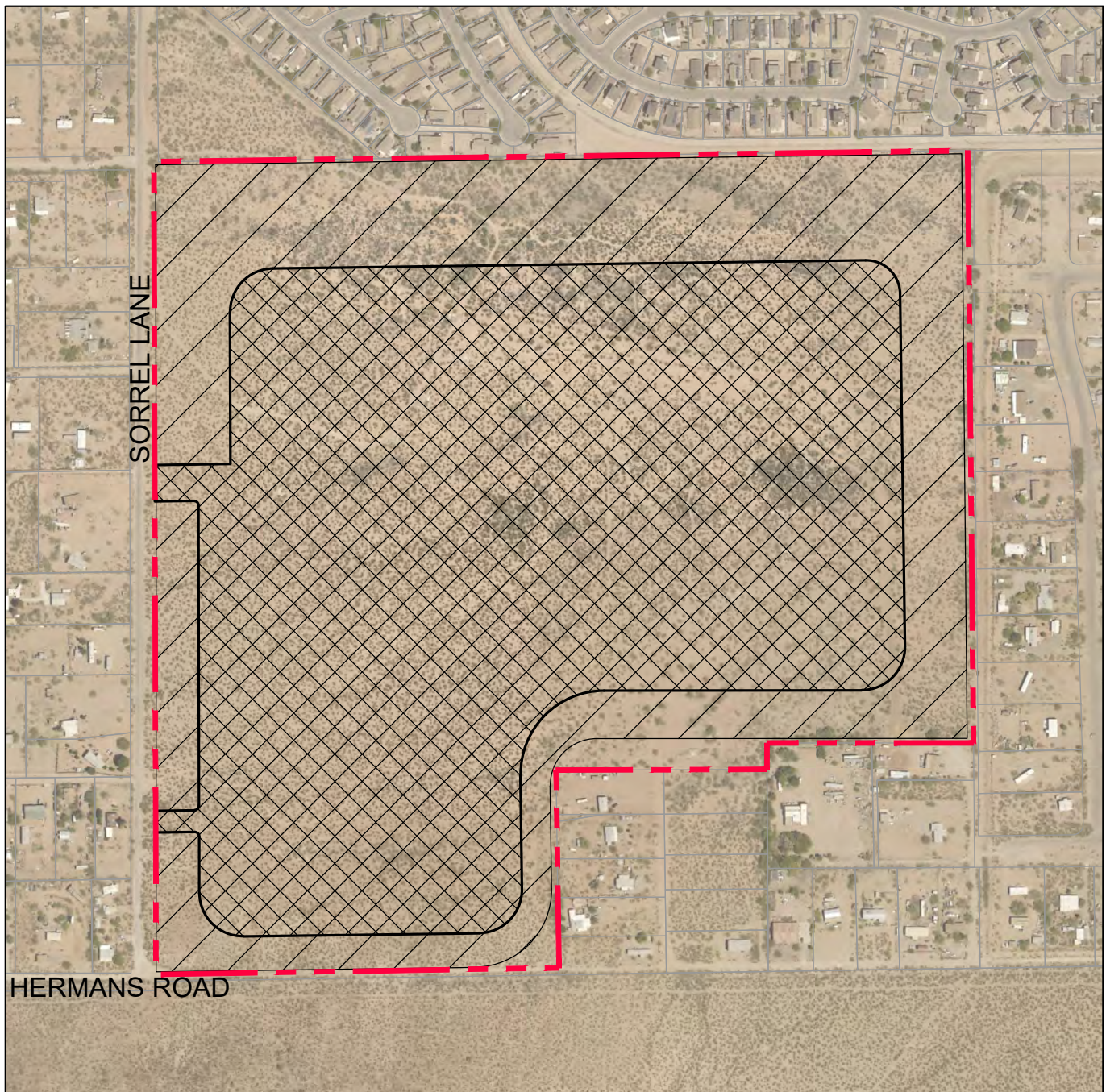



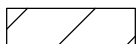


IMAGE SOURCE, PIMA COUNTY, 2018

LEGEND

	PROPERTY BOUNDARY		AREAS OF FILL
	PARCELS		AREAS OF CUT

SCALE: 1"=500'



II-D. HYDROLOGY

1. Post Development On-site Hydrology

The project proposed by the Preliminary Development Plan (PDP) will not alter the off-site drainage patterns. Flows will be accepted and discharged in their current locations. Detention and retention facilities will be provided to mitigate the increased run-off due to the development of the site.

2. Preliminary Integrated Water Management Plan

Annexation into the Tucson Water Service area is in process. The method has been approved by Tucson Water. The delay is with the reconfiguration of the parcels. Once the new parcels have APN's, the process will be completed so that a "will serve" letter can be issued.

There will be a commitment to implement Water Conservation Measures at the Development Review stage to obtain the necessary points on Table A.

3. Proposed Hydrology

a. Response to Constraints and Opportunities

Significant improvements will be required to respond to the sheet flow drainage conditions on the site. Drop structures and erosion protection will be required along the west and south perimeters of the site to accept the flows. The proposed drainage areas will convey the flows around the central built area to the northeast portion of the site. The drainage area on the eastern portion of the site will be act as a basin.

b. Encroachment

The proposed development area of the site encroaches into the FEMA sheet flow floodplain. The project will require the submittal of a Conditional Letter of Map Revision (CLOMR) prior to construction and a Letter of Map Revision (LOMR) after construction.

c. Table of Concentration Points

The post-development on-site concentration points will match the pre-development concentration points. See **Exhibit II.D-1: Post-Development Drainage Map**.

d. Location of Potential Engineering Features

As noted above, drop structures and erosion protection will be required on the west and south perimeters of the site to accept the existing flows. The drainage areas will have earthen bottoms, with armored side slopes. Detention/Retention basins will be constructed to mitigate the increased flows in the developed area.

e. Summary of the effect of Development

No upstream or downstream impacts to off-site land uses are anticipated due to the proposed development. The developed site will continue to receive the offsite flows and discharges exiting the downstream property boundary will be required to be at or below existing flows. The location of each proposed retention/detention basin is depicted on **EXHIBIT II-D.1: Post Development Drainage Plan**.

EXHIBIT: II-D.1
POST DEVELOPMENT HYDROLOGY

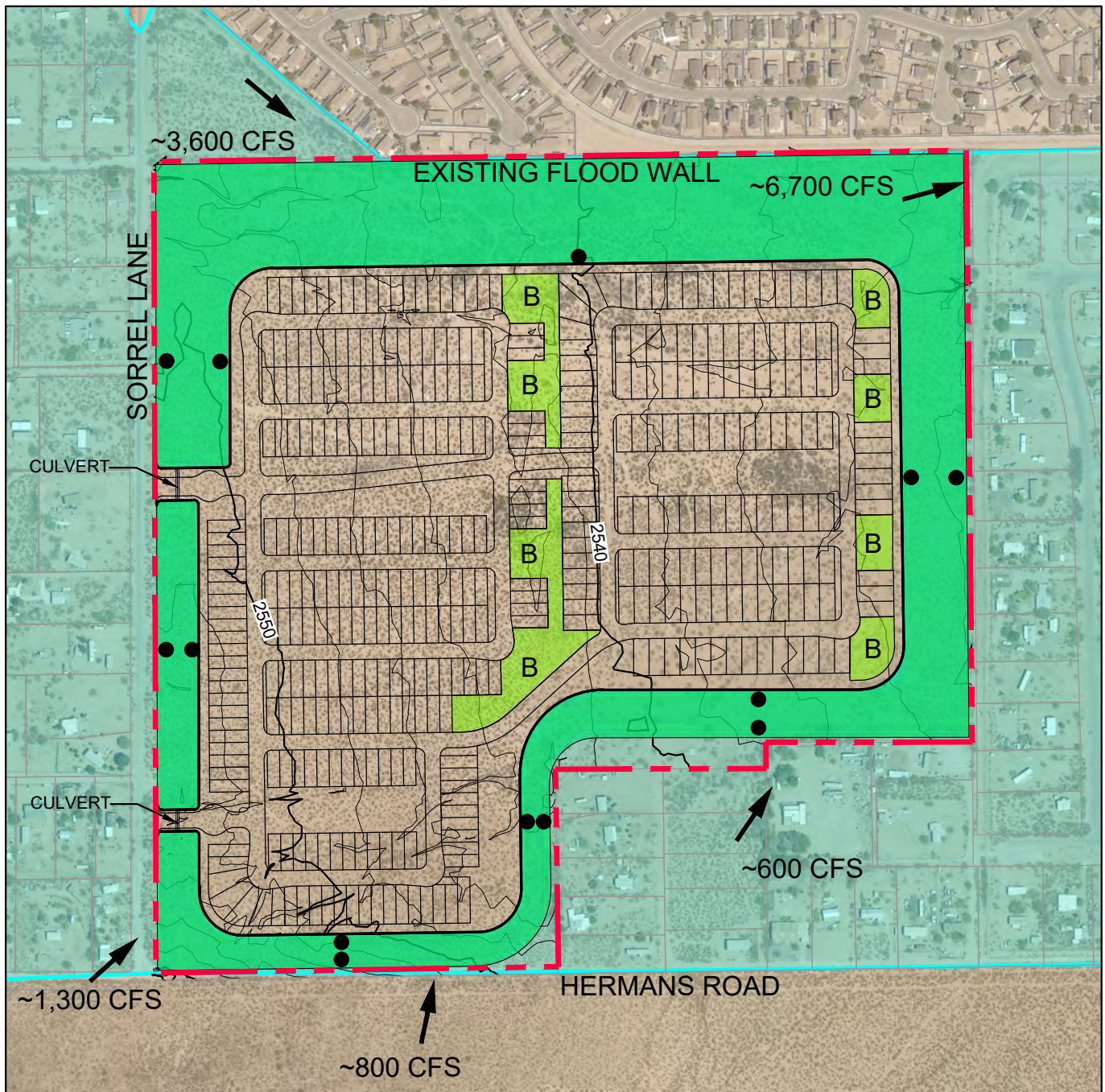


IMAGE SOURCE, PIMA COUNTY, 2018

LEGEND

---	PROPERTY BOUNDARY	 	DRAINAGE/RIPARIAN MITIGATION AREAS	●	EROSION PROTECTION
	PARCELS	B	DETENTION BASIN		

SCALE: 1"=500'



II-E. BIOLOGICAL RESOURCES

1. Impact to Important Vegetation

(See Exhibit I-K: Composite Map)

a. Conservation Land System

The site is not within an Important Riparian Area

b. Saguaros – There are three viable saguaros on the site. All will be transplanted to a nursery during construction and then to a permanent location in the project.

c. Ironwood Trees – N/A

d. Pima Pineapple Cactus – According to the biological report, no Pima Pineapple Cacti have been found on the project site.

e. Needle-Spined Pineapple Cactus – According to the biological report, no Needle-Spined Pineapple Cacti have been found on the project site.

II-F. LANDSCAPE BUFFERYARDS AND VISUAL MITIGATION

1. Bufferyards

Bufferyards are designed between the open space/drainage areas and lots. **(See Exhibit II-F-1: Landscape and Bufferyard Plan).**

2. Potential Conflicts in Bufferyards

Other than the street and sewer lines crossing the bufferyards, we do not anticipate any conflicts. **(See Exhibit II-F-1: Landscape and Bufferyard Plan).**

3. Transplanted Vegetation

Vegetation and saguaros will be transplanted in accordance with the Native Plant Preservation Ordinance method selected for this site.

4. Mitigation of Visual Impacts

Mitigation measures will be used to minimize any visual impacts from offsite land uses. These include the use of the open space buffers, landscape bufferyards and

patio walls along the entire perimeter of the development area which will exceed minimum standards.

In addition, the first tier of lots adjacent to the bufferyards on the perimeter of the developed area are intended to be single story homes.

5. Significant Vegetation

There are two native vegetative communities on the site. One community is Xeroriparian Habitat, classified as both Xeroriparian B and C by Pima County. This area is in the northern/northeastern portion of the site and is approximately 22% of the site. This area will be disturbed by the construction of the drainage channels. Mitigation will be provided in the constructed open space/drainage areas around the development.

The other vegetative community is categorized as Sonoran Desert Paloverde/Saguaro upland and is approximately 78% of the site. This area is dominated by creosote (*Larrea tridentata*) with barrel cacti (*Ferocactus wislizeni*). This community is essentially a “creosote flat” with occasional, but limited, occurrences of other native species.

EXHIBIT: II-F.1
LANDSCAPE BUFFER &
VISUAL MITIGATION PLAN

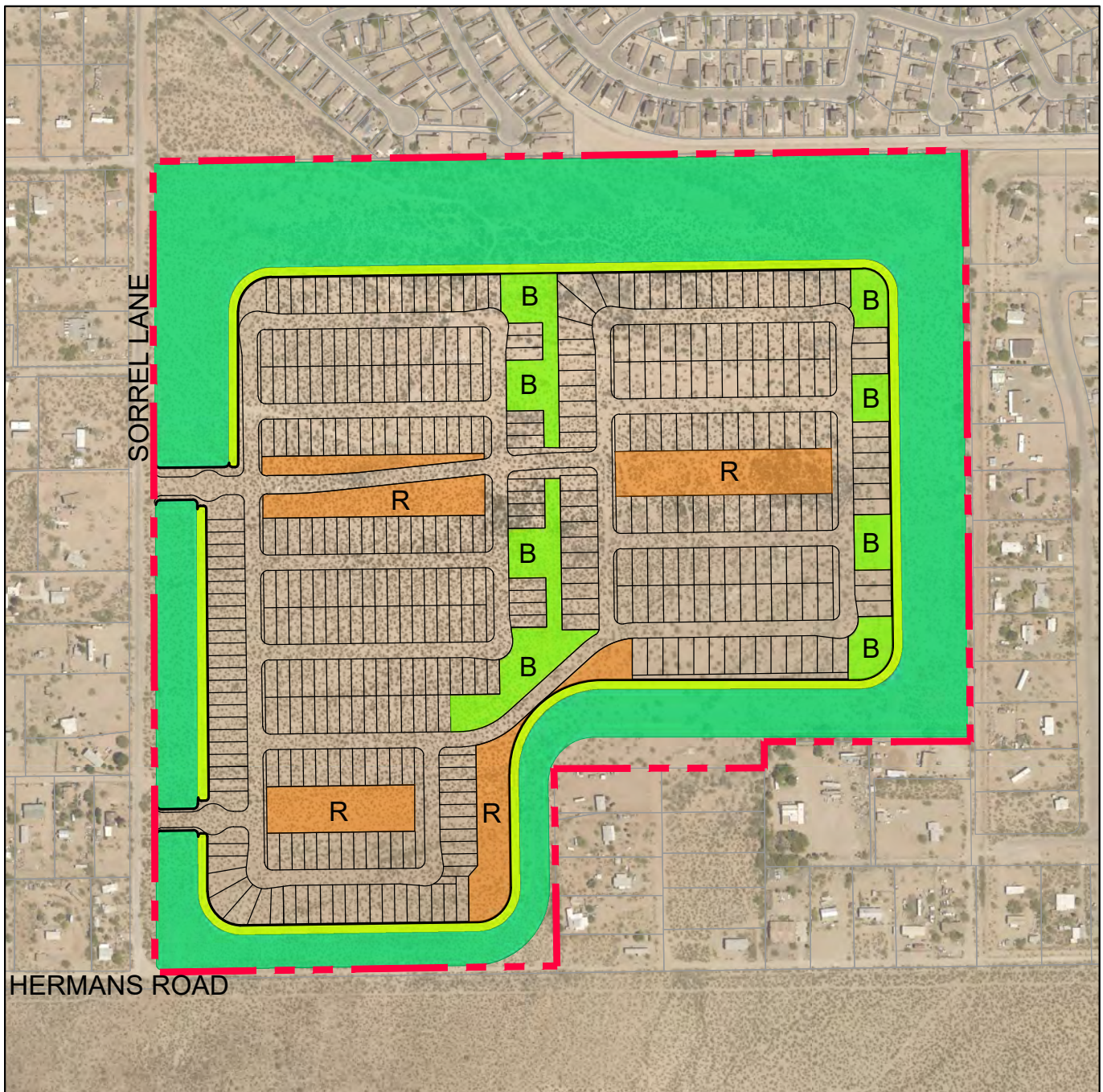








IMAGE SOURCE, PIMA COUNTY, 2018

LEGEND

	PROPERTY BOUNDARY		OPEN SPACE BUFFER		R	RECREATION AREAS
	PARCELS		LANDSCAPE BUFFERYARD			
			B	DETENTION BASINS		

SCALE: 1"=500'



II-G. TRANSPORTATION

1. Proposed Ingress/Egress

The proposed access to the Site is from Sorrel Lane. Two gated entries are indicated on the PDP in order to meet transportation and fire department requirements. The internal streets are designed to provide connectivity within the project.

The proposed design meets the connectivity standards of the Subdivision and Development Street Standards, which allow reductions to the external connections for certain constraints. Based on the number of lots, the subdivision requires four connections. The constraints in this case are:

North $\frac{1}{4}$ – a drainageway and flood wall for flows over 100 cfs.

East $\frac{1}{4}$ – a drainageway with flows over 100 cfs.

South $\frac{1}{4}$ – incompatible uses

Therefor the connections can be reduced by $\frac{3}{4}$.

(See Exhibit II-B: Preliminary Development Plan).

2. Distance to Access Points

The north entry is located approximately 960 feet south of Calle Torim, 2260 feet south of Tetakusim Road and 3560 feet south of Los Reales Road. The north entry is about 300 feet south of Spurlock Street and aligns with one of the private drives on the west side of Sorrel Lane. The south entry is approximately 1000 feet south of the north entry. It aligns with one of the private drives on the west side of Sorrel Lane. It is approximately 610 feet north of Hermans Road. **(See Exhibit II-G.2: Distance to Intersections Map).**

3. Off-site Road Improvements

Improvements will be made to Sorrel Road based on the results a Traffic Impact and the Drainage Reports, along with Pima County Transportation and Flood Control Districts requirements, to provide appropriate access to the site.

4. ADT and Level of Service

The estimated increase in the ADT is less than 4,000 trips. There is no ADT data available for Sorrel Lane, however Sorrel Lane currently serves an area adjacent to the site with a very low density, so there should be capacity for this new development. The need for additional capacity improvements will be determined by the Traffic Report.

5. Concurrency

The project has primary access to Sorrel Lane that acts as a residential collector. Sorrel Lane intersects Los Reales Road, an arterial street, one half-mile north of the site. Los Reales provides connectivity to Cardinal Avenue and the street system to the east. Sorrel Lane intersects Tetakusium Road a quarter mile to the north of the site., providing connectivity to the street system to the west. The addition of the traffic from this project does not existing capacities for these streets. Specific turning movement improvements will be determined with the Traffic Impact Study to be completed with the development and improvement plans.

6. Bicycle and Pedestrian Pathways

There are no bicycle pathways proposed for the site. The private streets will provide connectivity for cyclists and pedestrians. The proposed development will have additional pedestrian pathways within the recreation areas and the landscape borders.

7. Proposed On-Site Road Rights-of-Way

The proposed on-site rights of way will be private. The roadway sections are directly from the Subdivision and Development Street Standards (SDSS).

The gated entry roads from Sorrel Road will consist of a 45' right-of-way with 24 feet of pavement, vertical curb, sidewalk, and landscaping on each side, in

conformance with Details 6 and 8A of the SDSS. No on-street parking will be allowed along the entry road.

The remaining subdivision streets will consist of a 45' right-of-way with 24 feet of pavement, wedge curb, and sidewalk on both sides, in conformance with Detail 8A of the SDSS.

8. Traffic Impact Study (TIS) Requirement

Per Pima County Subdivision and Development Street Standards, a Traffic Impact Study is not required for this rezoning site analysis but will be provided at the subdivision platting stage.

Exhibit II.G.2:
Distance to Intersections Map



II-H. ON-SITE WASTEWATER TREATMENT DISPOSAL

On-site wastewater treatment/disposal facilities are not proposed for this project.

II-I. SEWERS

1. Sewer Capacity Response Letter

Under existing conditions, there is conveyance capacity for this proposed project. Refer to the letter from Pima County Regional Wastewater Reclamation Department. **(See Exhibit II-J: Sewer Capacity Letter)**

2. Sewer Service Method

The on-site sewer system will connect into the existing public sewer system at manhole located along the northern property line, (G-2001-008).

3. Sewer Easements

At both points of connection with the public sewer system, the new sewer lines will traverse in private common area within a 20-foot public sewer easement outside of pavement.

4. Mitigation of the Site Constraints

The entire site is in a sheet flow area. The sewer line will be built per PCRWRD requirements across the northern drainage area . There are no gravity sewer constraints for this project.

Exhibit II.J:
Sewer Capacity Letter

JACKSON JENKINS
DIRECTOR



PH: (520) 724-6500
FAX: (520) 724-9635

April 11, 2019

Tri Miller
Rick Engineering Company, Inc.
3945 E Fort Lowell Road, Suite 111
Tucson, Arizona 85712

Sewerage Capacity Investigation No. 2019-81 Type I

**RE: Sorrel Lane and Hermans Road Property, Parcels 13829002A, 138296810,
138296820, 138296830
Estimated Flow 86,400 gpd (ADWF).
P19WC00081**

Greetings:

The above referenced project is tributary to the Agua Nueva Water Reclamation Facility via the Southeast Interceptor.

Capacity is currently available for a project this size in the public sewer G-2001-008, downstream from manhole 4465-17.

This letter is not a reservation or commitment of treatment or conveyance capacity for this project. It is not an approval of point and method of connection. It is an analysis of the system as of this date. Allocation of capacity is made by the Type III Capacity Response.

If further information is needed, please feel free to contact us at (520) 724-6642.

Reviewed by: Kurt Stemm, CEA Sr.

II-J. WATER See Section II.D.

II-K. SCHOOLS

1. Access to Schools within or abutting Property

Vehicular access will be provided from both portions of the project site. There are no existing sidewalks along Sorrel Road, but pedestrians do have room to walk along the unpaved shoulders.

2. School Capacity Analysis Response Letter

Refer to Tucson Unified School District Capacity Letter in **Exhibit II-K-1: School Capacity Analysis Letter**.

a. Present and Projected Enrollment Numbers

The projected enrollment numbers for school year 2020:

Maldonado Elementary School - 216,

Valencia Middle School - 1075,

Cholla High School - 1,711.

b. Anticipated Increase in Enrollment Numbers

The anticipated increase in enrollment as a result of the proposed residential development:

96 elementary school students,

50 middle school students,

66 high school students.

c. Under(Over) Capacity

Using the 2020 projected enrollment numbers,

Maldonado Elementary under capacity

Valencia Middle School under capacity

Cholla High School 4% over capacity

d. Projected Enrollment & Under(Over Capacity) for Each School Service Area

Using the 2020 projected enrollment numbers,

Maldonado Elementary under capacity

Valencia Middle School under capacity

Cholla High School 8% over capacity

e. School Facilities Improvements

No information was provided.

3. Agreement with School District

There is a recorded Developer Donation Agreement between the project and the School District, Docket 12,843, Page 1,899, that runs with the property. The contribution in the document is \$1,000.00 per residence.

Exhibit II-K-1:
School Capacity Analysis Letter

TUCSON UNIFIED
SCHOOL DISTRICT

Department of Engineering, Facilities and Planning
TUSD Planning Services – 2025 E Winsett Street Tucson, Arizona 85719
(520) 225-4949
(520) 225-4939 (fax)

To: Chuck Martin, RA, Principal Project Planner
Rick Engineering

From: Shaun Brown
District Planner

Date: August 27, 2020

Re: Case/Project #:
Project Name: Hermans Road and Sorrel Lane
New Units: 383

Impacted Schools	Capacity	Projected Enrollment 2020	Additional Students from Project	Projected Enrollment w/Project	Students Exceeding Capacity	Students Exceeding Capacity %
Maldonado Elementary	640	216	96	312	-328	-51%
Valencia Middle	1075	731	50	781	-294	-27%
Cholla High	1650	1711	66	1777	127	8%

Response:

Based on the projected enrollment at TUSD, there is adequate capacity to absorb the impact of the proposed 383 single-family residence at Maldonado Elementary and Valencia Middle. However, there is inadequate capacity to absorb the impact of the proposed rezoning at Cholla High School.

Proposed Methods of Mitigation

To help alleviate the projected overcrowding the developer may make voluntary monetary or land contributions (per home) to the affected schools or TUSD.

P:\Projects\Development Review\2020\Hermans Road and Sorrel Lane.docx

II-L. RECREATION AND TRAILS

1. Recreation Areas to be Provided

The required area for recreation for the subdivision will be provided on-site and/or be met by active and passive recreation areas. The areas on the site include the three large recreation areas, multiple basins throughout the subdivision and the open space areas in the drainage areas. (See **Exhibit II-B-1: Preliminary Development Plan**).

2. Proposed Ownership of Open Space

The Homeowner's Association will be responsible for maintenance of the functional open space, open space, and landscaping. (See **Exhibit II-B: Preliminary Development Plan**).

3. Proposed Trails on or offsite.

There will be a series of trails that will be identified in the projects landscape buffers. They will connect neighborhoods internally and as shown some will have external access to the surrounding natural resources.

II-M. CULTURAL RESOURCES: ARCHAEOLOGICAL AND HISTORIC SITES

The Cultural Resources Overview Letter from Tierra Right of Way notes that there was one site and scattered artifacts on the property. The letter states that the know site has been determined to be Not Eligible for the NRHP by SHPO. (See **Appendix D: Cultural Resources Overview Letter**)

II-N. ENVIRONMENTAL QUALITY

Plans and Methods for dust control will be submitted to the Pima County Department of Environmental Quality.

II-O. AGREEMENTS

None at this time.

APPENDIX A:

NOVAK ENVIRONMENTAL BIOLOGICAL IMPACT REPORT



Biological Impact Report Sorrel Ridge Estates Rezoning

NE#20024

Prepared for:

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BIOLOGICAL IMPACT REPORT

Sorrel Lane Rezoning

August 6, 2020

I. INTRODUCTION

This Biological Impact Report is for an approximately 140-acre site on the northeast corner of Sorrel Lane and Herman's Road in Pima County, Arizona, parcel numbers 13829002A, 138296810, 138296820 and 13829630. The owner is seeking a rezoning. The property is in the southwest quarter of Section 20, T15S, R13E, G. & S.R.M., Pima County, Arizona (see Figure 1).

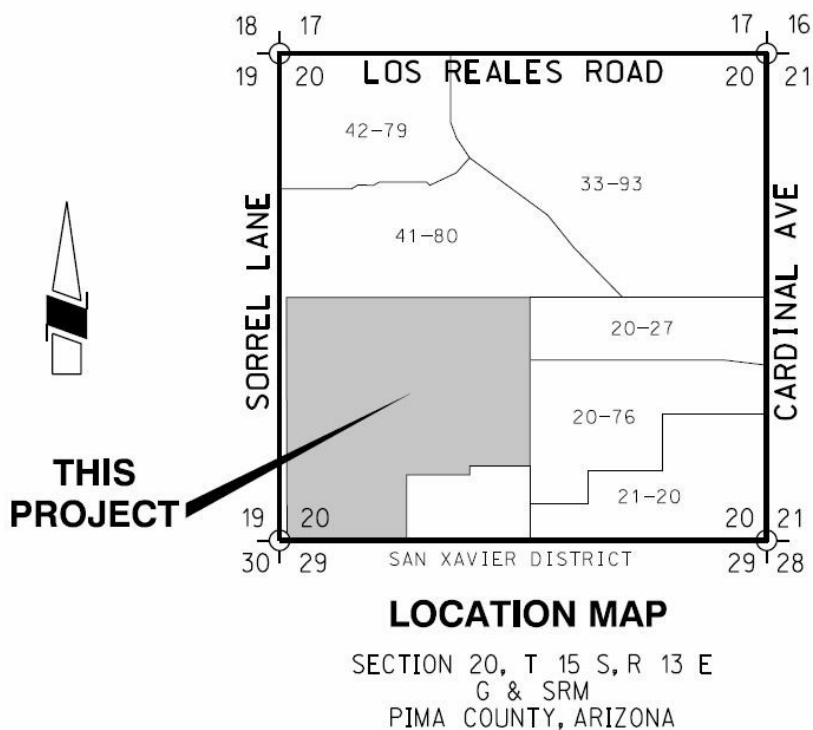


Figure 1. Location Map

4 Parcels (#13829002A, 138296810, 138296820 and 13829630)
Mostly in the southwest quarter of Section 20.
T15S, R13E, G. & S.R.M., Pima County, Arizona

This required Biological Impact Report will present responses, as they pertain to the Sorrel Ridge Estates, to all questions set forth in the Pima County Development Services Biological Impact Report Guidelines, March 2010.

II. LANDSCAPE RESOURCES

1. Identify whether the proposed site occurs wholly or partially within any Maeveen Marie Behan Conservation Lands System Category including Important Riparian Areas and Special Species Management Areas.

This site does not occur within any part of the Conservation Land System.

2. Identify whether the proposed project occurs in the vicinity of any of the six general areas identified as Critical Landscape Linkages.

This site does not occur within the vicinity of any of the six general areas identified in the CLS as Critical Landscape Linkages.

3. If the property is a Habitat Protection or Community Open Space priority acquisition property, as displayed on SDCP MapGuide, identify which designation applies to the site and comment on the status of communications, if any, between the owner and Pima County regarding the County's potential acquisition of the property.

This site is not included as a priority acquisition for either Habitat Protection or Community Open Space.