BOARD OF SUPERVISORS AGENDA ITEM REPORT

Requested Board Meeting Date: 9/6/2022

**= Mandatory, information must be provided*

Click or tap the boxes to enter text. If not applicable, indicate "N/A".

***Title:**

P22RZ00001 TUCSON SCHOOL DISTRICT NO. 1 – S. CARDINAL AVENUE REZONING

***Introduction/Background:**

The applicant requests a rezoning of approximately 60.9 acres from the GR-1 (Rural Residential) to the CR-4 (Mixed-Dwelling Type) zone for a 273-lot, single-family residential subdivision with one and two-story dwelling units built with radon-resistant construction and 31% natural and functional open space.

***Discussion:**

Current GR-1 zoning would allow for 73 single-family residences to the built on the site. The proposed rezoning to CR-4 density is equivalent and consistent with the land uses in the area. The site is located within the Southwest Focused Development Investment Area which promotes the efficient infrastructure expansion and rational land development patterns.

***Conclusion:**

The proposed rezoning conforms to the Medium Low Intensity Urban Comprehensive Plan designation and implements the applicable special area policy S-29, Southwest Infrastructure Plan.

***Recommendation:**

Staff recommends APPROVAL of the rezoning subject to standard and special conditions. The Planning and Zoning Commission recommends DENIAL.

***Fiscal Impact:**

0

***Board of Supervisor District:**

☐ 1 ☐ 2 ☐ 3 ☐ 4 ☑ 5 ☐ All

Department: Development Services - Planning Telephone: 520-724-8800

Contact: Terrill L. Tillman, AICP, Principal Planner Telephone: 520-724-6921

Department Director Signature: _____ Date: 8/15/22

Deputy County Administrator Signature: _____ Date: 8/16/2022

County Administrator Signature: _____ Date: 8/16/22

PIMA COUNTY
DEVELOPMENT SERVICES

TO: Honorable Adelita Grijalva, Supervisor, District 5

FROM: Chris Poirier, Deputy Director Tom Drzazgowski
Public Works-Development Services Department-Planning Division

DATE: August 16, 2022

SUBJECT: **P22RZ00001 TUCSON SCHOOL DISTRICT NO. 1 – S. CARDINAL AVENUE REZONING**

The above referenced Rezoning is within your district and is scheduled for the Board of Supervisors' **TUESDAY, September 6, 2022** hearing.

REQUEST: For a **rezoning** of approximately 60.9 acres (parcel codes 138-25-593L, 138-25-593M, 138-25-593N, 138-25-593P, and 138-25-593Q) from the GR-1 (Rural Residential) to the CR-4 (Mixed-Dwelling Type) zone. The site is located on the east side of S. Cardinal Avenue, approximately 300 feet south of the intersection of W. Valencia Road and S. Cardinal Avenue.

OWNERS: Tucson School District No. 1
530 S. Norris Avenue
Tucson, AZ 85719

AGENT: Paradigm Land Design, LLC
Attn: Paul Oland
7090 N. Oracle Rd., #178-193
Tucson, AZ 85704

DISTRICT: 5

STAFF CONTACT: Terrill L. Tillman, AICP, Principal Planner

PUBLIC COMMENT TO DATE: As of August 16, 2022, staff has received one written protest to the request.

PLANNING & ZONING COMMISSION RECOMMENDATION: DENIAL 4 – 3 (Commissioners Becker, Hook and Maese voted NAY, Commissioners Hanna, Membrila and Truitt were absent)

STAFF RECOMMENDATION: APPROVAL SUBJECT TO STANDARD AND SPECIAL CONDITIONS

MAEVEEN MARIE BEHAN CONSERVATION LANDS SYSTEM DESIGNATIONS: The subject property is located outside the Maeveen Marie Behan Conservation Lands System (CLS).

TD/TT/ds
Attachments

PIMA COUNTY
DEVELOPMENT SERVICES

BOARD OF SUPERVISORS MEMORANDUM

FOR SEPTEMBER 6, 2022 MEETING OF THE BOARD OF SUPERVISORS

TO: HONORABLE BOARD OF SUPERVISORS

FROM: Chris Poirier, Deputy Director Tom Drzazgowski
Public Works-Development Services Department-Planning Division

DATE: August 16, 2022

ADVERTISED ITEM FOR PUBLIC HEARING

REZONING

P22RZ00001 TUCSON SCHOOL DISTRICT NO. 1 – S. CARDINAL AVENUE REZONING

Tucson School District No. 1, represented by Paradigm Land Design, LLC, request a **rezoning** of approximately 60.9 acres (parcel codes 138-25-593L, 138-25-593M, 138-25-593N, 138-25-593P, and 138-25-593Q) from the GR-1 (Rural Residential) to the CR-4 (Mixed-Dwelling Type) zone. The site is located on the east side of S. Cardinal Avenue, approximately 300 feet south of the intersection of W. Valencia Road and S. Cardinal Avenue. The proposed rezoning conforms to the Pima County Comprehensive Plan which designates the property for Medium Low Intensity Urban. On motion, the Planning and Zoning Commission voted to recommend **DENIAL** 4 – 3 (Commissioners Hook, Becker and Maese voted NAY, Commissioners Hanna, Membrila and Truitt were absent). Staff recommends **APPROVAL SUBJECT TO STANDARD AND SPECIAL CONDITIONS**.
(District 5)

Planning and Zoning Commission Public Hearing Summary (June 29, 2022)

The public hearing was held virtually. Some commissioners were virtual while others attended through the telephonic option. Staff and the applicant attended and presented virtually.

Staff presented information from the staff report to the commission with a recommendation of approval subject to standard and special conditions. Subsequent to the public hearing, Tucson Airport Authority conditions #10A – D were added to require recordation of an avigation easement over the subject property and disclosure to property owners that their property is located within the Federal Aviation Administration Traffic Pattern Airspace. These conditions do not create a substantial change, nor affect the recommendation of the Planning and Zoning Commission or public comment.

A commissioner requested clarification as to whether the site contains radon gas or whether it

was in the area. Staff replied that the site itself does contain radon gas.
A commissioner questioned whether it was common to have recreation areas in retention/detention basins and if those are compatible uses. Staff replied that it is quite common and considered compatible uses. The commissioner questioned why the 31% natural open space and functional space weren't delineated differently. Staff replied that because there is no required Conservation Lands System mitigation and the development is avoiding the riparian area, the applicant need only demonstrate that the required 30% set-aside native plant preservation ordinance may be met.

The applicant further discussed the merits of the project.

A commissioner questioned whether the applicant had reached out to the Santa Cruz Lutheran Church which is surrounded by the site. The applicant responded that they had attended one of the neighborhood meetings and doesn't recall them expressing any concerns, as this is a potential for more parishioners.

The hearing was opened to the public.

Speaker #1 discussed that he lives on Westover Avenue and there are flooding issues in the area from the Valencia Wash that he has been complaining about for years. The flooding harmed his septic tank and he questions what will be done about the flooding and expressed concern related to flooding and traffic for the intersection of Mission Road and Valencia Road.

Speakers #2, #3, and #4 represented the San Xavier District and the San Xavier Allottees Association, who expressed concerns for flooding and the amount of traffic that will be generated from the site and the impact to the Mission Road and Valencia Road intersection. The discussion centered on the submitted Pima Association of Governments performance report included in staff's report. The speakers requested that the Commission deny the request and that the infrastructure to support new development be installed prior to allowing an increase in traffic.

Speaker #4 stated he has lived in the area for 12 to 13 years and, as a fireman paramedic, has responded to many water rescues in the area. He expressed concern for the flooding and the daily traffic on Valencia Road. He agreed with the previous speakers.

Speaker #5 discussed that he is in support of the request, that the development will increase adjacent property land value and he believes the drainage concerns will be adequately addressed by the developer. He stated that the traffic concerns are existing conditions that will be addressed with the infrastructure improvements to Valencia Road and other adjacent roads. He stated that there is a need for additional affordable housing and the site is surrounded by housing developments, and it makes sense to build homes on this site. He agreed that the infrastructure should be a priority but should not hold up a valid development.

Speaker #6 stated that she is the President of the Cardinal Neighborhood Association and a resident in the area. She stated concern that the growth and beautification of areas located west Cardinal Avenue towards the Casino becomes very nice and she feels her neighborhood has been ignored. The site to be developed would provide much-needed infrastructure with paths or sidewalks along Westover Avenue and Cardinal Avenue frontages and will address the drainage. She stated she is happy to go from house to house to get a petition to make sure the development gets started and believes the development will benefit the community.

Speaker #7 echoed his wife's comments (Speaker #6). He added that a community of homes would be better than the previously proposed bus barn and he believes he understands the

concerns for increased traffic and believes that the development will assist with fixing the problem. The applicant discussed the public comments at length and provided additional project details. He discussed the split traffic generation on both Westover Avenue and Cardinal Avenue to access Valencia Road, and that the traffic signal at Cardinal Avenue and Valencia Road provides safer movement. He further discussed that in the Tucson area, houses are built first and the infrastructure catches up through the use of the 2 million dollars that will be collected in impact fees for the development. He also discussed that the flooding will be reduced by 10% and believes the project will solve some of the existing issues.

The public hearing was closed.

A commissioner requested to hear from the Transportation Department regarding the proposed rezoning. Staff replied that Valencia Road is functioning over-capacity, however the applicant is making improvements that are identified within staff's report: when traffic delays are increased by 10% the applicant is required to lower the delay threshold to 10% or below. The applicant will be required to coordinate the timing and improvements with Pima County and the San Xavier District to determine what kind of improvements should be provided.

A commissioner asked about the phasing of the project. The applicant discussed that the build-out would be continuous over a period of a year and one-half to two years with no envisioned delay between the development of the north and the south halves of the site and the impact fees would collect a continuous stream of fees to remedy the traffic issues. The traffic would gradually build over the course of the build-out time.

A commissioner questioned whether there would be rental units. The applicant replied that rentals are one of the options, which aesthetically wouldn't look any different than a for-sale community. One benefit of rental units is that the architecture can be pre-selected by the developer for each house and it also guarantees that the common and recreation areas are much more tightly maintained because the management company rather than the homeowners' association manages the maintenance more frequently. It is also possible that any combination of ownership for the phased areas may exist.

A commissioner discussed that the site will be developed at some point, but the question is when and agreed that the necessary infrastructure improvements should be in place prior to rezoning approval that generates additional trips to Valencia Road.

Commissioner Gungle made a motion to recommend **DENIAL**; Commissioner Matter gave second.

Several commissioners discussed that there should be improvements planned before the project moves forward.

A commissioner discussed that it may not be the perfect project, but the is a housing crunch and has made it harder to find affordable housing and the commission is most likely to see something similar in the future for this site. The safety and traffic concerns are real, but with the current economic conditions there may not be many more large scale residential projects if current trends continue.

A commissioner discussed the larger concerns of having infrastructure in place to support the proposed development is part of the larger conversation and consideration as part of a more systematic approach to smart growth in the region.

A commissioner commented that the balance between housing growth and the needed infrastructure is limited by the county's current limited resources and the commission is basically saying that all the infrastructure problems must be solved before any more growth is allowed, which may be a valid approach, but will limit the areas in which the county that may grow.

The commission voted to recommend **DENIAL** of the rezoning 4-3 (Commissioners Becker, Hook and Maese voted NAY, Commissioners Hanna, Membrila and Truitt were absent).

Completion of the following requirements within five years from the date the rezoning request is approved by the Board of Supervisors:

1. There shall be no further lot splitting or subdividing of residential development without the written approval of the Board of Supervisors.
2. Transportation conditions:
   - A. A Traffic Impact Study (TIS) shall be submitted for review and approval by the Department of Transportation with the Tentative Plat submittal. The TIS shall incorporate in the analysis any nearby and recently approved rezoning projects and developments as determined by the Department of Transportation. Offsite improvements determined necessary as a result of the traffic impact study shall be provided by the property owner.
   - B. An ADA-accessible asphalt path or concrete sidewalk shall be provided, at least 5-wide, along the property's entire western property boundary within the Cardinal Avenue right-of-way providing access to the existing Sun Tran bus stop. The location of the path or sidewalk shall be determined at time of permitting.
   - C. An ADA-accessible asphalt path or concrete sidewalk shall be provided, at least 5-wide, along the property's entire eastern property boundary within the Westover Avenue right-of-way providing access to the neighboring subdivision and Walmart Neighborhood Market. The location of the path or sidewalk shall be determined at time of permitting.
3. Regional Flood Control District conditions:
   - A. Drainage infrastructure, bank protection and open space for drainage shall be maintained by the Homeowners' Association.
   - B. Drainage design shall not increase existing conditions water surface elevations and flow velocities at all property boundaries.
   - C. First flush retention shall be provided in Low Impact Development practices distributed throughout the site.
   - D. Encroachment into mapped Regulated Riparian Habitat and the FEMA floodplain not shown on the PDP is prohibited.
   - E. Impacts to Valencia Wash and the south offsite drainage infrastructure is prohibited.
   - F. At the time of development, the developer shall be required to select a combination of Water Conservation Measures from Table B such that the point total equals or exceeds 15 points and includes a combination of indoor and outdoor measures.
4. Regional Wastewater Reclamation conditions:
   - A. The owner(s) shall not construe any action by Pima County as a commitment to provide sewer service to any new development within the rezoning area until Pima County executes an agreement with the owner(s) to that effect.
   - B. The owner(s) shall obtain written documentation from the Pima County Regional Wastewater Reclamation Department (PCRWRD) that treatment and conveyance capacity is available for any new development within the rezoning area, no more than 90 days before submitting any tentative plat, development plan, preliminary sewer layout, sewer improvement plan, or request for building permit for review.

Should treatment and/or conveyance capacity not be available at that time, the owner shall enter into a written agreement addressing the option of funding, designing and constructing the necessary improvements to Pima County's public sewerage system at his or her sole expense or cooperatively with other affected parties. All such improvements shall be designed and constructed as directed by the PCRWRD.

C. The owner(s) shall time all new development within the rezoning area to coincide with the availability of treatment and conveyance capacity in the downstream public sewerage system.

D. The owner(s) shall connect all development within the rezoning area to Pima County's public sewer system at the location and in the manner specified by the PCRWRD in its capacity response letter and as specified by PCRWRD at the time of review of the tentative plat, development plan, preliminary sewer layout, sewer construction plan, or request for building permit.

E. The owner(s) shall fund, design and construct all off-site and on-site sewers necessary to serve the rezoning area, in the manner specified at the time of review of the tentative plat, development plan, preliminary sewer layout, sewer construction plan or request for building permit.

F. The owner(s) shall complete the construction of all necessary public and/or private sewerage facilities as required by all applicable agreements with Pima County and all applicable regulations, including the Clean Water Act and those promulgated by ADEQ, before treatment and conveyance capacity in the downstream public sewerage system will be permanently committed for any new development within the rezoning area.

5. Environmental Planning condition: Upon the effective date of the Ordinance, the owner(s)/developer(s) shall have a continuing responsibility to remove buffelgrass (*Pennisetum ciliare*) from the property. Acceptable methods of removal include chemical treatment, physical removal, or other known effective means of removal. This obligation also transfers to any future owners of property within the rezoning site; and Pima County may enforce this rezoning condition against the property owner.

6. Cultural Resources condition: In the event that human remains, including human skeletal remains, cremations, and/or ceremonial objects and funerary objects are found during excavation or construction, ground disturbing activities must cease in the immediate vicinity of the discovery. State laws ARS 41-865 and ARS 41-844, require that the Arizona State Museum be notified of the discovery at (520) 621-4795 so that cultural groups who claim cultural or religious affinity to them can make appropriate arrangements for the repatriation and reburial of the remains. The human remains will be removed from the site by a professional archaeologist pending consultation and review by the Arizona State Museum and the concerned cultural groups.

7. Adherence to the preliminary development plan as approved at public hearing.

8. Radon resistant construction techniques must be used and shall comply with Appendix F of the 2018 International Residential Code (IRC).

9. A Disclosure to all purchasers of any lot within the subdivision shall be made at the time of purchase that radon gas exists on the lot and exposure may cause physical harm. This condition shall also be printed on each building permit issued by Pima County.

10. <u>Tucson Airport Authority conditions:</u>

<u>A. An Avigation Easement must be executed and recorded with the Pima County Recorder's Office, by the property owner/developer/applicant or other person authorized to sign on behalf of the current property owner, to cover the entire project area and in accordance with the requirement of the Tucson Airport Authority. The Avigation Easement must run with the property and will serve to educate future purchasers and tenants of the property of potential aviation impacts.</u>

B. According to the Federal Aviation Administration (FAA) Notice Criteria Tool, this project area is located in proximity to a navigation facility and could impact navigation signal reception. As the project site develops every project applicant must file FAA Form 7460 with the FAA at least 45 days before construction activities begin for every proposed project unless FAA staff, with the Obstruction Evaluation / Airport Airspace Analysis (OE/AAA), provides the project applicant with written communication that filing FAA Form 7460 is not required. It is highly recommended that the applicant file earlier than 45 days to provide the applicant with sufficient time to respond to any concerns which are identified by the FAA. Any cranes which are used must also be identified with Form 7460. Please file Form 7460 at https://oeaaa.faa.gov/oeaaa/external/portal.jsp

C. Applicable to residential uses only: The property owner/developer/applicant must provide the Airport Disclosure Statement form, at time of sale, to the new property owners with all new unit purchases. In the event the development of any residential uses does not involve the sale of new units, but is instead offering rental residential units to the public, the new tenant of the rental unit must be provided a copy of the Airport Disclosure Statement form. The intent of the Airport Disclosure Statement form is to educate and notify the new residents that they are living near an airport. The content of such documents shall be according to the form and instructions provided.

D. The property owner (for itself or its tenants) must forward a signed copy of the Airport Disclosure Statement form to the Tucson Airport Authority within ten (10) days of signature, using the mailing address provided below.

Scott Robidoux, Manager of Planning
Tucson Airport Authority
7250 South Tucson Boulevard, Suite 300
Tucson, AZ 85756

~~10.~~11. In the event the subject property is annexed, the property owner shall adhere to all applicable rezoning conditions, including, but not limited to, development conditions which require financial contributions to, or construction of infrastructure, including without limitation, transportation, flood control, or sewer facilities.

~~11.~~12. The property owner shall execute the following disclaimer regarding the Private Property Rights Protection Act: "Property Owner acknowledges that neither the rezoning of the Property nor the conditions of rezoning give Property Owner any rights, claims or causes of action under the Private Property Rights Protection Act (Arizona Revised Statutes Title 12, chapter 8, article 2.1). To the extent that the rezoning or conditions of rezoning may be construed to give Property Owner any rights or claims under the Private Property Rights Protection Act, Property Owner hereby waives any and all such rights and/or claims pursuant to A.R.S. § 12-1134(I)."

TD/TT/ds
Attachments

c: Paul Oland, Paradigm Land Design, LLC

Property Data

1.	Property Area:	60.9± Ac.
2.	Assessor Parcel(s):	138-25-593C
3.	Existing Zoning:	GR-1 (Pima Co.)
4.	Existing Comp Plan:	Medium-Low Intensity Urban, 2.5-5.0 Homes per Acre
5.	Existing C.L.S.:	None
6.	Existing Riparian:	Xeroriparian 'B' Along Southern Edge of Site

Proposal Summary

1.	Zoning:		CR-4	
2.	Lots:		273	
3.	Lot Size:		40' x 120'	
4.	Phasing:			
	Phase	Area	40'x120's	Rec. Area
	Ph.1	30.7± Ac.	145	4.26± Ac.
	Ph. 2	30.2± Ac.	128	1.69± Ac.
		60.9± Ac.	273	5.95± Ac. (949 Sq. Ft / Lot)
5.	Gross Density:		4.5 Homes per Acre	

Valencia Rd.
("Major, Scenic" Roadway; 200' R.O.W.)

Walmart

Schematic Basin Locations (Typ.)

Drainageway

Barrel Dr.

100-Year Floodplain

Install New Bus Pull-Out

Rec Area ≥4.26± Ac.

Pincushion Ln.

20' Landscape Bufferyard 'C'

Subject Property Boundary

Calle Canario

Paseo de las Aves

Calle Pajarito

Install New Bus Pull-Out

Via Cuervo

Santa Cruz Lutheran Church

Qwest

Rec Area 1.69± Ac.

Emergency Access & Trail Connection

Xeroriparian 'B'

Ebonee Marie Moody Park

Trail Connection to Park

Tucker St.

Terry Ln.

Christopher Dr.

Cardinal Ave.
("Major" Roadway; 80' R.O.W.)

Calle del Rosita

Calle del Tigre

Drainageway / Utility Corridor

Vereda de la Tierra

Vereda Roja

Vereda Verde

Vereda Azul

Vereda Opalo

Vereda Amarillo

20' Landscape Bufferyard 'C'

Vereda de la Arboles

Vereda de Gente

Westover Ave.

On 1/4/22 PCDOT App'd. an SDSS Waiver not to Continue these Streets into the Project

Vereda de la Manana

Vereda de las Nubes

Vereda Sombria

Min 20' Landscape Bufferyard 'C' & Drainage

Trail Connection to Existing Path Leading to Utility Corridor Trail

1" = 300'
2/28/22 N 19ayd01

PARADIGM LAND DESIGN LLC

Exhibit III-B-2
Preliminary Development Plan

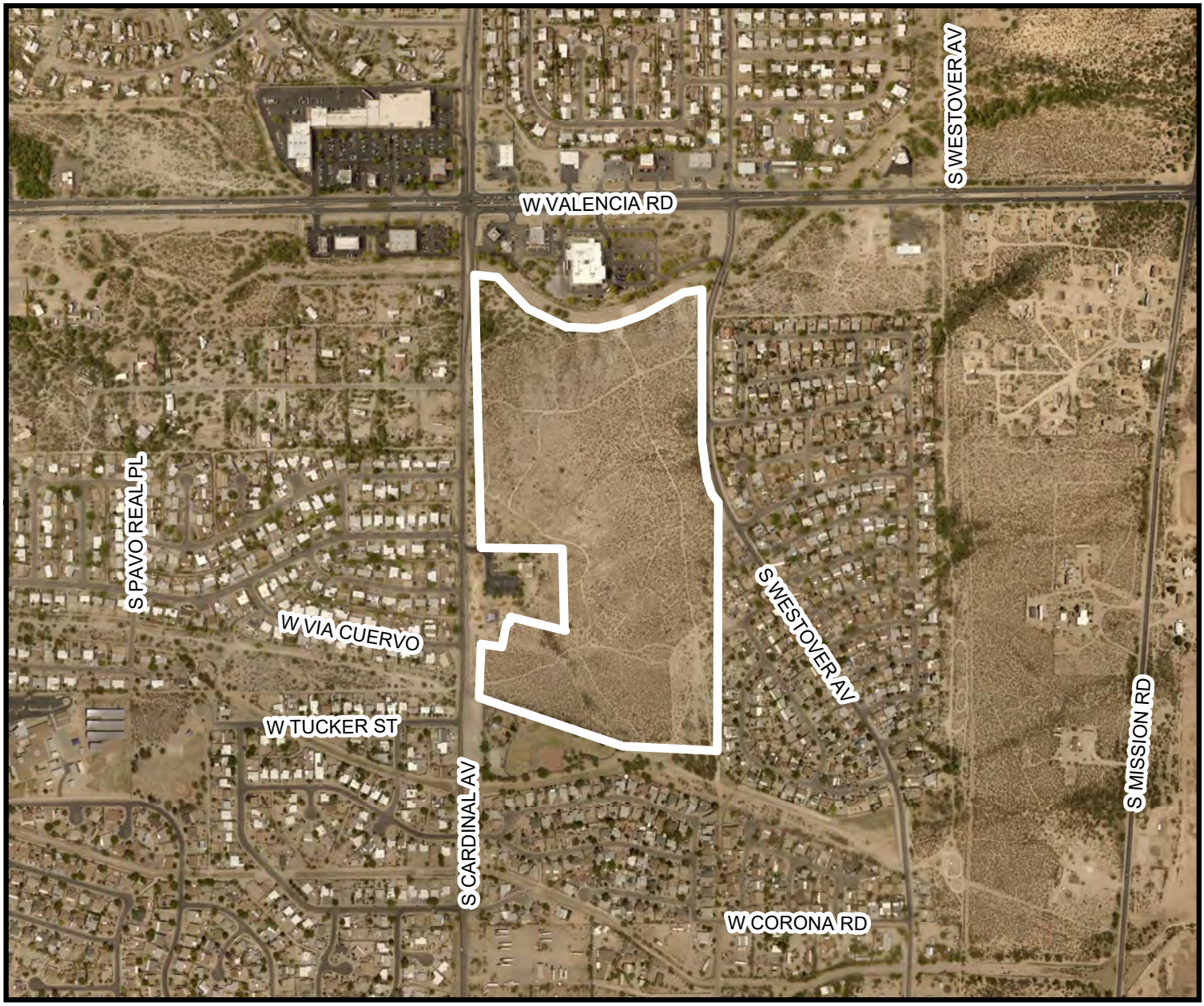
"G:\Projects\19ay Redford Estates\d01 Rezoning\0230\Site Analysis\Exhibits\Exh III-B-2 PDP.dwg"

Case #: P22RZ00001

Case Name: TUCSON SCHOOL DISTRICT NO. 1 - S. CARDINAL AVENUE REZONING

Tax Code(s): 138-25-593L, 593M, 593N, 593P & 593Q

AERIAL EXHIBIT



0 360 720 1,440 Feet

PIMA COUNTY DEVELOPMENT SERVICES DEPARTMENT
PLANNING DIVISION

PIMA COUNTY
DEVELOPMENT SERVICES

Notes:

PIMA COUNTY COMPREHENSIVE PLAN CO7-13-10

Map Scale: 1:10,000

Map Date: 6/2/2022 - ds

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PIMA COUNTY DEVELOPMENT SERVICES DEPARTMENT - PLANNING DIVISION
STAFF REPORT TO THE PLANNING AND ZONING COMMISSION

HEARING June 29, 2022

DISTRICT 5

CASE P22RZ00001 Tucson School District No. 1 - S. Cardinal Avenue Rezoning

REQUEST Rezone 60.9 acres from GR-1 (Rural Residential) to the CR-4 (Mixed-Dwelling Type) zone

OWNER Tucson School District No. 1
530 S. Norris Avenue
Tucson, AZ 85719

APPLICANT Paradigm Land Design, LLC
Paul Oland
7090 N. Oracle Rd., #178-193
Tucson, AZ 85704

APPLICANT'S PROPOSED USE
The applicant proposes a 273-lot, single-family residential subdivision with one and two-story houses on approximately 60.9 acres with 31% of natural and functional open space. The rezoning site comprises 5 parcels of land.

APPLICANT'S STATED REASON
The proposed use will "provide much needed high-quality, single-family detached homes for new residents wishing to live in the southwest Tucson metropolitan area; provide lot sizes meeting market demand for moderate-income families; provide additional recreational opportunities in the part of Pima County."

STAFF REPORT SUMMARY
The Development Services Department recommendation is **APPROVAL SUBJECT TO STANDARD AND SPECIAL CONDITIONS**. The applicant proposes an infill rezoning to the CR-4 (Mixed-Dwelling Type) zone for a 273-lot subdivision developed in accordance with radon-resistant construction. The proposal conforms to the sites Medium Low Intensity Urban comprehensive plan land use designation. The property is located within the Southwest Focused Development Investment Area (FDIA) which promotes the efficient expansion of infrastructure and supports rational patterns of land development. Approximately 19-acres or 31% of the site will be retained as natural and functional open space.

PUBLIC COMMENT
As of the writing of this staff report, staff has not received any public comments.

Published and mailed notice of the proposal along with the website posting of staff's report will occur a minimum of fifteen days prior to public hearing. The website will be updated to include public comment throughout the process to the Planning and Zoning Commission and the Board of Supervisors.

of Supervisors.

COMPREHENSIVE PLAN

The subject site's comprehensive plan land use designation is Medium Low Intensity Urban (MLIU). The objective of the MLIU planned land use is to designate areas for a mix of medium density single-family and lower density attached dwelling units and to provide opportunities for a mix of housing types throughout the region. The proposed 4.5 residences per acre (RAC) conforms to the MLIU land use plan that allows for a range of 2.5 RAC up to a maximum 5.0 RAC.

Special area policy S-29 (Southwest Infrastructure Plan Area - SWIP) applies to the site and guides the needs, obligations, funding, and provision of infrastructure and services related to transportation, flood control, wastewater, parks and recreation, and other governmental facilities. Transportation rezoning conditions #2A-C have been added in relationship to the guiding SWIP policy because additional transportation infrastructure to support the use will be necessary. Flood control has also evaluated the site analysis to ensure that the SWIP policies will be employed through the installation and management of drainage infrastructure.

SURROUNDING LAND USES/GENERAL CHARACTER

North:	GR-1/CB-1	Drainage Channel/Walmart/Restaurant/Gas Station/Vacant Commercial
South:	CR-4	Ebonee Marie Moody Park/Drainage Channel/Developed Residential Subdivision
East:	CR-4	Developed Residential Subdivision
West:	GR-1/CR-3	Church/Developed Residential Subdivisions

The general area contains a mix of medium to high density residential subdivisions Properties surrounding the rezoning request are single-family residential dwellings within subdivisions that contain equivalent densities as the proposed except for the lower density residential subdivision to the northwestern corner of the site and further south. The nearest grocery, restaurant and gas station are due north of the subject site. A church is adjacent to the site on the western boundary, approximately 500 feet north of the southwestern corner. Additional grocery, banking, medical, multiple restaurants and personal services exist approximately 600 feet to the north and northwest of the site along the Valencia Road thoroughfare. Two elementary schools are within one mile of the property. Recreational opportunities exist within two parks, one adjacent to the site and the other approximately one-third of a mile to the east.

PREVIOUS REZONING CASES ON PROPERTY

The 60.9-acre subject site was part of a larger 96 acre rezoning in 1983 by case Co9-83-155 from the GR-1 (Rural Residential) to the CR-4 (Mixed-Dwelling Type) zone approved April 17, 1984. The rezoning included the approximately 30-acre developed, CR-4 zoned Salida del Sol V Subdivision directly south of the site. The ownership of the remaining 66-acres received two time extensions for a total of three years, expiring on April 17, 1991 subject to radon gas disclosures and signed statements from potential buyers acknowledging the radon gas situation that was discovered and disclosed to Pima County around April of 1987. At the time, a moratorium was placed on the development of the properties containing radon gas and the moratorium was subsequently lifted; however, no further time extensions were applied for and the case was closed by the Board of Supervisors reverting back to its original GR-1 zoning on July 16, 1991.

PREVIOUS REZONING CASES IN GENERAL AREA

Recent activity:

- The Belnor Vista Specific Plan, case P20SP00001 was approved by the Board of Supervisors on June 22, 2021 for an approximately 125-acre, mixed-use development

with potential office, restaurant, commercial services and single and multi-family housing located approximately three fourths of a mile west of the subject site.

- Case P16RZ00010 located at the southwest corner of S. Valencia Road and S. Westover Avenue, due northeast of the site was approved by the Board of Supervisors on November 22, 2016 for a fast food restaurant on .91 acres.
- Case P22RZ00004 located approximately three fourths of a mile west of the subject site on the north side of W. Valencia Road, across the street from Belnor Vista, is scheduled to be heard by the commission for a 143-lot subdivision on approximately 38-acres.

Past activity:
Most of the properties along the Valencia Road thoroughfare were rezoned in the 1960's from the GR-1 zoning to the CB-1 (Local Business) and are developed commercially. Most of the surrounding area (not adjacent to Valencia Road) was rezoned beginning in the 70's through the early 80's from the old GR (Rural Residential) and GR-1 zones to the CR-3 (Single Residence) and CR-4 zones. Most of the residential rezonings resulted in subdivision plats providing adequate infrastructure in the general area.

MAEVEEN MARIE BEHAN CONSERVATION LANDS SYSTEM (CLS)

The subject site is located outside the Maeveen Marie Behan Conservation Lands System.

PLANNING REPORT

Staff supports the request because the Comprehensive Plan, Pima Prospers, promotes efficient growth patterns and infill development. The subject rezoning area is designated by Pima Prospers as a Focused Development Investment Area (Southwest) which encourages growth that makes automobile, transit and other multi-modal circulation more efficient. The development will provide additional street, walking paths adjacent to Cardinal Avenue and Westover Road frontages and Sun Tran bus connectivity increasing usage of existing multi-modal forms of transportation. The rezoning site is considered an "infill" project that will utilize existing and proposed infrastructure to support the use. The proposed development will provide a rational pattern of growth compatible with the area's scale, character and identity and will contribute to the efficient use of existing infrastructure. Although supported by the above comments, staff has concerns regarding the subject site's potential to cause harm due to the existence of Radon Gas.

Radon gas can be found all over the United States. Radon gas is the second leading cause of lung cancer in the United States, only smoking causes more lung cancer deaths. Radon is a naturally-occurring radioactive gas that is inert, colorless, odorless and naturally in the atmosphere in trace amounts. Radon comes from the natural (radioactive) breakdown of uranium in soil, rock and water and gets into the air you breathe. Outdoors, radon disperses rapidly and generally, is not a health issue. Most radon exposure occurs inside homes, schools and workplaces. Radon gas becomes trapped indoors after it enters buildings through cracks and other holes in the foundation. Indoor radon can be controlled and managed with proven, cost-effective techniques. Radon-resistant construction techniques can be effective in preventing radon entry and may reduce radon levels to below the Environmental Protection Agency (EPA) recommended 4 picocuries per liter. The existence of Radon gas requiring mitigation is limited in the State of Arizona, however, commonly occurs across the United States (see the EPA Map of Radon Zones attached). Radon gas is mitigated through radon-resistant construction. A citizen's guide to radon provided by the EPA is attached. [1] To ensure compliance with radon-resistant construction, staff recommends rezoning condition #8 and also recommends rezoning condition #9 to ensure disclosure of radon gas to potential buyers.

The proposed one- and two-story single-family residential development consists of 273-subdivision lots containing 4,800 square feet each. The development is planned for two phases.

Phase 1 will include 145-lots, a 4.26 acre recreational area in the northwest portion of the site and Phase II plans for an additional 128 lots with 1.69 acres of recreation area in the southeastern portion of the site. The property is relatively flat and contains 3.9-acres of Xeroriparian B habitat along the southern boundary of the site which will remain natural, except for a path near the southwestern corner of the site that will connect to the Ebonee Marie Moody Park and the Gas Pipeline Trail adjacent to the site along the southern boundary. A total of 31% of the site will be set aside as functional or natural open space which includes the recreational areas, bufferyards, and the natural Xeroriparian area. A 20-foot-wide bufferyard "C" is planned around the perimeter of the site. The site contains mostly Sonoran Desert Scrub vegetation with a relatively dense populations of creosote bush. There are no saguaros, Pima pineapple, nor ironwood trees on site. Any salvageable vegetation will be used within the perimeter bufferyard. A native plant preservation plan will be submitted with the subdivision plat.

The site will be accessed by two access points from Cardinal Avenue and two access points from Westover Avenue. This infill development supports walkable scaled services for its residents to grocery, banking, pharmacy and personal services along with recreational opportunities in the park adjacent to the site in the southeastern corner and connectivity to the Gas Pipeline Trail. Safe Routes to School is employed within the interior and adjacent rights-of-way to the development meeting Americans with Disabilities Act (ADA) compliant sidewalk connectivity and paved paths or sidewalks along the Cardinal Avenue and Westover Road frontages. Two retention/detention basins are planned within the recreational areas of the site.

Two Sun Tran paved bus pullouts with concrete pads will be installed with this development. The two unimproved bus stops currently exist on the east side of Cardinal Avenue at the northeast corner of W. Pincushion Lane and Cardinal Avenue and at the southeast corner of Calle Pajarito and Cardinal Avenue. Additional Sun Tran bus stops exist within one-quarter mile of the subject site and service is provided for the Valencia Road bus route.

Concurrency of Infrastructure:
Concurrency of infrastructure exists or will exist to serve the proposed development.

CONCURRENCY CONSIDERATIONS		
Department/Agency	*Concurrency Considerations Met: Yes / No / NA*	*Other Comments*
TRANSPORTATION	Yes	Secondary Concern, subject to conditions
FLOOD CONTROL	Yes	No objection, subject to conditions
WASTEWATER	Yes	No objection, subject to conditions
PARKS AND RECREATION	Yes	No objection
WATER	Yes	City of Tucson Water "will serve" letter contained within site analysis

CONCURRENCY CONSIDERATIONS		
SCHOOLS	Yes, subject to a private contribution agreement	Letter of Capacity contained in Site Analysis. Cholla High is functioning over capacity.

TRANSPORTATION

The proposed rezoning is located approximately 350 feet south of Valencia Road, between Cardinal Avenue and Westover Avenue in an undeveloped area bounded by residential developments to the west, south and east, and Walmart Neighborhood Market and commercial developments along Valencia Road to the north. The Valencia Wash separates the project site from Valencia Road businesses. Four connection points are proposed, two on Cardinal Avenue and two on Westover Avenue. Two short local streets dead end at the east property boundary. The Subdivision and Development Street Standards (SDSS) requires roadway connections to these local streets, but the applicant obtained a modification of this requirement in December of 2021.

Valencia Road is a paved, four-lane divided roadway with a two-way left-turn lane and sidewalk mainly on the south side of the road. Valencia Road in this area is maintained by the county and has a posted speed limit of 45 miles per hour (mph). Valencia Road transitions to a six-lane roadway east of Mission Road, which is maintained by the City of Tucson. Valencia Road is a scenic route and classified as a Minor Arterial by its Federal Functional Classification. West of Cardinal Avenue, the traffic count is 34,352 average daily trips (ADT) and east of the project site, the traffic count is 36,493 ADT. Valencia Road has an approximate traffic capacity of 35,820 ADT.

Cardinal Avenue is a paved, two-lane roadway maintained by the county with a posted speed limit of 35 mph. Cardinal Avenue is classified as an Urban Major Collector by its Federal Functional Classification. Adjacent to the site, the traffic count is 7,507 ADT with an approximate capacity of 10,360 ADT. Cardinal Avenue is a bus route with 30-minute service to the Laos Transit Center and central Tucson, but there are no paved shoulders, and no bicycle or pedestrian facilities. Therefore, an ADA-accessible asphalt path or concrete sidewalk shall be provided, at least 5-wide, along the property's entire Cardinal Avenue frontage. The location and design of the path shall be determined at time of permitting. (See rezoning condition #2B)

Westover Avenue is a paved two-lane roadway maintained by the county with a posted speed limit of 25 mph. Westover Avenue is classified as an Urban Minor Collector by its Federal Functional Classification. Adjacent to the site, the traffic count is 2,693 ADT with an approximate capacity of 10,360 ADT. There are no paved shoulders or bicycle facilities. Therefore, an ADA-accessible asphalt path or concrete sidewalk shall be provided, at least 5-wide, along the property's entire eastern property boundary within the Westover Avenue right-of-way providing access to the neighboring subdivision and Walmart Neighborhood Market. The location and design of the path shall be determined at time of permitting. (See rezoning condition #2C)

The 269 residential lot subdivision will generate approximately 2,537 ADT. The traffic impact study (TIS) analyzed existing and future traffic conditions of the surrounding street network. The TIS also recommends off-site improvements as a result of this proposed rezoning and are described below.

The TIS identifies that this project triggers the warrant for a dedicated eastbound right-turn lane on Valencia Road at the Cardinal Avenue intersection. The TIS does not recommend this turn

lane be constructed due to the presence of a large transmission tower, a culvert along the west side of Cardinal Avenue and other physical infrastructure that may affect the construction of the turn lane and add cost to the project. Staff acknowledges these conditions, however the owner/developer shall exhaust all efforts to design and construct the turn lane or provide any other mitigation improvements agreed to by the Department of Transportation.

The TIS also identifies that some of the northbound and southbound intersection turning movements of the Valencia Road and Westover Avenue intersection are currently functioning below an adequate level of service (LOS). The LOS is a qualitative description of how well a roadway or intersection operates under prevailing traffic conditions. The aforementioned turning movements operate at LOS F, but the acceptable Pima County intersection turning movements is LOS E. Based on the analysis, the project will increase turning movement delays more than 10%. The Subdivision and Development Street Standards (SDSS) indicates that if the performance of the existing intersection is already below the LOS E threshold and if the delay is increased by 10% more than the existing, mitigation measures must be taken to decrease the delay back to the 10% or less threshold. The study identifies that a traffic signal may be warranted by the opening year, but recommends the traffic signal be constructed by the County given it may be warranted without the project. The intersection is approximately 1/4 mile from the Valencia Road and Cardinal Road intersection. Given the poor performance of the intersection and additional trips from the project, the owner/developer shall coordinate with the Department of Transportation on any required mitigation and intersection improvements.

The Valencia Road and Mission Road intersection analysis was also included in the TIS. The intersection right-of-way belongs to the San Xavier District of Tohono O'odham Nation but the County maintains the intersection through an Intergovernmental Agreement (IGA). The IGA recitals indicate that the County can perform work beyond routine maintenance, such as modifying roadway traffic needs as necessary. The project peak hour trips will impact some of the southbound, eastbound and westbound intersection turning movements to drop in level of service to E or F. Given the impact the development has on this intersection the applicant shall coordinate with Pima County Department of Transportation and the San Xavier District on any required mitigation and intersection improvements.

As indicated above, Valencia Road is currently at the capacity of a 4-lane divided roadway and above capacity immediately east of this project. Pima County has included the widening of Valencia Road from four lanes to six lanes, from Cardinal Avenue to Mission Road in the current infrastructure improvement plan (IIP). Staff acknowledges that this project is located within a developing urban area, along a bus transit route, and is an infill project not located in an environmentally sensitive area. Therefore this project can be identified as a secondary transportation concurrency concern and the Department of Transportation recommends approval subject to rezoning conditions #2A - C.

FLOOD CONTROL

The Regional Flood Control District has the following comments:

1. This property is impacted by Flood Control Resource Area (FCRA) located along the north and south boundary of the project. The project has shown no impact to the FCRA.
2. The north side of the project is impacted by a FEMA Special Flood Hazard Area Zone AE associated with Valencia Wash. The floodplain within this area was recently revised due to a Letter of Map Revision with an effective date of January 24th, 2014. Valencia Wash has an associated 100' erosion hazard setback. The project shows proposed improvements are not encroaching into this area.
3. Located at the south side of the project is 3.5 acres of Regulated Riparian Habitat (RRH) classified as Xeroriparian Class B Habitat and the project is avoiding impacts to the RRH. The

Preliminary Grading Plan shows the RRH to remain undisturbed except for one roadway crossing.

4. Clarification has been provided that the Existing and Proposed Onsite Hydrology Exhibits show the floodplain "Revised Limits" note is due to the LOMR with the effective date of January 24, 2014.
5. The Proposed Onsite Hydrology Exhibit II C-2 demonstrates the direction of drainage for proposed conditions. The direction of drainage is entering the basins, the avoided RRH area and exiting the project.
6. This Site Analysis Section D Proposed Hydrology addresses a 10% reduction in the pre-developed peak discharge exiting the site is required due to being located within a Critical Basin.
7. South of the project there is an offsite platted floodplain with an associated erosion hazard setback of 50'. The plat shows a drainageway dedicated to Pima County. The floodplain is a drainageway and two online basins, which are currently maintained by the District. The Proposed Onsite Hydrology Exhibit II C-2 shows the existing flow arrow directed into the District maintained online basin. The Site Analysis provides discussion stating there will be no impact to District maintained online basins.
8. This site has an assured water supply by Tucson Water. The Site Analysis Appendix B has provided the Water Conservation Measures that will be applied to this project. A condition will be provided to ensure compliance with the Water Policy of the Comprehensive Plan.

The District has no objection subject to the addition of rezoning conditions #3A-H.

WASTEWATER RECLAMATION

Sewer service is available in the existing 8" sewer main S-469-002 in Cardinal Ave, downstream from manholes 8149-09 and 8149-07 (Type I 2019-287, Type I 2019-288, dated December 5, 2019), and in the 8" sewer main G-87-165, downstream from manhole 4943-02 (Type I 2019-289, dated December 5, 2019). Allocation of capacity is made by the Type III Capacity Response.

The PCRWRD has no objection to the proposed rezoning request subject to the addition of rezoning conditions #4A-F.

ENVIRONMENTAL PLANNING

Environmental Planning has no objection subject to rezoning condition #5.

CULTURAL RESOURCES

Cultural Resources has no objection to this request subject to the addition of condition #6.

NATURAL RESOURCES, PARKS AND RECREATION

The Natural Resources, Parks and Recreation Department has no objection to this request.

PASQUA YAQUI TRIBAL AUTHORITY (PYT)

- Although the site is approximately 3 miles away from the PYT reservation, overall drainage is inter-connected between the County, San Xavier District, and the PYT in this region and recommend that the flows stay controlled with no spill over to outside areas.
- The namesake of the adjacent park was denied on Cardinal Avenue. There were conversations several years ago about improving the site distance for a driver who is heading south and approaching the hill right before the park. With this new development, we imagine that there will be improved transportation safety measures and amenities with increased homes and traffic.

- We are uncertain which elementary school would serve the development, but the neighborhood to the west has an elementary school and access to the school would be a concern.

TOHONO O'ODAM NATION, SAN XAVIER DISTRICT

Stormwater Discharge

All of the reassurance we were provided were in regards to the impact this development would have on floodwaters coming onto to the District. We were pleased to be informed Pima County would oversee the guarantee that the parcel would discharge 10% less floodwater upon full site development. I have attached a map which illustrates the necessity of this being adhered to if the development is to move forward. There is a 40-50 foot elevation drop from the proposed 61-acre development site in Pima County to the homes within San Xavier District. The site situation reflects that the majority of stormwater discharge is directed right toward San Xavier District, as can be seen in the attached map.

Traffic Impact to Valencia & Mission Intersection

The biggest concern we have and has yet to be spoken to, is the major traffic impact this development will have on the Valencia & Mission Road intersection. This intersection is documented by *Pima Association of Governments* to be one of the most vulnerable intersections within the city. At peak hours, the traffic has an alarming back-up span; in addition, our TOPD data reflects immense amount of accidents at this site. The traffic study provided by Paradigm is focused on the intersection of Valencia at Cardinal, and also Westover. Westover Intersection is not a true intersection, however. There are no lights, and vehicles infrequently make attempts to cross 4 lanes of traffic as it is challenging to do so during peak hours. Additionally, if one looks at aerial imagery of this location, the pattern of dirt debris on road reflects traffic making consistent right-hand turns from Westover to Valencia, and not going straight as opposed to the dirt debris pattern seen at the Cardinal and Mission intersection which clearly illustrates complete intersection movement. The two major intersections that would be impacted by this proposed 61 acre development would be Valencia & Cardinal and Valencia & Mission, and we urge *Pima County Planning & Zoning Commission*/*Pima County Board of Supervisors* to analyze and take into account the impact this would have at Valencia & Mission (which is the intersection that lies within San Xavier District boundaries) when considering this rezoning case. This very fragile intersection is at the point of max capacity until certain improvements have been made. We believe there would be an immediate and adverse difference in traffic flow that would affect Pima County and San Xavier District residence alike if improvements are not made to this intersection before allowing this magnitude of development. This change in the overall quality of life to residence in the area would create complaints not only in Pima County, but also within the San Xavier District. It is because of this, we would like to reiterate the need for Pima County to take all of this into consideration during the rezoning discussions.

UNITED STATES FISH AND WILDLIFE SERVICE

US Fish and Wildlife Service reported no concerns related to the subject site rezoning.

WATER DISTRICT

City of Tucson Water will provide service to the site. A will-serve letter is included within the site analysis.

SCHOOL DISTRICT

The Tucson Unified School District (TUSD) has capacity within Maldonando Elementary and Valencia Middle Schools. La Cholla High School is functioning over capacity and a voluntary agreement has been provided within the site analysis which may alleviate overcrowding.

FIRE DISTRICT

Drexel Heights Fire District has no objection to the rezoning.

IF THE DECISION IS MADE TO APPROVE THE REZONING, THE FOLLOWING STANDARD AND SPECIAL CONDITIONS SHOULD BE CONSIDERED**:**

Completion of the following requirements within five years from the date the rezoning request is approved by the Board of Supervisors:

1. There shall be no further lot splitting or subdividing of residential development without the written approval of the Board of Supervisors.
2. Transportation conditions:
   A. A Traffic Impact Study (TIS) shall be submitted for review and approval by the Department of Transportation with the Tentative Plat submittal. The TIS shall incorporate in the analysis any nearby and recently approved rezoning projects and developments as determined by the Department of Transportation. Offsite improvements determined necessary as a result of the traffic impact study shall be provided by the property owner.
   B. An ADA-accessible asphalt path or concrete sidewalk shall be provided, at least 5-wide, along the property's entire western property boundary within the Cardinal Avenue right-of-way providing access to the existing Sun Tran bus stop. The location of the path or sidewalk shall be determined at time of permitting.
   C. An ADA-accessible asphalt path or concrete sidewalk shall be provided, at least 5-wide, along the property's entire eastern property boundary within the Westover Avenue right-of-way providing access to the neighboring subdivision and Walmart Neighborhood Market. The location of the path or sidewalk shall be determined at time of permitting.
3. Regional Flood Control District conditions:
   A. Drainage infrastructure, bank protection and open space for drainage shall be maintained by the Homeowners' Association.
   B. Drainage design shall not increase existing conditions water surface elevations and flow velocities at all property boundaries.
   C. First flush retention shall be provided in Low Impact Development practices distributed throughout the site.
   D. Encroachment into mapped Regulated Riparian Habitat and the FEMA floodplain not shown on the PDP is prohibited.
   E. Impacts to Valencia Wash and the south offsite drainage infrastructure is prohibited.
   F. At the time of development, the developer shall be required to select a combination of Water Conservation Measures from Table B such that the point total equals or exceeds 15 points and includes a combination of indoor and outdoor measures.
4. Regional Wastewater Reclamation conditions:
   A. The owner(s) shall not construe any action by Pima County as a commitment to provide sewer service to any new development within the rezoning area until Pima County executes an agreement with the owner(s) to that effect.
   B. The owner(s) shall obtain written documentation from the Pima County Regional Wastewater Reclamation Department (PCRWRD) that treatment and conveyance capacity is available for any new development within the rezoning area, no more than 90 days before submitting any tentative plat, development plan, preliminary sewer layout, sewer improvement plan, or request for building permit for review.

Should treatment and/or conveyance capacity not be available at that time, the owner shall enter into a written agreement addressing the option of funding, designing and constructing the necessary improvements to Pima County's public sewerage system at his or her sole expense or cooperatively with other affected parties. All such improvements shall be designed and constructed as directed by the PCRWRD.

C. The owner(s) shall time all new development within the rezoning area to coincide with the availability of treatment and conveyance capacity in the downstream public sewerage system.

D. The owner(s) shall connect all development within the rezoning area to Pima County's public sewer system at the location and in the manner specified by the PCRWRD in its capacity response letter and as specified by PCRWRD at the time of review of the tentative plat, development plan, preliminary sewer layout, sewer construction plan, or request for building permit.

E. The owner(s) shall fund, design and construct all off-site and on-site sewers necessary to serve the rezoning area, in the manner specified at the time of review of the tentative plat, development plan, preliminary sewer layout, sewer construction plan or request for building permit.

F. The owner(s) shall complete the construction of all necessary public and/or private sewerage facilities as required by all applicable agreements with Pima County and all applicable regulations, including the Clean Water Act and those promulgated by ADEQ, before treatment and conveyance capacity in the downstream public sewerage system will be permanently committed for any new development within the rezoning area.

5. Environmental Planning condition: Upon the effective date of the Ordinance, the owner(s)/developer(s) shall have a continuing responsibility to remove buffelgrass (*Pennisetum ciliare*) from the property. Acceptable methods of removal include chemical treatment, physical removal, or other known effective means of removal. This obligation also transfers to any future owners of property within the rezoning site; and Pima County may enforce this rezoning condition against the property owner.
6. Cultural Resources condition: In the event that human remains, including human skeletal remains, cremations, and/or ceremonial objects and funerary objects are found during excavation or construction, ground disturbing activities must cease in the immediate vicinity of the discovery. State laws ARS 41-865 and ARS 41-844, require that the Arizona State Museum be notified of the discovery at (520) 621-4795 so that cultural groups who claim cultural or religious affinity to them can make appropriate arrangements for the repatriation and reburial of the remains. The human remains will be removed from the site by a professional archaeologist pending consultation and review by the Arizona State Museum and the concerned cultural groups.
7. Adherence to the preliminary development plan as approved at public hearing.
8. Radon resistant construction techniques must be used and shall comply with Appendix F of the 2018 International Residential Code (IRC).
9. A Disclosure to all purchasers of any lot within the subdivision shall be made at the time of purchase that radon gas exists on the lot and exposure may cause physical harm. This condition shall also be printed on each building permit issued by Pima County.
10. In the event the subject property is annexed, the property owner shall adhere to all applicable rezoning conditions, including, but not limited to, development conditions which require financial contributions to, or construction of infrastructure, including without limitation, transportation, flood control, or sewer facilities.
11. The property owner shall execute the following disclaimer regarding the Private Property Rights Protection Act: "Property Owner acknowledges that neither the rezoning of the Property nor the conditions of rezoning give Property Owner any rights, claims or causes of action under the Private Property Rights Protection Act (Arizona Revised Statutes Title

12, chapter 8, article 2.1). To the extent that the rezoning or conditions of rezoning may be construed to give Property Owner any rights or claims under the Private Property Rights Protection Act, Property Owner hereby waives any and all such rights and/or claims pursuant to A.R.S. § 12-1134(I)."

Respectfully Submitted,

Terrill Tillman, AICP
Principal Planner

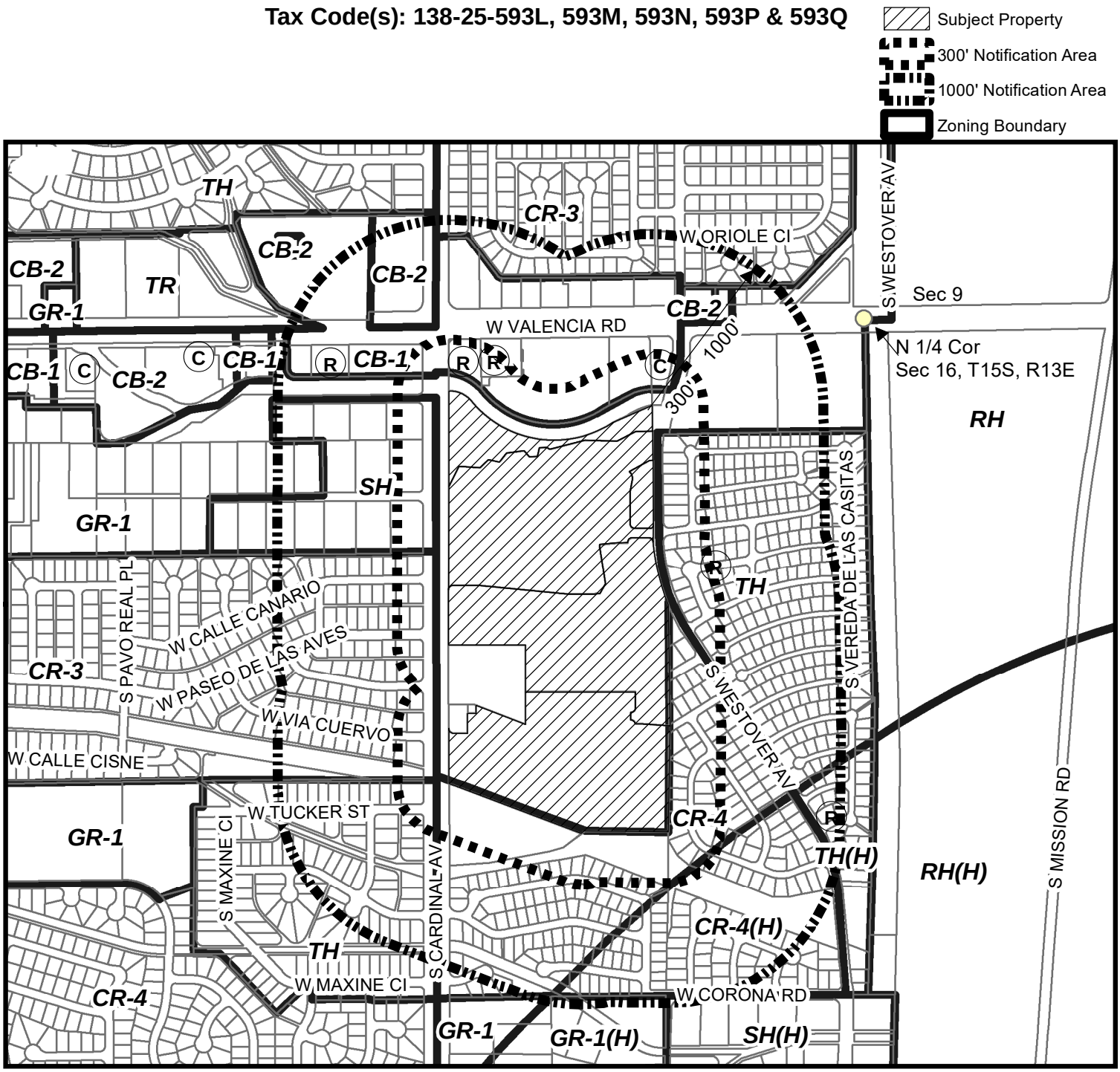
c: Paul Oland

[1] United States Environmental Protection Agency

Case #: P22RZ00001

Case Name: TUCSON SCHOOL DISTRICT NO. 1 - S. CARDINAL AVENUE REZONING

Tax Code(s): 138-25-593L, 593M, 593N, 593P & 593Q



Area of proposed rezoning from GR-1 to CR-4

PIMA COUNTY DEVELOPMENT SERVICES DEPARTMENT
PLANNING DIVISION

PIMA COUNTY DEVELOPMENT SERVICES

Notes:

PIMA COUNTY COMPREHENSIVE PLAN CO7-13-10

Planning & Zoning Hearing: 3/30/22 (scheduled)	**Board of Supervisors Hearing: TBA**
Base Map(s): 62	**Map Scale: 1:10,000** / **Map Date: 1/24/2022 - ds**

N W E S

Medium Low Intensity Urban (MLIU)

Objective: To designate areas for a mix of medium density single-family and lower density attached dwelling units; to provide opportunities for a mix of housing types throughout the region.

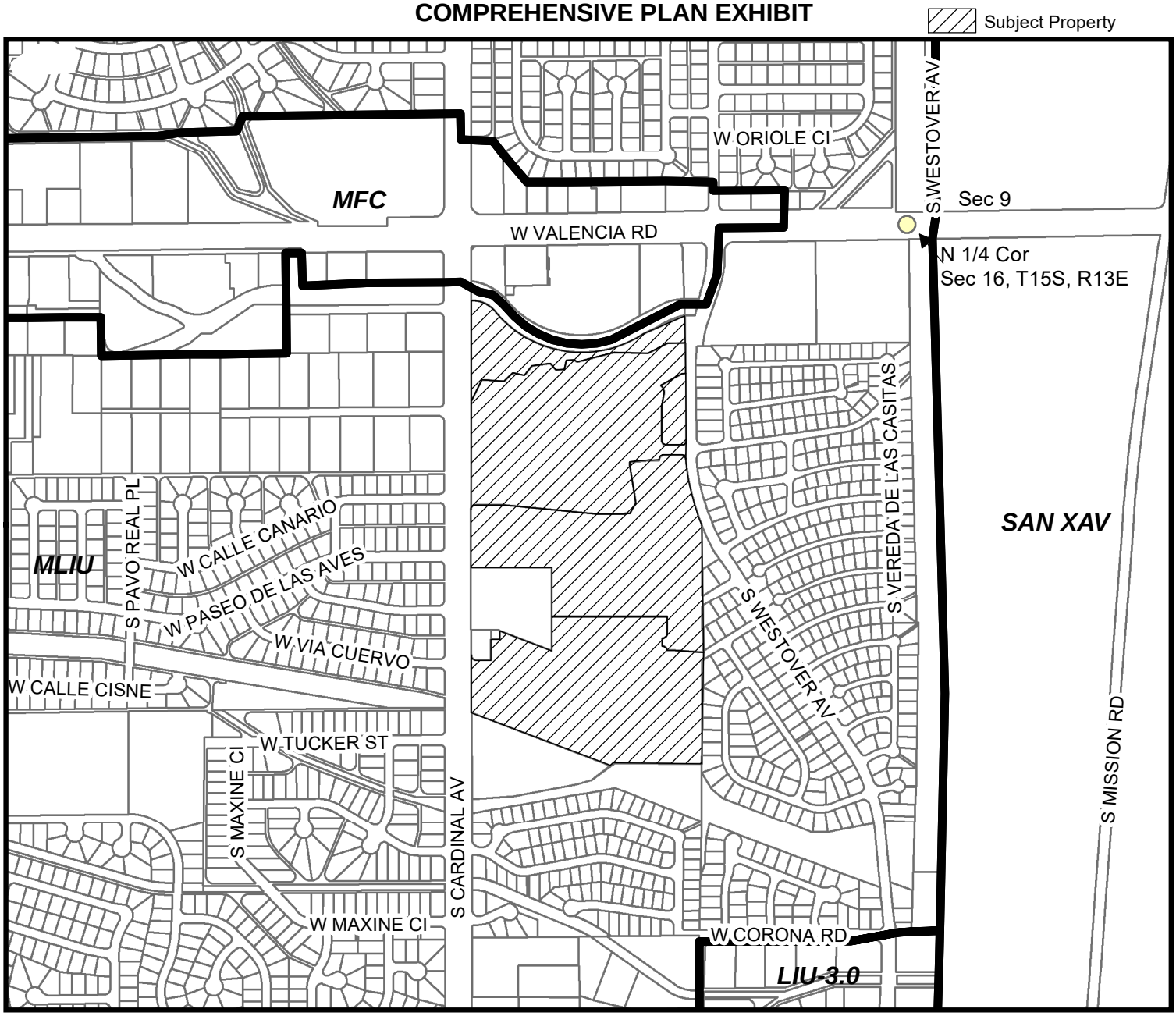
- Residential Gross Density: Minimum- 2.5 RAC; Maximum- 5 RAC
- Residential Gross Densities for TDR Receiving Areas: Minimum- 2.5 RAC; Maximum- 4 RAC

Case #: P22RZ00001

Case Name: TUCSON SCHOOL DISTRICT NO. 1 - S. CARDINAL AVENUE REZONING

Tax Code(s): 138-25-593L, 593M, 593N, 593P & 593Q

COMPREHENSIVE PLAN EXHIBIT



PIMA COUNTY DEVELOPMENT SERVICES DEPARTMENT
PLANNING DIVISION

PIMA COUNTY DEVELOPMENT SERVICES

Notes:

PIMA COUNTY COMPREHENSIVE PLAN CO7-13-10

Map Scale: 1:10,000

Map Date: 6/2/2022 - ds

N W E S

TUCSON UNIFIED
SCHOOL DISTRICT

Department of Engineering, Facilities and Planning
TUSD Planning Services – 2025 E Winsett Street Tucson, Arizona 85719
(520) 225-4767
(520) 225-4939 (fax)

To: **Ms. Terri Tillman, ACIP, Principal Planner**
Pima County Development Services
201 N. Stone Avenue, First Floor
Tucson, AZ 85701

From: **Shaun Brown**
District Planner

Date: **April 11, 2022**

Re: **Redford Estates Rezone Application**

Dear Ms. Tillman,

TUSD accepts the proposed rezoning and the developer have reached an agreement wherein the developer will make a contribution to mitigate the anticipated impacts of the development on TUSD's nearby schools. We very much appreciate the developer's willingness to work with the School District to address this need. For this reason and because the sale of the property will add to our plant fund, which is used to maintain schools, the School District accepts the proposed rezoning.

Sincerely,

Shaun Brown
District Planner

Additional information received from the Tohono O'Odam Nation, San Xavier District

From:	John Baskett
To:	Terri Tillman
Cc:	David Takaki; Joseph Godoy; Austin Nunez; Sandi Alvarez; Pugh, Mark C.; Ben Standifer Jr.; gpo@paradigmland.us
Subject:	RE: Redford Estates Proposal-Cardinal/Valencia Rd. P22RZ00001
Date:	Wednesday, May 25, 2022 11:59:51 AM
Attachments:	Mission-Valencia_FacilityReport.docx

Good afternoon, Terri,

We have read over your staff report and would like to thank you for taking into account the effects such an immediate increase in population and traffic could potentially create for this fragile corridor. I additionally have attached a report which details multiple factors at the intersection of Mission and Valencia. It shows the current Level of Safety Service (LOSS) at 3 (the 2nd worst rating) and the system performance LOS at D (or E/F depending on the metrics looked at). Future performance under no build conditions shows severely congested. This arterial intersection will be the major hub handling the traffic exchange from the proposed community, not the crossing at Westover which turns into the side-road of Hildreth Avenue (which is not truly an intersection).

Thanks again for all of your help, and I would just like to ask when the Planning Commission hearing is scheduled for regarding this rezoning?

I look forward to hearing back from you, have a great rest of the day.

Sincerely,

John R. Baskett
Principal Planner

San Xavier District
2018 W. San Xavier Rd.
Tucson, AZ 85746
(520) 573-4075
jbaskett@waknet.org

From: Terri Tillman <Terri.Tillman@pima.gov>
Sent: Tuesday, May 24, 2022 11:30 AM
To: John Baskett <jbaskett@waknet.org>
Cc: David Takaki <David.Takaki@pima.gov>; Joseph Godoy <Joseph.Godoy@pima.gov>; Paul Oland <gpo@ParadigmLand.us>
Subject: Redford Estates Proposal-Cardinal/Valencia Rd. P22RZ00001

John,
Thank you for all of your input on this project as it is helpful when we are able to understand and have open dialogue about the potential impacts with all stakeholders in our process. Transportation has considered the tribal concerns as well as jurisdictional standards within their report and have added infrastructure requirements to help alleviate the impacts specifically related to the proposed development. If you have any additional concerns or comments you may reach out to Joseph or David to discuss.
Have a nice day,
Terri

Terrill L. Tillman, AICP
Principal Planner
Pima County Development Services
201 N. Stone Avenue, 1st Floor
Tucson, AZ 85701
520-724-6921

PAG Performance Report (ID 505)

Mission & Valencia

Project ID: 505

Intersection Query

Project Length (Miles): 0.44

Functional Classification

Weighted Average Volumes

Non-NHS	Minor Arterial	2016 AADTs	27,000
		2045 AADTs	37,000

System Maintenance		Safety		System Performance			Sidewalk Presence	Environmental Impact	Freight Reliability
Pavement	Bridges	Inter-section	Roadway	Inter-section	Current Roadway	Future Roadway			
Fair	Good	Poor	Poor	Good	Fair	Fair	Poor		Fair

System Maintenance

Project Assessment Criteria

Pavement Condition (2015-2016)

Pavement assessment based on Average IRI ranges:

Average Pavement Condition (IRI):	165	Good (IRI 0-94)	Fair (IRI 95-169)	Poor (IRI 170+)

Bridge Condition (2018)

Bridge assessment based on number in poor condition:

Bridges in Poor Condition:	0 of 1	N/A (less than 0)	Good (0)	Poor (1 or more)

Safety

Level of Safety Service (LOSS)

Safety assessment based on Average LOSS ranges:

Intersection Average LOSS:	3.00	Good (0-1.7)	Fair (1.8-2.4)	Poor (2.5-4)

Roadway Weighted Average LOSS: 2.74

LOSS described on Safety Detail page 3.

System Performance

Percent Project Congested

System performance assessment based on % congested ranges:

Current (2017) Intersections:	0%	Good (0-10%)	Fair (11-24%)	Poor (25%+)

Current (2017) Roadway: 25%

Intersection is congested at LOS E or F

Future (2045 No-Build) Roadway: 25%

Roadway is congested at heavy or severe (VOC >= 0.8)

Sidewalk Presence

Percent of Project with Complete Sidewalks (2010): 24%

Sidewalk assessment based on % complete ranges:

Good (90%+)	Fair (89-76%)	Poor (75-0%+)

Environmental Impact

Intersects Priority Riparian Area	Y
Intersects Wildlife Corridor	N
> 25% intersects Other Important Biological Area	N

If the project extent intersects either Priority Riparian or Wildlife Corridor, it has a **High Impact.**

If more that 25% of the project Intersects Other Priority Biological Areas, it has a **Moderate Impact.**

If it does not intersect any of these areas, it has a **Low Impact.**

Freight Reliability

Weighted Average Freight Planning Time Index (PTI): 3.87

Freight Reliability assessment based on average PTI ranges:

Good (0-3)	Fair (3-6)	Poor (6+)

Mission & Valencia

Project ID: 505

Project Length (Miles): 0.44

System Maintenance

System Maintenance

Pavement Condition (2015-2016)

Average Pavement Condition (IRI): 165

Estimated % of Project Surveyed: 77.27

Pavement assessment based on Average IRI ranges:

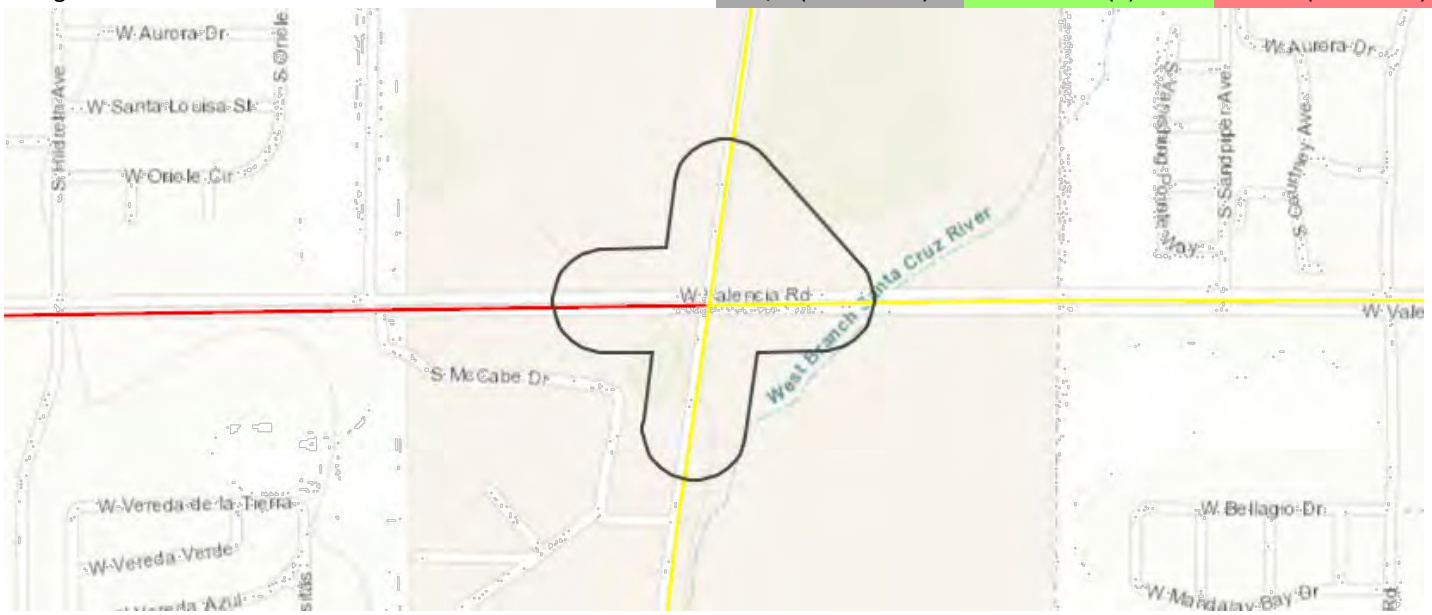
Good (IRI 0-94)	Fair (IRI 95-169)	Poor (IRI 170+)

Bridge Condition (2018)

Bridges in Poor Condition: 0 of 1

Bridge assessment based on number in poor condition:

N/A (less than 0)	Good (0)	Poor (1 or more)



Pavement Condition (2015-2016)

Good (IRI 0-94):	Fair (IRI 95-169)	Poor (IRI 170+):
28.68%	34.56%	36.76%

Bridges in Poor Condition

National Bridge Inventory

International Roughness Index (IRI) is a measure of the roughness of the ride with units of slope (in/mile). IRI thresholds based on FHWA standards. Pavement IRI data is collected through the ARAN Van Program managed by the City of Tucson for the PAG region.

Bridges are classified as Poor based on FASTAct criteria from the NBI dataset. Bridge component condition rating are on a 0-9 scale with 9 signifying excellent condition and 0 signifying failed condition. Where:
Deck condition rating is less than or equal to 4 OR **Superstructure** condition rating is less than or equal to 4 OR **Substructure** condition rating is less than or equal to 4.

Safety

Level of Safety Service (LOSS)

Intersection Average LOSS: 3.00

Roadway Weighted Average LOSS: 2.74

Safety assessment based on Average LOSS ranges:

Good (0-1.7)	Fair (1.8-2.4)	Poor (2.5-4)

Level of Safety Service (LOSS)

I	II	III	IV

Level of Safety Service (LOSS) helps categorize roads and intersections on a 1 to 4 scale, with 1 indicating the lowest potential for crash reduction, and 4 indicating the highest potential for crash reduction.

LOSS is a safety categorization system for roadway segments or intersections in reference to their expected performance and is derived from Safety Performance Functions (SPF). SPFs are equations used to predict the average number of crashes per year at a location as a function of exposure and roadway/intersection characteristics (e.g., number of lanes, traffic control, or median type). If the number of crashes predicted by the SPF represents normal or expected crash frequency at a specific level of Average Annual Daily Traffic (AADT), then the degree of deviation from the norm can be stratified to represent specific levels of safety.

LOSS reflects how a roadway segment or intersection is performing in regard to its expected crash frequency and severity at a specific level of AADT. However, it only describes the magnitude of the safety problem; it does not provide any information related to the nature of the problem itself.

SPF's and related LOSS classifications were initially developed as part of PAG's 2016 Strategic Transportation Safety Plan. SPF's and related LOSS data presented in this report reflect 2019 SPF update effort evaluating 2014-2018 incidents and 2018 facility characteristics.

Mission & Valencia

Project ID: 505

Project Length (Miles): 0.44

Safety

Project Incidents by Severity (2013-2017)

Project Incidents by Severity (2013-2017)

No Injury	Possible Injury	Non-Incapacitating	Incapacitating	Fatal	**Total Crashes**	**Total Severe Crashes**
7	5	0	1	0	13	1

Individual Injury by Severity (2013-2017)

	No Injury	Possible Injury	Non-Incapacitating	Incapacitating	Fatal
Bicyclist	0	0	0	0	0
Pedestrian	0	0	0	0	0
Driver	17	5	0	1	0
Passenger	11	3	0	0	0

InjurySeverity

- Property Damage Only
- Possible Injuries
- Non-Incapacitating
- Incapacitating
- Fatality

Collision Manner (2013-2017)

Single Vehicle	Angle	Left Turn	Rear End	Head On	Sideswipe Same Dir.	Sideswipe Opp. Dir.	Rear to Side	Rear to Rear	Other
0	0	0	12	0	0	1	0	0	0

Mission & Valencia

Project ID: 505

Project Length (Miles): 0.44

System Performance

Current Congestion and Traffic Volumes

Percent Project Congested

Current (2017) Intersections: 0%

Current (2017) Roadway: 25%

System performance assessment based on % congested ranges:

Good (0-10%)	Fair (11-24%)	Poor (25%+)

Current Modeled Volumes **(2016 AADTs)**

Weighted Average Volume

27,000

Count of Intersections by LOS

LOSA	LOSB	LOSC	LOSD	LOSE	LOSF
0	0	0	1	0	0

(2017) Intersection Congestion:

- LOS A (< 10 sec/veh)
- LOS B (10-20 sec/veh)
- LOS C (20-35 sec/veh)
- LOS D (35-55 sec/veh)
- LOS E (55-80 sec/veh)
- LOS F (> 80 sec/veh)

(2017) Roadway Congestion:

- Heavy (VOC 0.8 - 1)
- Severe (VOC >1)

Current Modeled Volumes **(2016 AADTs)**

The Current (2017) Intersection Congestion is based on SYNCHRO Modeled intersection delay utilizing most recent signal time plans and traffic volume data. The LOS reflects the Max Peak Hour Delay per Vehicle (sec/veh).

The Current (2017) Roadway Congestion represents the modeled base condition of the 2045 RMAP Update effort.

Current and Future Traffic Volumes reflect modeled traffic volumes from the 2045 RMAP Update to facilitate a more meaningful comparison of projected volume change.

Mission & Valencia

Project ID: 505

Project Length (Miles): 0.44

System Performance

Future Congestion and Traffic Volumes

Percent Project Congested

Future (2045 No-Build) Roadway: 25%

System performance assessment based on % congested ranges:

Good (0-10%)	Fair (11-24%)	Poor (25%+)

Future Traffic Volumes **(2045 AADTs)**

Weighted Average Volume

37,000

(2045) Roadway Congestion — Heavy (VOC 0.8 - 1) — Severe (VOC >1)

Future Modeled Volumes **(2045 AADTs)**

The Future (2045 No-Build) Roadway Congestion represents the 2045 RMAP Update No-Build condition.

Current and Future Traffic Volumes reflect modeled traffic volumes to facilitate a more meaningful comparison of projected volume change.

Mission & Valencia

Project ID: 505

Project Length (Miles): 0.44

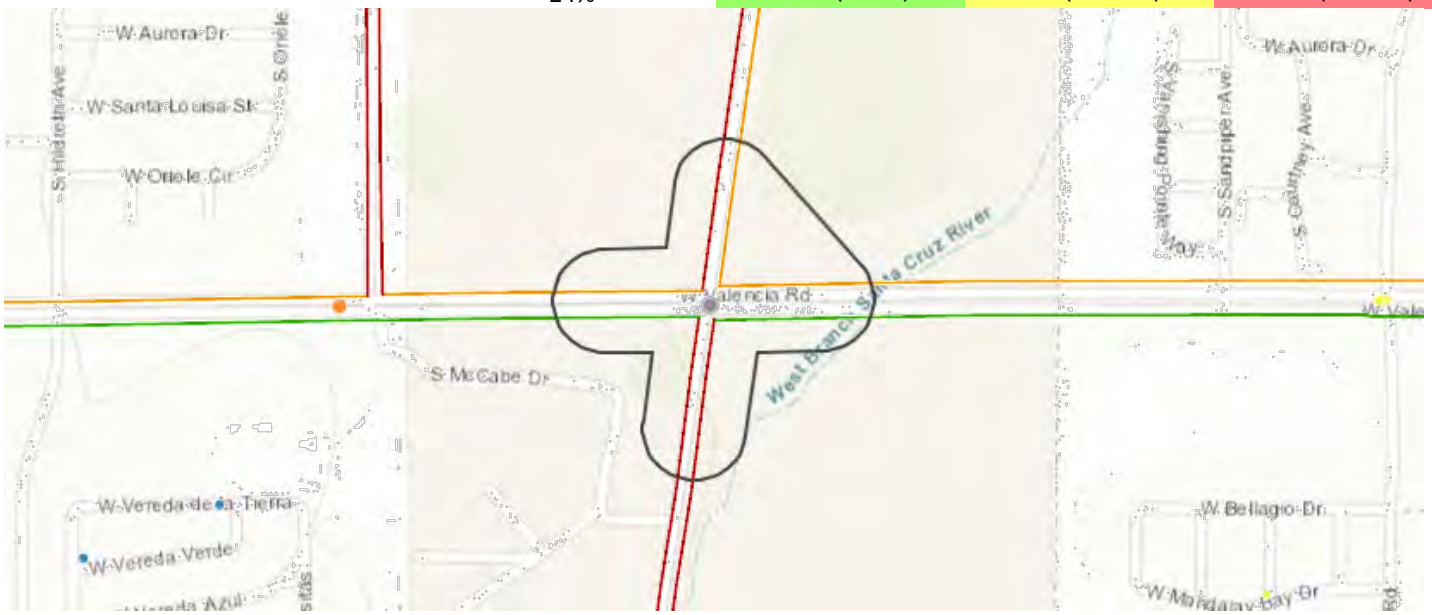
Sidewalk Presence

Sidewalk Presence

Percent of Project with Complete Sidewalks (2010): 24%

Sidewalk assessment based on % complete ranges:

Good (90%+)	Fair (89-76%)	Poor (75-0%+)



Bike and Pedestrian Incidents (2013-2017)

Individual Injury by Severity (2013-2017)

	No Injury	Possible Injury	Non-Incapacitating	Incapacitating	Fatal Injury
Bicyclist	0	0	0	0	0
Pedestrian	0	0	0	0	0

InjurySeverity
- Property Damage Only
- Possible Injuries
- Non-Incapacitating
- Incapacitating
- Fatality

2010 Sidewalk Presence

None — Partial — Complete

Bike Volume (2014)	35
Ped Volume (2014)	27

Sidewalks – 2010 PAG/City of Tucson ADA Sidewalk Study. The data were collected along collector and above roadways though the use or aerial photography, windshield surveys, and on-the-ground verification. Although the dataset is now eight years old, it still represents the most complete regional data set for sidewalk status. Given the age of the data, conditions may have changed on some corridors.

Environmental Impact

Environmental Impact

Intersects Priority Riparian Area	Y
Intersects Wildlife Corridor	N
> 25% intersects Other Important Biological Area	N

If the project extent intersects either Priority Riparian or Wildlife Corridor, it has a **High Impact.**

If more that 25% of the project Intersects Other Priority Biological Areas, it has a **Moderate Impact.**

If it does not intersect any of these areas, it has a **Low Impact.**

Project Intersects Priority Riparian

Project Intersects Wildlife Corridor

More than 25% of Project intersects Other Important Biological Area

Priority Riparian Areas and Priority Biological Resource categories are aggregated from Maeveen Marie Behan Conservations Lands System, as adopted in the Environmental Element of the Pima County Comprehensive Plan.

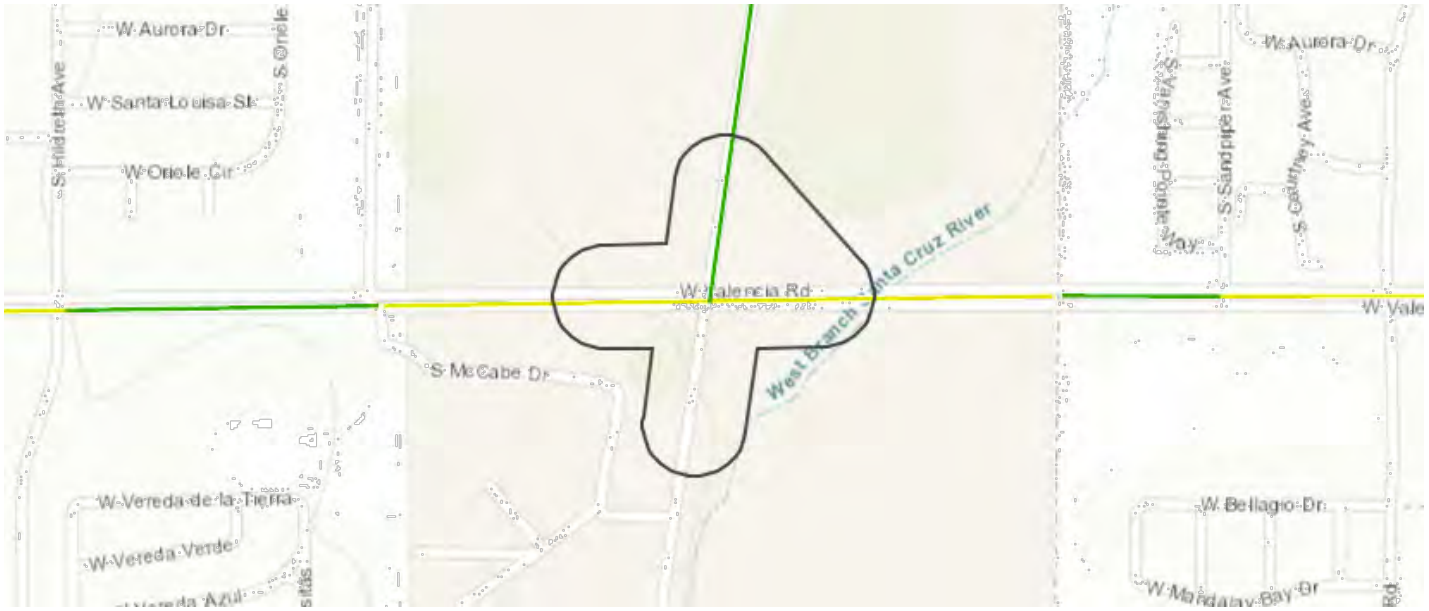
Freight Reliability

Freight Reliability

Weighted Average Freight Planning Time Index (PTI): 3.87

Freight Reliability assessment based on average PTI ranges:

Good (0-3)	Fair (3-6)	Poor (6+)



Planning Time Index (PTI) is a measure of freight reliability based on the ratio between observed 95th percentile truck travel times and free flow truck travel times. The PTI value indicates the amount of time that should be budgeted for a truck delivery to be on time 95% of the time, accounting for traffic accidents, construction, special events, and other non-recurring traffic disruptions. For example, a PTI value of 2.0 shows that 20 minutes should be allowed for a trip that takes 10-minutes under free flow conditions to be on time in 95% of trips. PTI is derived from 2016 ATRI truck GPS data.

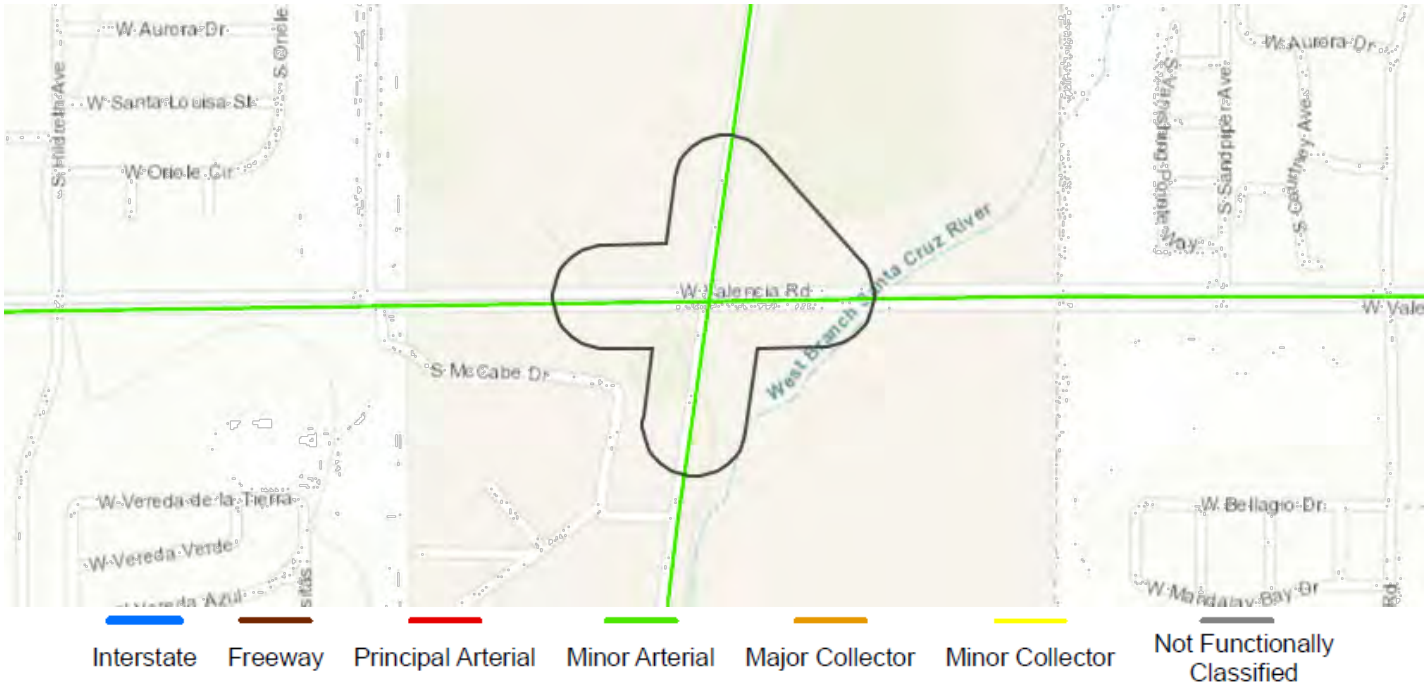
Mission & Valencia

Project ID: 505

Project Length (Miles): 0.44

Project Functional Classification

Non-NHS Minor Arterial



Bike Facilities (2017)

Bike and Pedestrian Incidents (2013-2017)

Individual Injury by Severity (2013-2017)

	No Injury	Possible Injury	Non-Incapacitating	Incapacitating	Fatal Injury
Bicyclist	0	0	0	0	0
Pedestrian	0	0	0	0	0

Shared-Use Path
Bike Boulevard
Separated Bike Lane
Push button crossing
Enhanced Bike Route
Bike Route
Bike Lane
Modern Street Car

Bike Volume (2014) 35

Ped Volume (2014) 27

Radon Gas Study

TC CONTRACTING

9320 E Mikelyn Lane Tucson AZ 85710

Pima County Development Services Dept.
Attn. Terri Tillman AICP, Principal Planner
201 North Stone Avenue, First Floor
Tucson, AZ 85701

March 22, 2022

Re. Property Address: 6775 S Cardinal Ave., Tucson AZ (Redford Estates)

Based on the historical data cited in “Arizona Geological Survey Bulletin 199, p. 10-16. “ we conducted a Radon Survey at four surface locations on the site proposed for the Redford Estates (South of Valencia Ave. and east of Cardinal Ave. in SW Tucson AZ). The Survey was conducted in January 2021. The results supported the data of the AGSB… ie. low levels of background Radon Gas were detected.

RRNC (Reducing Radon in New Construction): The techniques and protocols of this ANSI/AARST Standard follow a basic sub-slab depressurization / mitigation system, which creates a vacuum beneath the foundation that is greater in strength than the vacuum applied to the soil by the house itself. The soil gases that are collected beneath the home are piped to a safe location to be vented directly outside. A 4-inch pipe runs from the gas permeable layer beneath the house and allows passive ventilation of the Radon and other soil gasses above the house. Adding a fan to the 4-inch pipe makes the ventilation system active rather than passive, which is recommended in areas with Radon levels requiring additional mitigation per the EPA.

This mitigation method is widely accepted and utilized throughout the nation to address areas where Radon gas has been detected in soils and is recommended as a suitable and effective method of mitigating the low levels of Radon gas detected in the vicinity of the project.

Tom Chartrand *(520)347-4810*

NRPP Certified Radon Technician

AARST#5164 NRPP#108702

TC CONTRACTING

9320 E Mikelyn Lane Tucson AZ 85710

Ken Koss
TK Development LLC
6891 E Dorado Ct.
Tucson AZ 85715-4755
(916) 425 2743
sylken1@sbcglobal.net

Property Address: 6775 S Cardinal Ave., Tucson AZ

December 2, 2020

This is the final report of a 24hr Diagnostic in air Radon survey at the above property address. The test was conducted from December 1st through December 2nd using both 1028 SunNuclear Continuous Radon Monitors (CRM's) and E-Perm Electret Ion Chambers. The devices were deployed at four separate locations on the property in a general area that was initially agreed to… See attached Site Map.

In Summary:
At site #1 an ambient test was performed with SunNuclear CRM. In the same location a captured air test was done with another SunNuclear CRM as well as an Electret Ion Chamber to check and verify accuracy.
CRM #1 – Ambient test result – 1.3 pCi/L
CRM #2 – Captured air test result – 2.0 pCi/L
Electret Ion Chamber SJA827 – Captured air test result – 2.2 pCi/L

At Site #2 a captured air test was performed with a SunNuclear CRM as well as an Electret Ion Chamber to check and verify accuracy.
CRM #3 - Captured air test result – 4.6 pCi/L
Electret Ion Chamber SJB595 – Captured air test result – 4.9 pCi/L

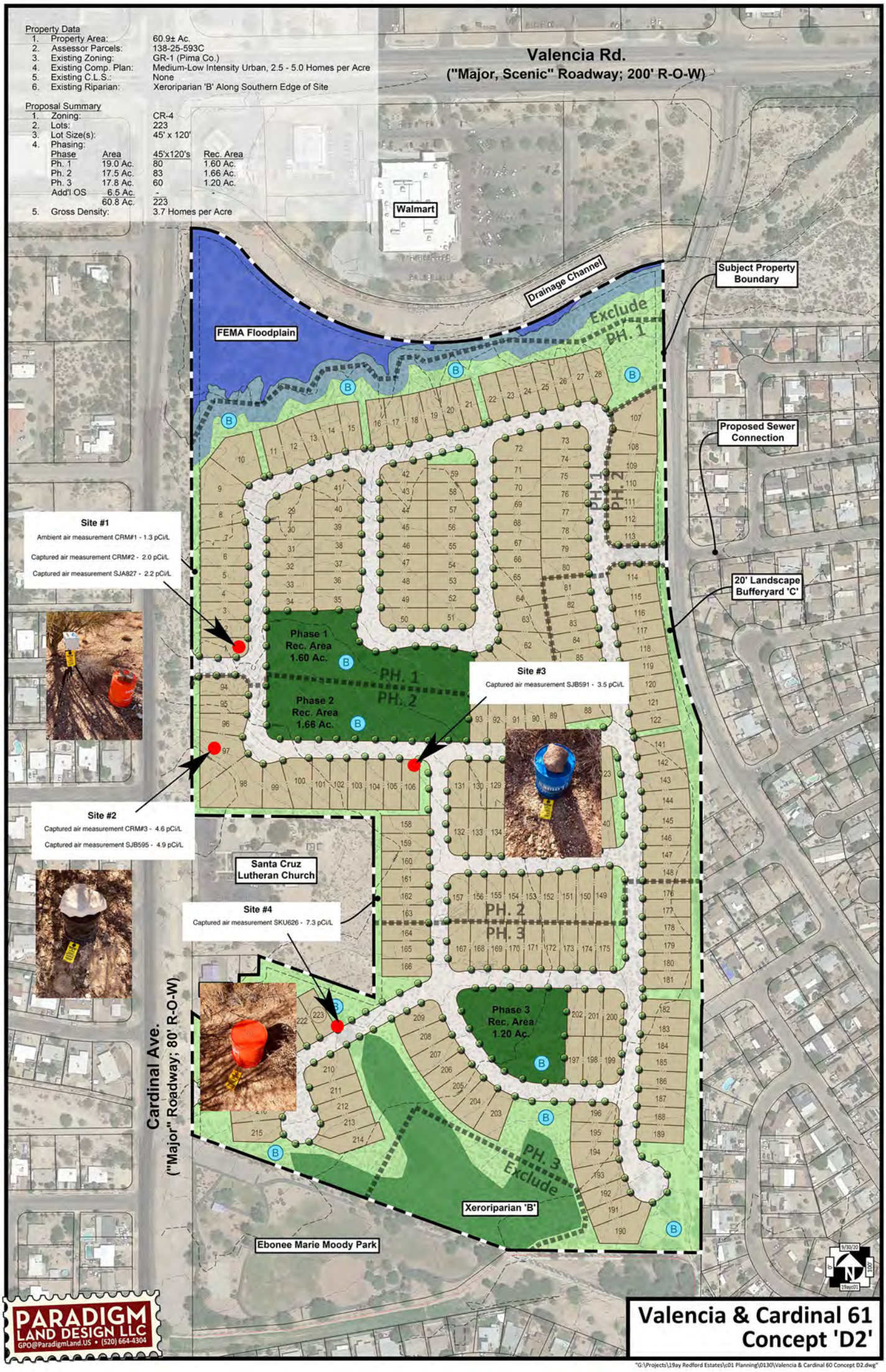
At Site #3 a captured air test was performed with an Electret Ion Chamber.
Electret Ion Chamber SJB591 – Captured air test result – 3.5 pCi/L

At Site #4 a captured air test was performed with an Electret Ion Chamber.
Electret Ion Chamber SKU626 – Captured air test result – 7.3 pCi/L

In Conclusion: The results of this 24hr test/survey indicate that there is Radon Gas present in the ground at the sites tested. The ambient air test is a little higher than the national outdoor average. In some areas of the country indoor residential Radon levels have been measured in the tens and hundreds of pCi/L… these have also been successfully mitigated to levels below 4.0pCi/L. I would recommend using Radon Resistant New Construction protocols to build safely at this site.

Tom Chartrand (520)347-4810
NRPP Certified Radon Technician
AARST#5164 NRPP#108702

24hr Diagnostic in air Radon Test



TC Contracting
9320 E Mikelyn Lane
Tucson AZ 85710
503 970 3762 / 520 347 4810
www.TCContracting.net / tom@tccontracting.net

Radon Test Report

December 02, 2020
Batch #: 120220-1

Customer:
TK Development LLC
6891 E Dorado CT
Tucson AZ 85715

Test Site:
Ken Koss
Redford Estates
6775 S Cardinal Ave
Tucson AZ 85746

E-PERM® Electret Ion Chambers were used for short-term radon screening measurements that were conducted at the above referenced test site by: TC Contracting (Cert.#NRPP # 108702, NRSB # 17SS097)

The Results are as follows:

Serial No.	Type	Location	Test Start Date	Test End Date	Results (pCi/L)
SJA827	SST	Site Specific #1	01-Dec-2020 11:20 AM	02-Dec-2020 11:20 AM	2.2
Average Radon Concentration in: Site Specific					**2.2 pCi/L**
SJB591	SST	Site Specific #3	01-Dec-2020 11:40 AM	02-Dec-2020 11:40 AM	3.5
Average Radon Concentration in: Site Specific					**3.5 pCi/L**
SJB595	SST	Site Specific #2	01-Dec-2020 11:31 AM	02-Dec-2020 11:31 AM	4.9
Average Radon Concentration in: Site Specific					**4.9 pCi/L**
SKU626	SST	Site Specific #4	01-Dec-2020 11:52 AM	02-Dec-2020 11:52 AM	7.3
Average Radon Concentration in: Site Specific					**7.3 pCi/L**

Deployed By: Tom Chartrand 108702
Retrieved By: Tom Chartrand 108702
Analyzed By: Tom Chartrand 108702 **Reader S/N:** E0911 **Reader Calibration Due:** 09-Dec-2020
Conditions: Closed-Building Conditions N/A
Weather: No Abnormal Weather Conditions
Comment: These electrets were deployed at specific locations at the site to compare the ambient air radon reading with measurements of air captured under a 5 gal bucket over a 24hr period. See the illustration for exact deployment location.

Radon Health Risk Information

Radon is the second leading cause of lung cancer after smoking. The U.S. Environmental Protection Agency (EPA) and the Surgeon General strongly recommend that further action be taken when a home's radon test results are 4.0 pCi/L or greater. The national average indoor radon level is about 1.3 pCi/L. The higher the home's radon level, the greater the health risk to you and your family. Reducing your radon levels can be done easily, effectively and fairly inexpensively. Even homes with very high radon levels can be reduced below 4.0 pCi/L. Please refer to the EPA website at www.epa.gov/radon for further information to assist you in evaluating your test results or deciding if further action is needed.

Signature: T Chartrand **Date:** 12/2/20

Fig. 1

Fig. 1 Environmental Site Assessment Map

Scale: N.T.S.	Drawn By: SB	Date: 10/29/2020

Redford Estates
South Cardinal Avenue & West Valencia Road
Tucson, Arizona

ProTeX Job No.: 10739

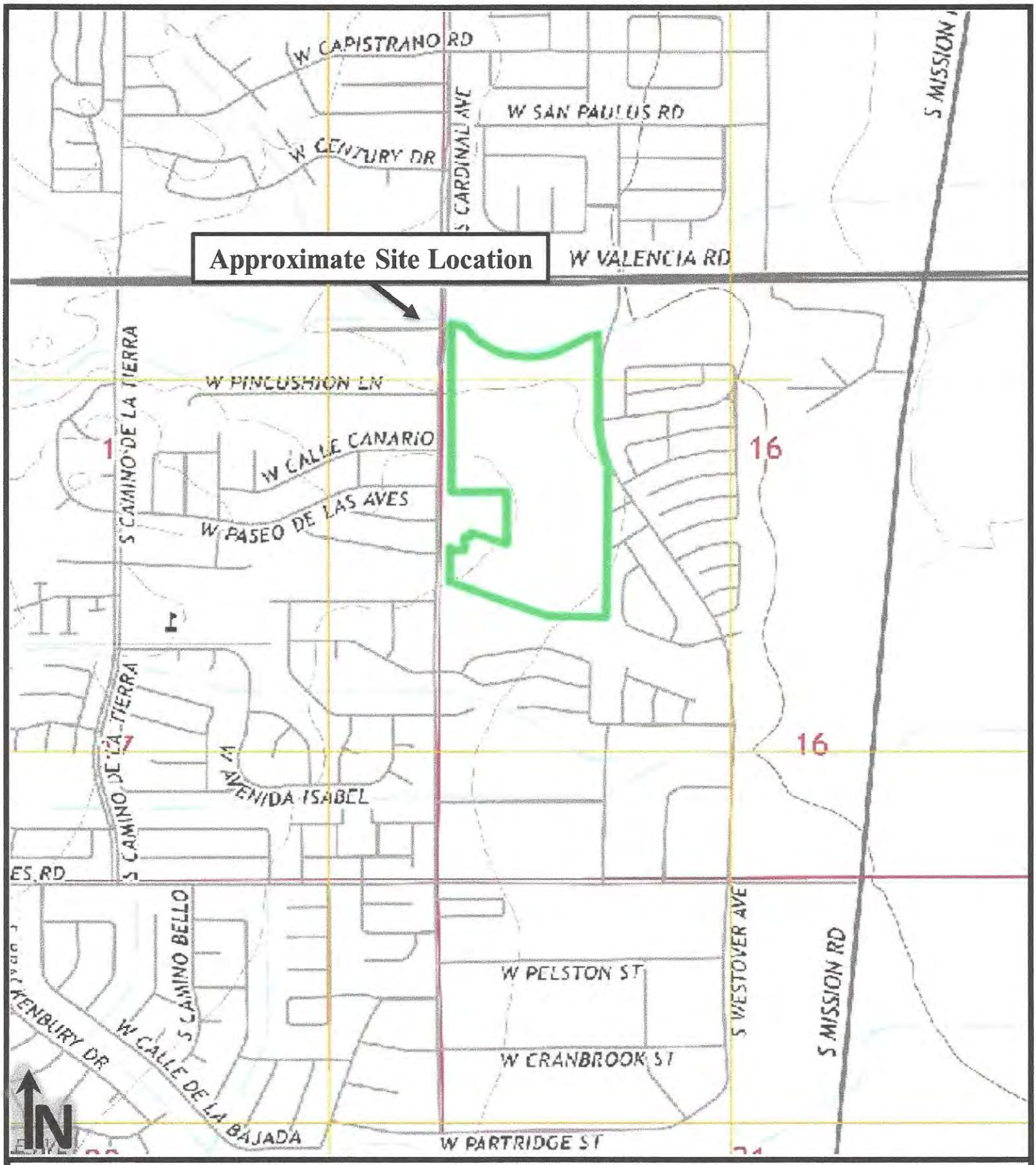


Fig. 2 Environmental Site Assessment Topographic Map

Scale: N.T.S.	Drawn By: SB	Date: 10/21/2020

Redford Estates
South Cardinal Avenue & West Valencia Road
Tucson, Arizona

ProTeX Job No.: 10739

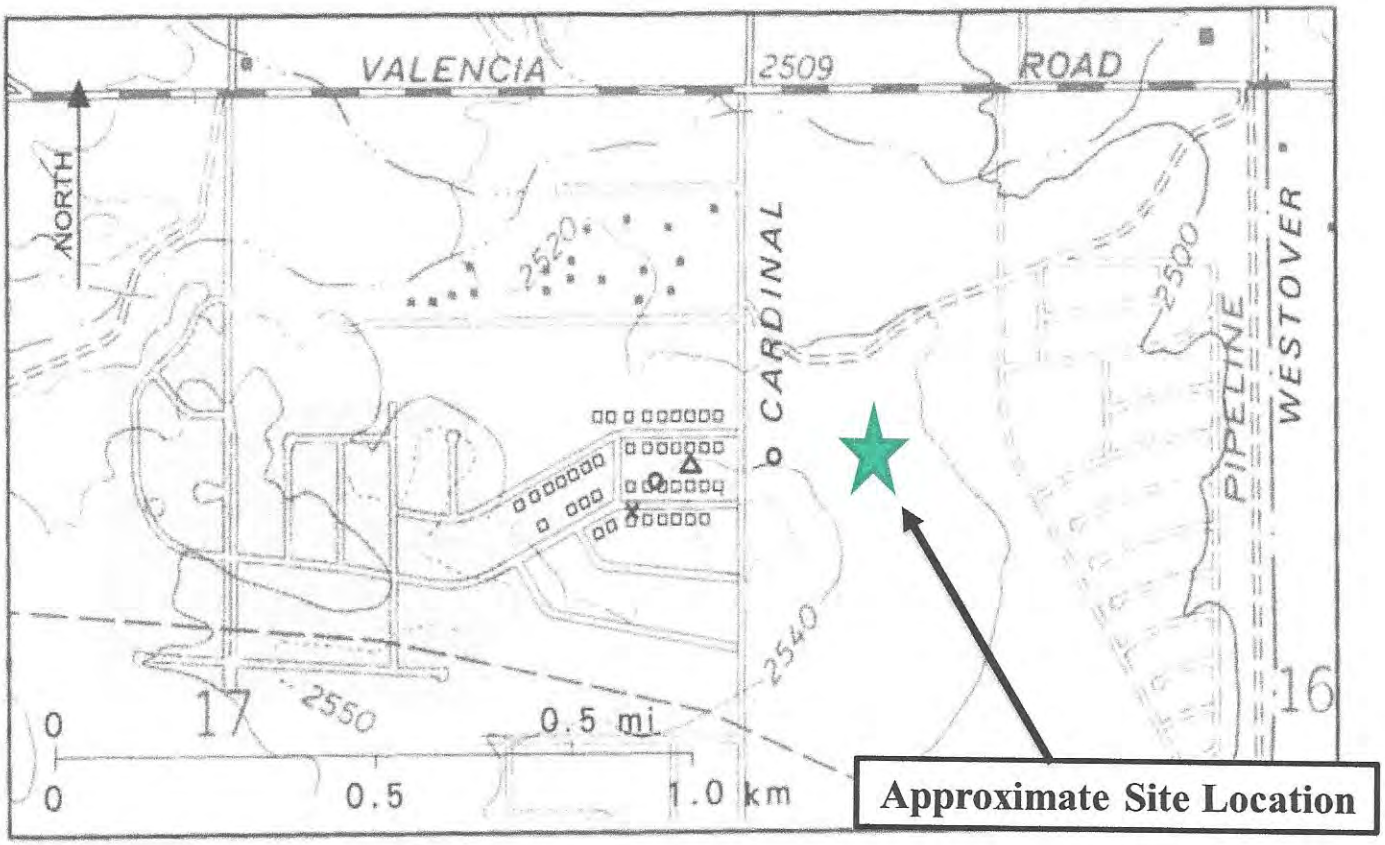
Mapped area of the limestone that has been found to contain uranium-bearing minerals. The area, mapped in 1978, is approximately 875 feet wide and 1,800 feet long (Fellows, 1987).

Fig. 3 **Environmental Site Assessment Radon Map**

Scale: N.T.S.	Drawn By: SB	Date: 10/21/2020

Redford Estates
South Cardinal Avenue & West Valencia Road
Tucson, Arizona

ProTeX Job No.: 10739



□ HOUSE

△ LOCATION OF HIGHEST MEASURED BACKGROUND RADIOACTIVITY

x APPROXIMATE LOCATION OF PROSPECT FROM USGS 15' TOPOGRAPHIC MAP

o WHITE SPOT VISIBLE ON OLD AERIAL PHOTOGRAPHS

Topographic map of the area in and around the Cardinal Avenue uranium anomaly, showing homes and other features on or near the Tertiary limestone. Topographic base map from USGS Cat Mountain 7.5' topographic quadrangle map (1968).

Fig. 4 Environmental Site Assessment Radon Map

Scale: N.T.S.	Drawn By: SB	Date: 10/21/2020

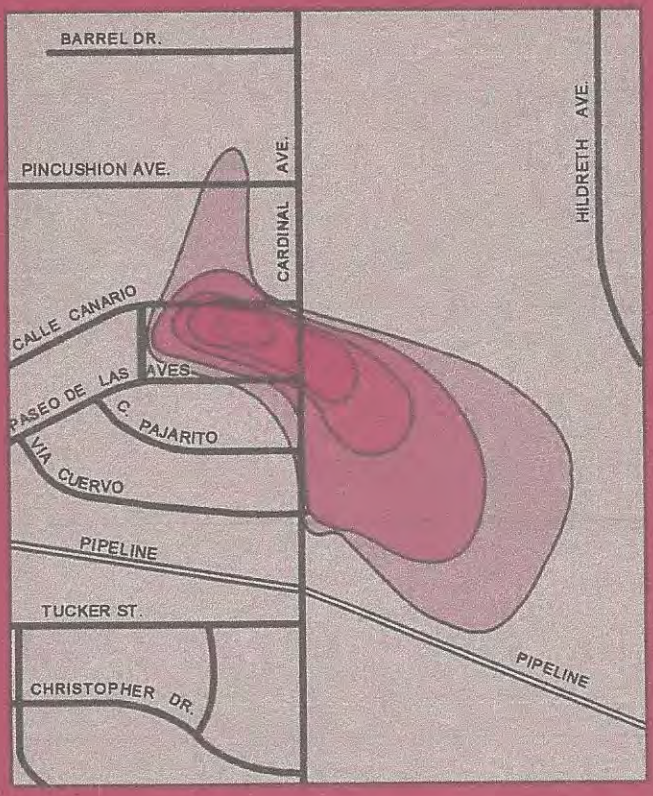
Redford Estates
South Cardinal Avenue & West Valencia Road
Tucson, Arizona

ProTeX Job No.: 10739

RADON IN ARIZONA

edited by

Jon E. Spencer



ARIZONA GEOLOGICAL SURVEY

Bulletin 199

1993

Geology, radioactivity, and radon at the Cardinal Avenue uranium anomaly, southwestern Tucson[1]

JON E. SPENCER — *Arizona Geological Survey, 845 N. Park Ave., #100, Tucson, Arizona 85719*
DUDLEY F. EMER[2] — *West Tech Geophysics, 6931 E. Hawthorne St., Tucson, Arizona 85710*
JONATHAN D. SHENK[3] — *Arizona Geological Survey, 845 N. Park Ave., #100, Tucson, Arizona 85719*

INTRODUCTION

Tertiary limestone near Cardinal Avenue and Valencia Road in southwestern Tucson contains visible uranium minerals; in fact, the area was prospected for uranium in the 1950's. Background-radiation levels above the limestone were measured during the 1970's and were below the level considered to be a health risk. Homes were subsequently built on the limestone. Radon gas is produced during the decay of uranium to stable lead, and indoor-radon levels correlate statistically with uranium concentrations in underlying soil and rock. Recognition during the 1980's of indoor radon as a health hazard in a small percentage of U.S. homes led to renewed interest in the Cardinal Avenue limestone.

To aid Pima County health officials in surveying homes for radon, the Arizona Geological Survey (AZGS) conducted a detailed gamma-ray-spectrometer survey of the Cardinal Avenue uranium anomaly. Data points were contoured in multiples of average gamma radiation from the uranium (and radon) decay product bismuth-214 (^{214}Bi) in surrounding neighborhoods to determine the background level. The center of the Cardinal Avenue uranium anomaly had a radioactivity level due to ^{214}Bi that was approximately 15 times the regional background level. Results of this survey were used to direct a radon-measuring program by the Pima County Health Department. The department discovered that radon levels were higher than 4 picocuries per liter (pCi/l) in about half of the 40 homes within the 2-times-background contour. (The EPA recommends keeping average indoor-radon levels below 4 pCi/l.) Details of the spectrometer survey are presented below, along with a review of the geology of the area and a brief history of human interest in this area.

GEOLOGY

Brown (1939) was the first geologist to publish information about the Tertiary lake beds at the southeastern end of the Tucson Mountains. He described them as 1-ft-thick lake beds of limestone with interbedded calcareous shales and minor beds of white pumiceous ash and gypsum. Ostracods and concentric algal structures are associated with the shales and limestones, respectively. Brown recognized that the beds were folded into a syncline with a maximum bed dip of 20°. He was unable to determine the dip of the western contact with adjacent andesite because of cover and low relief, but he interpreted the contact as a fault. At the time of Brown's study, a vertical shaft was present near the center of the limestone. Brown did not enter the shaft, but observed andesite on the dump and inferred that the andesite underlay the limestone. He was unable to confirm the nature of the underlying contact, but offered two alternatives: (1) the contact is depositional on eroded volcanic rocks; or (2) the contact is a thrust fault. The nature of the northern contact was also in question, but Brown assumed that the beds were resting unconformably on adjacent rhyolite.

Kinnison (1958) described the lake beds in his thesis on the geology and ore deposits of the Amole mining district. He determined a minimum thickness of more than 30 ft for the lake beds. Kinnison observed that the andesite fragments near the shaft appeared weathered, with rounded edges, and suggested that the volcanic rocks at the contact beneath the limestone formed a weathered soil surface. In contrast to Brown (1939), Kinnison mapped the northern contact with the rhyolite as a fault.

Grimm (1978) studied the lake beds as part of her thesis on Cenozoic pisolitic limestones of

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[1]This article supersedes the following report: Spencer, J.E., Emer, D.F., and Shenk, J.D., 1987, Geology, radioactivity, and radon at the Cardinal Avenue uranium occurrence, southwestern Tucson: Arizona Bureau of Geology and Mineral Technology Open-File Report 87-3, 16 p.

[2]Present address: Reynolds Electrical and Engineering Co., M.S. 738, P.O. Box 98521, Las Vegas, NV 89193.

[3]Present address: P.O. Box 1036, Mammoth, AZ 85618.

in Spencer, J.E., ed., 1993, Radon in Arizona: Arizona Geological Survey Bulletin 199, p. 10-16.

southeastern Arizona. The following description is taken from her work:

> The beds at the surface consist of finely crystalline limestone, light olive gray to dark yellowish brown, weathering to yellowish gray and light olive gray, with locally abundant pisolitic structures (0.5 mm to 4 cm in diameter), limited amounts of slightly coated angular carbonate grains (0.2-1 mm), and rare stem(?) fragments. Moderate to extreme silicification occurs, with the greatest degree of replacement being in areas with the largest and most abundant pisolites. The strata are thin- to medium-bedded, with a thickness of approximately 7 feet presently observable. A shallow syncline with a maximum dip of 22 degrees on the beds is present along the northern side of the exposure.

Grimm differed with Brown in her interpretation of the northern contact, but agreed with Kinnison in suggesting that the lake beds and the rhyolite appear to be in fault contact. From discussions with J.S. Vuich of the Arizona Bureau of Mines, who observed the contact in utility-line trenches, Grimm concluded that the lake beds are in depositional contact with the andesite. (Vuich described the underlying volcanic rocks as weathered at the contact and stated that the overlying carbonate rocks graded downward into siltier, sandier, and more brownish limestone near the contact.) Grimm stated the following concerning the organic content of the beds:

> Palynological examination, of samples from the limestone of the lake beds, yielded Miocene pollen assemblages.... Organic recovery included as much as 30-40% recycled carbonized woody material. The carbonization levels of the pollen are primarily in the early hydrocarbon generation state. The larger fragments of organic material are sheet-like with no cellular structure, and may be algal in character.

AZGS geologists compiled a map of the Cardinal Avenue area (Fig. 1), which is located on the lake beds, from aerial photographs, field reconnaissance, and maps prepared by Grimm (1978), Kinnison (1958), and Vuich (1978). The nature of the contacts with the volcanic rocks (i.e., whether they are faulted or depositional) is still unclear.

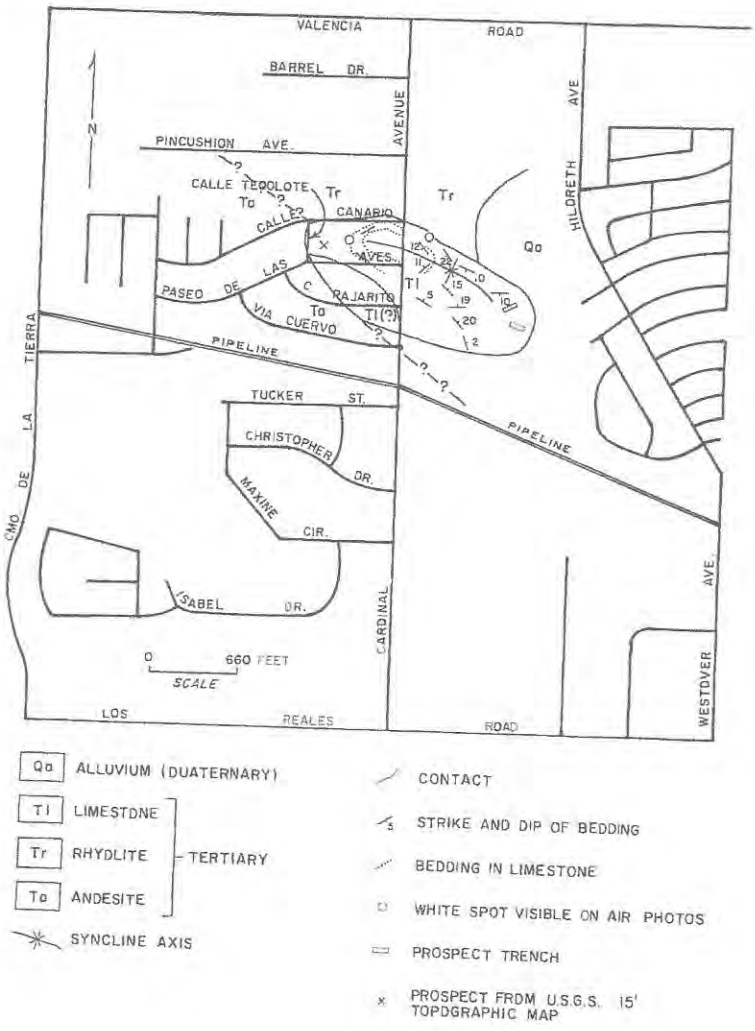
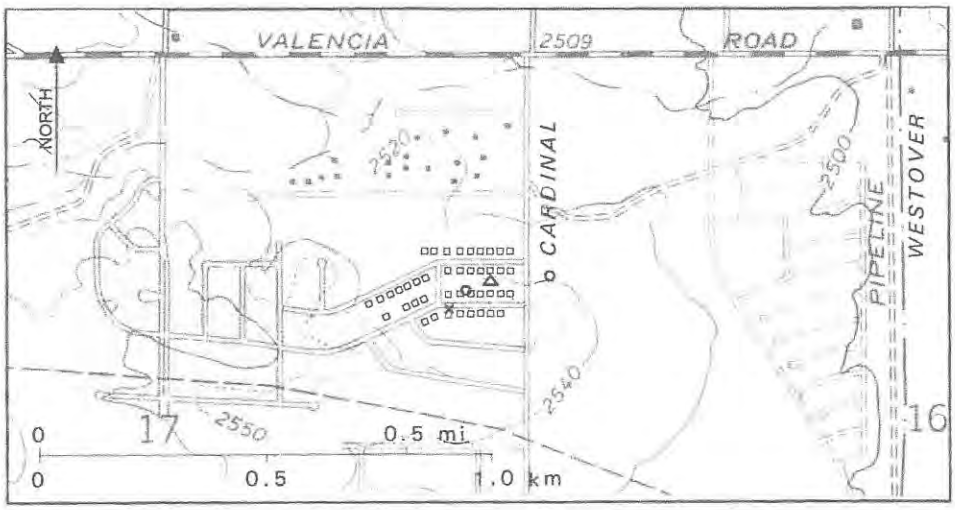


Figure 1. Simplified geologic map of the uraniferous Tertiary limestone and adjacent rock types near Cardinal Avenue and Valencia Road, southwestern Tucson.

The aerial photographs and U.S. Geological Survey (USGS) topographic maps were used to determine geologic contacts and the locations of early shafts and prospect pits. Figure 2 was compiled by projecting the locations of the following four items onto a 7.5' topographic base: (1) a prospect symbol from the 1957 San Xavier Mission USGS 15' topographic map; (2) disturbed areas appearing as white spots on 1971 aerial photographs; (3) streets and houses from 1983 aerial photographs; and (4) the location of the highest radiation reading from this study. The eastern white spot was readily located in the field, situated on the contact between the rhyolite and the limestone. The western white spot, however, was not located in the field. We believe it is likely that the

prospect symbol represents the western white spot, but because of distortions inherent in projections, the symbol and white spot do not correspond exactly on the map.



□ HOUSE

△ LOCATION OF HIGHEST MEASURED BACKGROUND RADIOACTIVITY

× APPROXIMATE LOCATION OF PROSPECT FROM USGS 15' TOPOGRAPHIC MAP

○ WHITE SPOT VISIBLE ON OLD AERIAL PHOTOGRAPHS

Figure 2. Topographic map of the area in and around the Cardinal Avenue uranium anomaly, showing homes and other features on or near the Tertiary limestone. Topographic base map from USGS Cat Mountain 7.5' topographic quadrangle map (1968).

URANIUM MINERALIZATION

Miller (1955) examined the Cardinal Avenue limestone for the U.S. Atomic Energy Commission during a preliminary reconnaissance for potential uranium sources. At the time, the area was known as the Dutchess Claims, held by Ward and Richard Kinnan of Tucson. Miller noted five claims and discovery pits. Two of his samples contained 0.06% and 0.05% equivalent U_3O_8. Miller recorded a background radiation of 0.02 milliroentgens per hour (MR/hr) and a maximum radiation of 0.60 MR/hr. He found uranophane in a 1- to 2-ft-thick zone within a pit.

Peirce and others (1970) also recorded the presence of uranophane, but undertook no new investigations. In late 1975 and early 1976, while working for the Arizona Bureau of Mines on an urban land-use-planning project, Vuich (1978) noted the presence of uranium in the Cardinal Avenue limestone. Texas Instruments, Inc. (1978) carried out an aerial radiometric reconnaissance survey of the Tucson 1° x 2° quadrangle. The data did not reveal a radiation anomaly over the Cardinal Avenue area, however, because the area was between flight lines. The Pima County Planning and Zoning Department (1978) showed the anomaly in a southwest-area plan. Scarborough and Wilt (1979) recorded 5 to 7 times the background radioactivity in the Cardinal Avenue area and noticed carnotite fracture coatings on many parts of the limestone.

RADIATION STUDIES

A preliminary scintillometer survey of the Cardinal Avenue area (Vuich, 1978) indicated that average radioactivity levels were 2 times the background level. The Arizona Atomic Energy Commission (AAEC), after being notified by Vuich, carried out a detailed radiation survey of the Chastain housing development property (Ochoa and others, 1976; Vuich, 1978). The AAEC concluded that the "Chastain property yearly total was calculated to be 0.22380 rem. AAEC permissible yearly total is 0.5 rem. No remedial action is recommended by the AAEC."

Krieski (1979), a graduate student at the University of Arizona, did a radiometric study similar to Vuich's preliminary survey and recorded up to 4 times the background level in the alley just north of Paseo de las Aves and in four lots west of Cardinal Avenue. The areas of greatest radioactivity seemed to correspond to the axis of a northwest-plunging syncline. Krieski determined that the limestone in the alley contained an average of 6.7 parts per million (ppm) total uranium. (The average in Arizona is 2 to 3 ppm.)

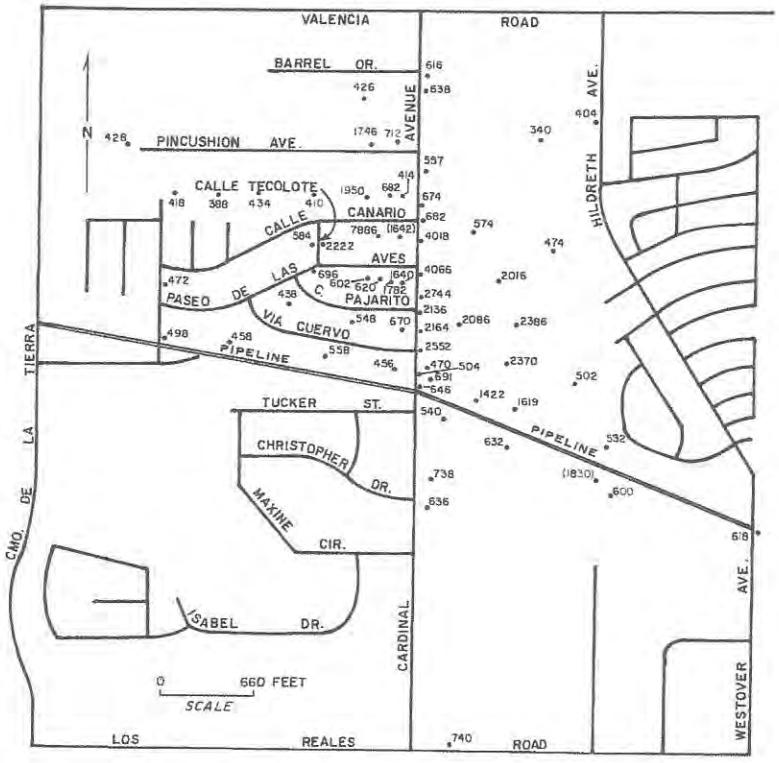
In response to citizen concern, the Arizona Radiation Regulatory Agency, formerly the AAEC, carried out a brief survey in the alley north of Paseo de las Aves and on the east side of Cardinal Avenue at a recent excavation (Henckel, 1984). The agency reported that "Using data from a minimal

number of sites, calculations indicate radiation levels of approximately 0.24 R/yr (roentgens per year) on the west side of Cardinal Ave. in the alley north of Paseo de las Aves behind lots four (4) and five (5) and 0.11 R/yr on the east side of Cardinal Ave. in the undeveloped area where three backhoe pits have been developed."

Because of increased awareness of the potential health hazard of radon gas, AZGS geologists began to study geologic and other aspects of radon in 1986. This effort included preparing a map that identified areas in Arizona where the uranium content of rock and soil is known to be significantly greater than average (Spencer, 1986; Spencer and Shenk, 1986). Attention by the press and subsequent concern by citizens about radon in the Cardinal Avenue area led the AZGS to conduct a detailed radiation study there to locate areas of unusually high background radiation, so that radon-testing devices could be placed in homes that may have been at risk (Emer and Shenk, 1987).

Dudley Emer, of West Tech Geophysics, volunteered his time and equipment for a detailed gamma-radiation survey of the Cardinal Avenue uranium anomaly. With assistance from Jon Shenk, a former graduate research assistant at the AZGS, Emer surveyed the area in March and April of 1987. They used a four-channel spectrometer, one channel of which measured gamma rays at the energy of gamma emissions from ^{214}Bi. (See Appendix A for technical details.) ^{214}Bi is an intermediate daughter product in the uranium-238 (^{238}U) decay series. The concentration of ^{214}Bi in the top few inches of soil and rock, as approximately determined by gamma-radiation surveys of this type, is considered to be an accurate indicator of the amount of uranium in the soil and rock and is consequently used as an exploration tool for uranium. Radium-226 (^{226}Ra), also an intermediate daughter product of ^{238}U, decays into radon-222 (^{222}Rn), which in turn decays rapidly (in about 1 hour) through several isotopes, including ^{214}Bi. Thus, measurement of gamma radiation from ^{214}Bi is actually a more sensitive indicator of ^{222}Rn levels than of ^{238}U levels.

Figure 3. Location map of gamma-radiation (from ^{214}Bi) measurement points, showing measurements in counts per minute (cpm). Stations with readings considered anomalous and therefore not used in Figure 4 are shown with parentheses.



The survey was run in two parts: traverse (reconnaissance) and point mapping. In the traverse portion of the survey, the spectrometer continuously recorded four channels of data using a 1-second count time while it was moved at approximately 3 to 5 miles per hour. The researchers' objective was to cover a large area of ground rapidly while delineating lithologic contacts and ensuring that localized areas of either high or low radiation levels were included in the point mapping.

The point mapping was accomplished by using a long count time (30 seconds) while the spectrometer remained stationary at preselected or random stations. The long count time enhances the count statistics and allows a much better resolution of the distribution of low levels of uranium. Long count-time measurements were taken where significant changes were observed in radiation levels during a traverse. The result was a traverse of continuous data, using a 1-second sample time, with specific features detailed at high resolution. The data from point mapping (Fig. 3) were used to draw a contour map of the data points (Fig. 4).

In April 1987, the Pima County Health Department used the results of the radiation survey to select homes for indoor-radon measurement. Homes within the approximate 2-times-back-

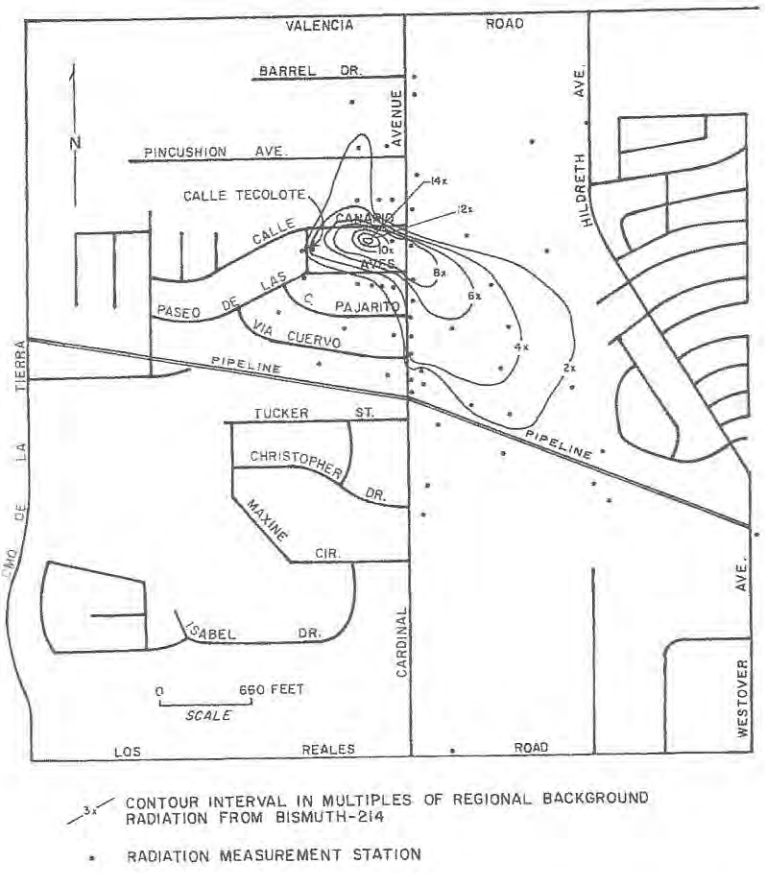


Figure 4. Contour map of gamma-radiation levels derived from data presented in Figure 3. Contours are in multiples of average background radiation (500 cpm) from surrounding areas that are not anomalously radioactive.

ground-radiation contour were tested. Radon levels in about half the homes tested were higher than the maximum average level considered acceptable by the EPA (Nolan, 1987). Additional tests outside the 2-times contour revealed generally low indoor-radon levels.

To determine the degree of correlation between background radioactivity and indoor-radon level, a background level was estimated for each home in the study area for which radon data were available. The data in Figure 4 were used to estimate radiation levels using a linear extrapolation between contours. A plot of indoor-radon level vs. estimated background radioactivity for each tested home (Fig. 5) clearly shows a positive correlation.

CONCLUSION

Tertiary limestone in southwestern Tucson contains visible uranium minerals. A gamma-ray spectrometer survey of the limestone and surrounding areas revealed that anomalous levels of radioactivity are restricted to the limestone and are not characteristic of surrounding areas. A positive correlation between measured indoor-radon levels and background gamma radiation indicates that gamma-ray surveys are useful in delineating areas at elevated risk for high indoor-radon levels.

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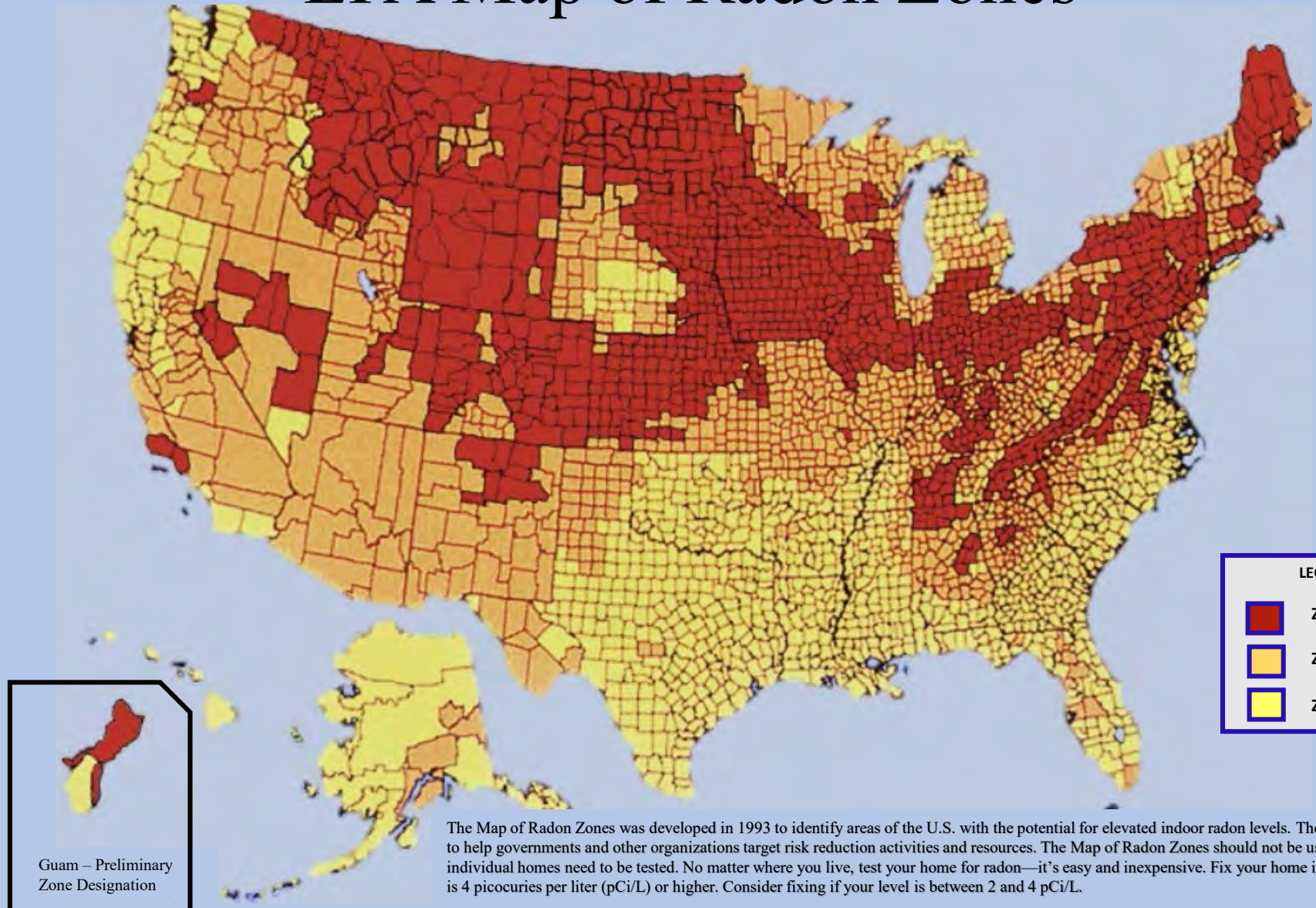
Environmental Protection Agency Radon Gas Map and Citizen's Guide to Radon

EPA Map of Radon Zones



Guam – Preliminary Zone Designation

The Map of Radon Zones was developed in 1993 to identify areas of the U.S. with the potential for elevated indoor radon levels. The map is intended to help governments and other organizations target risk reduction activities and resources. The Map of Radon Zones should not be used to determine if individual homes need to be tested. No matter where you live, test your home for radon—it's easy and inexpensive. Fix your home if your radon level is 4 picocuries per liter (pCi/L) or higher. Consider fixing if your level is between 2 and 4 pCi/L.

The Map of Radon Zones was developed using data on indoor radon measurements, geology, aerial radioactivity, soil parameters, and foundation types. EPA recommends that this map be supplemented with any available local data in order to further understand and predict the radon potential for a specific area.

402-F19-004

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EPA
United States
Environmental Protection
Agency

A Citizen's Guide to Radon

The Guide to Protecting Yourself and Your Family from Radon

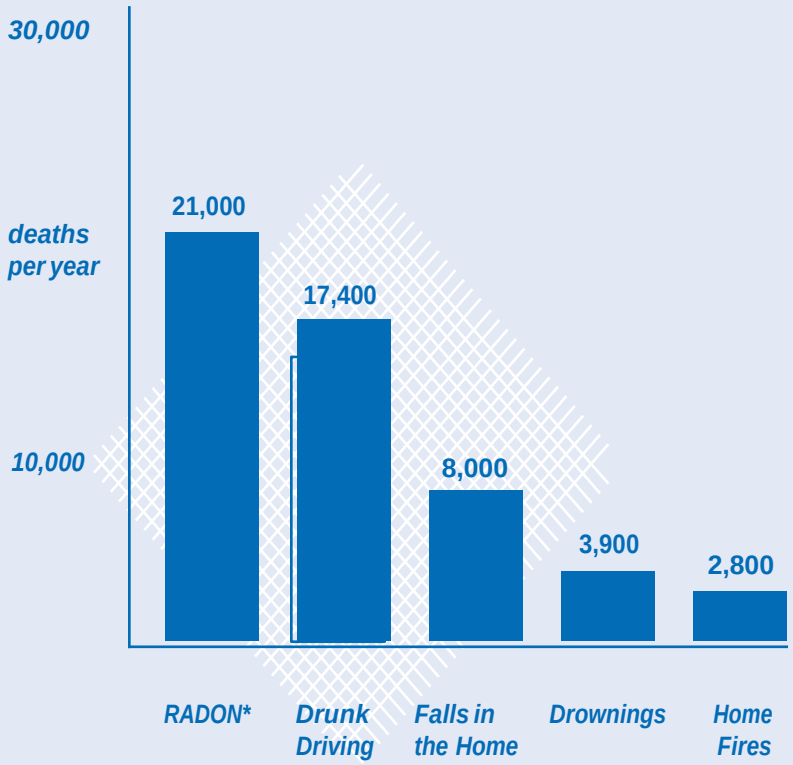
CDC
CENTERS FOR DISEASE CONTROL

Indoor Air Quality (IAQ)

EPA Recommends:

- ***Test your home for radon—it's easy and inexpensive.***
- ***Fix your home if your radon level is 4 picocuries per liter (pCi/L) or higher.***
- ***Radon levels less than 4 pCi/L still pose a risk, and in many cases may be reduced.***

Radon is estimated to cause thousands of lung cancer deaths in the U.S. each year.



**Radon is estimated to cause about 21,000 lung cancer deaths per year, according to EPA's 2003 Assessment of Risks from Radon in Homes (EPA 402-R-03-003). The numbers of deaths from other causes are taken from the Centers for Disease Control and Prevention's 1999-2001 National Center for Injury Prevention and Control Report and 2002 National Safety Council Reports.*

OVERVIEW

Radon is a cancer-causing, radioactive gas.

You can't see radon. And you can't smell it or taste it. But it may be a problem in your home.

Radon is estimated to cause many thousands of deaths each year. That's because when you breathe air containing radon, you can get lung cancer. In fact, the Surgeon General has warned that radon is the second leading cause of lung cancer in the United States today. Only smoking causes more lung cancer deaths. **If you smoke and your home has high radon levels, your risk of lung cancer is especially high.**

Radon can be found all over the U.S.

Radon comes from the natural (radioactive) breakdown of uranium in soil, rock and water and gets into the air you breathe. Radon can be found all over the U.S. It can get into any type of building—homes, offices, and schools—and result in a high indoor radon level. But you and your family are most likely to get your greatest exposure at home, where you spend most of your time.

You should test for radon.

Testing is the only way to know if you and your family are at risk from radon. EPA and the Surgeon General recommend testing all homes below the third floor for radon. EPA also recommends testing in schools.

Testing is inexpensive and easy—it should only take a few minutes of your time. Millions of Americans have already tested their homes for radon (see page 5).

You can fix a radon problem.

Radon reduction systems work and they are not too costly. Some radon reduction systems can reduce radon levels in your home by up to 99%. Even very high levels can be reduced to acceptable levels.

New homes can be built with radon-resistant features.

Radon-resistant construction techniques can be effective in preventing radon entry. When installed properly and completely, these simple and inexpensive techniques can help reduce indoor radon levels in homes. In addition, installing them at the time of construction makes it easier and less expensive to reduce radon levels further if these passive techniques don't reduce radon levels to below 4 pCi/L. **Every new home should be tested after occupancy, even if it was built radon-resistant.** If radon levels are still in excess of 4 pCi/L, the passive system should be activated by having a qualified mitigator install a vent fan. For more explanation of radon resistant construction techniques, refer to EPA publication, *Building Radon Out: A Step-by-Step Guide on How to Build Radon-Resistant Homes* (see page 15).

HOW DOES RADON GET INTO YOUR HOME?

Any home may have a radon problem.

Radon is a radioactive gas. It comes from the natural decay of uranium that is found in nearly all soils. It typically moves up through the ground to the air above and into your home through cracks and other holes in the foundation. Your home traps radon inside, where it can build up. Any home may have a radon problem. This means new and old homes, well-sealed and drafty homes, and homes with or without basements.

Radon from soil gas is the main cause of radon problems. Sometimes radon enters the home through well water (see page 8). In a small number of homes, the building materials can give off radon, too. However, building materials rarely cause radon problems by themselves.

RADON GETS IN THROUGH:

1. ***Cracks in solid floors.***
2. ***Construction joints.***
3. ***Cracks in walls.***
4. ***Gaps in suspended floors.***
5. ***Gaps around service pipes.***
6. ***Cavities inside walls.***
7. ***The water supply.***

Nearly 1 out of every 15 homes in the U.S. is estimated to have elevated radon levels. Elevated levels of radon gas have been found in homes in your state. Contact your state radon office (*https://www.epa.gov/radon/find-information-about-local-radon-zones-and-state-contact-information)* for general information about radon in your area. While radon problems may be more common in some areas, any home may have a problem. The only way to know about your home is to test.

Radon can also be a problem in schools and workplaces. Ask your state radon office (www.epa.gov/radon/whereyoulive.html) about radon problems in schools, daycare and childcare facilities, and workplaces in your area (also visit *https://www.epa.gov/radon*).

HOW TO TEST YOUR HOME

You can't see radon, but it's not hard to find out if you have a radon problem in your home. All you need to do is test for radon. Testing is easy and should only take a few minutes of your time.

The amount of radon in the air is measured in "picocuries per liter of air," or "pCi/L." There are many kinds of low-cost "do it yourself" radon test kits you can get through the mail and in some hardware stores and other retail outlets. If you prefer, or if you are buying or selling a home, you can hire a qualified tester to do the testing for you. You should first contact your state radon office about obtaining a list of qualified testers. You can also contact a private radon proficiency program for lists of privately certified radon professionals serving your area. For links and more information, visit *https://www.epa.gov/radon/find-radon-test-kit-or-measurement-and-mitigation-professional.*

There are Two General Ways to Test for Radon:

SHORT-TERM TESTING:

The quickest way to test is with short-term tests. Short-term tests remain in your home for two days to 90 days, depending on the device. "Charcoal canisters," "alpha track," "electret ion chamber," "continuous monitors," and "charcoal liquid scintillation" detectors are most commonly used for short-term testing. Because radon levels tend to vary from day to day and season to season, a short-term test is less likely than a long-term test to tell you your year-round average radon level. If you need results quickly, however, a short-term test followed by a second short-term test may be used to decide whether to fix your home (see also page 7 under Home Sales).

Testing is easy and should only take a few minutes of your time.

LONG-TERM TESTING:

Long-term tests remain in your home for more than 90 days. "Alpha track" and "electret" detectors are commonly used for this type of testing. A long-term test will give you a reading that is more likely to tell you your home's year-round average radon level than a short-term test.

How To Use a Test Kit:

Follow the instructions that come with your test kit. If you are doing a short-term test, close your windows and outside doors and keep them closed as much as possible during the test. Heating and air conditioning system fans that re-circulate air may be operated. Do not operate fans or other machines which bring in air from outside. Fans that are part of a radon-reduction system or small exhaust fans operating only for short periods of time may run during the test. If you are doing a short-term test lasting just 2 or 3 days, be sure to close your windows and outside doors at least 12 hours **before** beginning the test, too. You should not conduct

short-term tests lasting just 2 or 3 days during unusually severe storms or periods of unusually high winds. The test kit should be placed in the lowest lived-in level of the home (for example, the basement if it is frequently used, otherwise the first floor). It should be put in a room that is used regularly (like a living room, playroom, den, or bedroom) but **not** your kitchen or bathroom. Place the kit at least 20 inches above the floor in a location where it won't be disturbed—away from drafts, high heat, high humidity, and exterior walls. Leave the kit in place for as long as the package says. Once you've finished the test, reseal the package and send it to the lab specified on the package right away for analysis. You should receive your test results within a few weeks.

EPA Recommends the Following Testing Steps:

Step 1. ***Take a short-term test. If your result is 4 pCi/L or higher, take a follow-up test (Step 2) to be sure.***

Step 2. ***Follow up with either a long-term test or a second short-term test:***

- *For a better understanding of your year-round average* ***radon level, take a long-term test.***
- *If you need results quickly, take a second short-term test.*

The higher your initial short-term test result, the more certain you can be that you should take a short-term rather than a long-term follow up test. If your first short-term test result is more than twice EPA's 4 pCi/L action level, you should take a second short-term test immediately.

Step 3.

- *If you followed up with a long-term test: Fix your home if your long-* ***term test result is 4 pCi/L or more.***
- *If you followed up with a second short-term test: The higher your* ***short-term results, the more certain you can be that you should fix your home. Consider fixing your home if the average of your first and second test is 4 pCi/L or higher (see also page 7 under Home Sales).***

WHAT YOUR TEST RESULTS MEAN

The average indoor radon level is estimated to be about 1.3 pCi/L, and about 0.4 pCi/L of radon is normally found in the outside air. The U.S. Congress has set a long-term goal that indoor radon levels be no more than outdoor levels. While this goal is not yet technologically achievable in all cases, most homes today *can* be reduced to 2 pCi/L or below.

Sometimes short-term tests are less definitive about whether or not your home is above 4 pCi/L. This can happen when your results are close to 4 pCi/L. For example, if the average of your two short-term test results is 4.1 pCi/L, there is about a 50% chance that your year-round average is somewhat below 4 pCi/L. However, EPA believes that any radon exposure carries some risk—no level of radon is safe. Even radon levels below 4 pCi/L pose some risk, and you can reduce your risk of lung cancer by lowering your radon level.

If your living patterns change and you begin occupying a lower level of your home (such as a basement) you should retest your home on that level.

Even if your test result is below 4 pCi/L, you may want to test again sometime in the future.

Test your home now and save your results. If you find high radon levels, fix your home before you decide to sell it.

RADON AND HOME SALES

More and more, home buyers and renters are asking about radon levels before they buy or rent a home. Because real estate sales happen quickly, there is often little time to deal with radon and other issues. The best thing to do is to test for radon NOW and save the results in case the buyer is interested in them. Fix a problem if it exists so it won't complicate your home sale. If you are planning to move, review EPA's pamphlet "Home Buyer's and Seller's Guide to Radon," which addresses some common questions (https://www.epa.gov/radon/home-buyers-and-sellers-guide-radon). You can also use the results of two short-term tests done side-by-side (four inches apart) to decide whether to fix your home.

During home sales:

- *Buyers often ask if a home has been tested, and if elevated levels were reduced.*
- *Buyers frequently want tests made by someone who is not involved in the home sale. Your state radon office https://www.epa.gov/radon/find-information-about-local-radon-zones-and-state-contact-information) can assist you in identifying a qualified tester.*
- *Buyers might want to know the radon levels in areas of the home (like a basement they plan to finish that the seller might not otherwise test.*

Today many homes are built to help prevent radon from coming in. Building codes in your state or local area may require these radon-resistant construction features. If you are buying or renting a new home, ask the owner or builder if it has radon-resistant features. The EPA recommends building new homes with radon-resistant features in high radon potential (Zone 1) areas. Even if built radon-resistant, every new home should be tested for radon after occupancy. If you have a test result of 4 pCi/L or more, consult a qualified mitigator (http://www. epa.gov/radon/find-radon-test-kit-or-measurement-and-mitigation-professional#who) to estimate the cost of upgrading to an active system by adding a vent fan to reduce the radon level. In an existing home, the cost to install a radon mitigation system is about the same as for other common home repairs.

RADON IN WATER

There are two main sources for the radon in your home's indoor air, the soil and the water supply. Compared to radon entering the home through water, radon entering your home through the soil is usually a much larger risk.

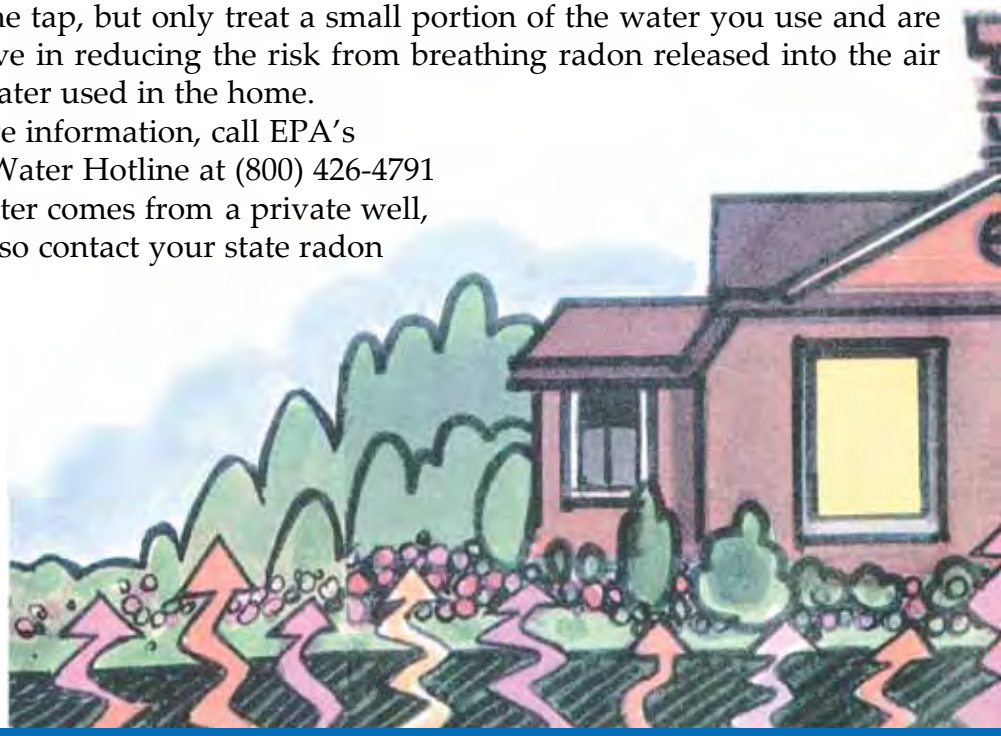
The radon in your water supply poses an inhalation risk and an ingestion risk. Research has shown that your risk of lung cancer from breathing radon in air is much larger than your risk of stomach cancer from swallowing water with radon in it. Most of your risk from radon in water comes from radon released into the air when water is used for showering and other household purposes.

Radon in your home's water is not usually a problem when its source is surface water. A radon in water problem is more likely when its source is ground water, e.g., a private well or a public water supply system that uses ground water. If you are concerned that radon may be entering your home through the water and your water comes from a public water supply, contact your water supplier.

If you've tested the air in your home and found a radon problem, and your water comes from a well, have your water tested.

If you've tested your private well and have a radon in water problem, it can be fixed. Your home's water supply can be treated in two ways. Point-of-entry treatment can effectively remove radon from the water before it enters your home. Point-of-use treatment devices remove radon from your water at the tap, but only treat a small portion of the water you use and are not effective in reducing the risk from breathing radon released into the air from all water used in the home.

For more information, call EPA's Drinking Water Hotline at (800) 426-4791 If your water comes from a private well, you can also contact your state radon office.



HOW TO LOWER THE RADON LEVEL IN YOUR HOME

Since there is no known safe level of radon, there can always be some risk. But the risk can be reduced by lowering the radon level in your home.

There are several proven methods to reduce radon in your home, but the one primarily used is a vent pipe system and fan, which pulls radon from beneath the house and vents it to the outside. This system, known as a soil suction radon reduction system, does not require major changes to your home. Sealing foundation cracks and other openings makes this kind of system more effective and cost-efficient. Similar systems can also be installed in houses with crawl spaces. Radon contractors can use other methods that may also work in your home. The right system depends on the design of your home and other factors.

Ways to reduce radon in your home are discussed in EPA's *Consumer's Guide to Radon Reduction*. You can get a copy at –about-radon *https://www.epa.gov/radon/publications-about-radon.*

The cost of reducing radon in your home depends on how your home was built and the extent of the radon problem. Most homes can be fixed for about the same cost as other common home repairs. The cost to fix can vary widely; consult with your state radon office or get one or more estimates from qualified mitigators. The cost is much less if a passive system was installed during construction.

RADON AND HOME RENOVATIONS

If you are planning any major structural renovation, such as converting an unfinished basement area into living space, it is especially important to test the area for radon before you begin the renovation. If your test results indicate a radon problem, radon-resistant techniques can be inexpensively included as part of the renovation. Because major renovations can change the level of radon in any home, always test again after work is completed.

HOW TO LOWER THE RADON LEVEL IN YOUR HOME *continued*

Most homes can be fixed for about the same cost as other common home repairs.

Lowering high radon levels requires technical knowledge and special skills. You should use a contractor who is trained to fix radon problems. A qualified contractor can study the radon problem in your home and help you pick the right treatment method.

Check with your state radon office for names of qualified or state certified radon contractors in your area. You can also contact private radon proficiency programs for lists of privately certified radon professionals in your area. For more information on private radon proficiency programs, visit *https://www.epa.gov/radon/find-radon-test-kit-or-measurement-and-mitigation-professional.* Picking someone to fix your radon problem is much like choosing a contractor for other home repairs—you may want to get references and more than one estimate.

If you are considering fixing your home's radon problem yourself, you should first contact your state radon office for guidance and assistance https://www.epa.gov /radon/find-information-about-local-radon-zones-and-state-contact-information).

You should also test your home again after it is fixed to be sure that adon levels have been reduced. Most soil suction radon reduction systems include a monitor that will indicate whether the system is operating properly. In addition, it's a good idea to retest your home every two years to be sure radon levels remain low.

Note: This diagram is a composite view of several mitigation options. The typical mitigation system usually has only one pipe penetration through the basement floor; the pipe may also be installed on the outside ohe house.

THE RISK OF LIVING WITH RADON

Radon gas decays into radioactive particles that can get trapped in your lungs when you breathe. As they break down further, these particles release small bursts of energy. This can damage lung tissue and lead to lung cancer over the course of your lifetime. Not everyone exposed to elevated levels of radon will develop lung cancer. And the amount of time between exposure and the onset of the disease may be many years.

Like other environmental pollutants, there is some uncertainty about the magnitude of radon health risks. However, we know more about radon risks than risks from most other cancer-causing substances. This is because estimates of radon risks are based on studies of cancer in humans (underground miners).

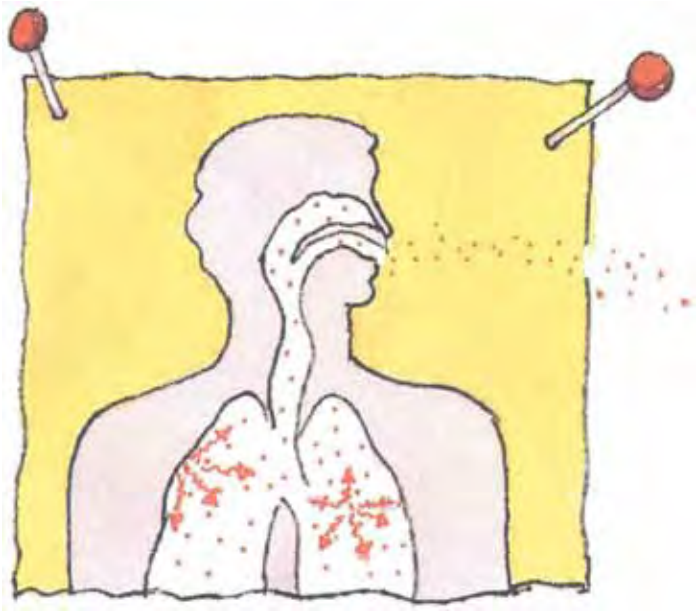
Smoking combined with radon is an especially serious health risk. Stop smoking and lower your radon level to reduce your lung cancer risk.

Children have been reported to have greater risk than adults of certain types of cancer from radiation, but there are currently no conclusive data on whether children are at greater risk than adults from radon.

Scientists are more certain about radon risks than risks from most other cancer-causing substances.

Your chances of getting lung cancer from radon depend mostly on:

- *How much radon is in your home*
- *The amount of time you spend in **your home***
- *Whether you are a smoker or have **ever smoked***



RADON RISK IF YOU SMOKE

Radon Level	If 1,000 people who smoked were exposed to this level over a lifetime*...	The risk of cancer from radon exposure compares to**...	WHAT TO DO: Stop Smoking and...
20 pCi/L	About 260 people could get lung cancer	250 times the risk of drowning	Fix your home
10 pCi/L	About 150 people could get lung cancer	200 times the risk of dying in a home fire	Fix your home
8 pCi/L	About 120 people could get lung cancer	30 times the risk of dying in a fall	Fix your home
4 pCi/L	About 62 people could get lung cancer	5 times the risk of dying in a car crash	Fix your home
2 pCi/L	About 32 people could get lung cancer	6 times the risk of dying from poison	Consider fixing between 2 and 4 pCi/L
1.3 pCi/L	About 20 people could get lung cancer	(Average indoor radon level)	(Reducing radon levels below 2 pCi/L is difficult)
0.4 pCi/L		(Average outdoor radon level)	

Note: If you are a former smoker, your risk may be lower.

It's never too late to reduce your risk of lung cancer. Don't wait to test and fix a radon problem. If you are a smoker, stop smoking.

RADON RISK IF YOU'VE NEVER SMOKED

Radon Level	If 1,000 people who never smoked were exposed to this level over a lifetime*...	The risk of cancer from radon exposure compares to**...	WHAT TO DO:
20 pCi/L	About 36 people could get lung cancer	35 times the risk of drowning	Fix your home
10 pCi/L	About 18 people could get lung cancer	20 times the risk of dying in a home fire	Fix your home
8 pCi/L	About 15 people could get lung cancer	4 times the risk of dying in a fall	Fix your home
4 pCi/L	About 7 people could get lung cancer	The risk of dying in a car crash	Fix your home
2 pCi/L	About 4 people could get lung cancer	The risk of dying from poison	Consider fixing between 2 and 4 pCi/L
1.3 pCi/L	About 2 people could get lung cancer	(Average indoor radon level)	(Reducing radon levels below 2 pCi/L is difficult)
0.4 pCi/L		(Average outdoor radon level)	

Note: If you are a former smoker, your risk may be higher.
*Lifetime risk of lung cancer deaths from *EPA Assessment of Risks from Radon in Homes* (EPA 402-R-03-003).
**Comparison data calculated using the Centers for Disease Control and Prevention's 1999-2001 National Center for Injury Prevention and Control Reports.

RADON MYTHS AND FACTS

MYTH: *Scientists aren't sure radon really is a problem.*	***FACT:*** ***Although some scientists dispute the precise number of deaths due to radon, all major health organizations (like the Centers for Disease Control, the American Lung Association and the American Medical Association) agree with estimates that radon causes thousands of preventable lung cancer deaths every year. This is especially true among smokers, since the risk to smokers is much greater than to non-smokers.***
MYTH: *Radon testing is difficult, time consuming and expensive.*	***FACT:*** ***Radon testing is easy. You can test your home yourself or*** *hire a qualified radon test company. Either approach takes* ***only a small amount of time and effort.***
MYTH: *Homes with radon problems can't be fixed.*	***FACT:*** ***There are simple solutions to radon problems in homes. Hundreds of thousands of homeowners have already fixed radon problems in their homes. Most homes can be fixed for about the same cost as other common home repairs;*** *check with one or more qualified mitigators. Call your* ***state radon office (www.epa.gov/radon/whereyoulive.*** *html) for help in identifying qualified mitigation contractors.*
MYTH: *Radon only affects certain kinds of homes.*	***FACT:*** ***House construction can affect radon levels. However, radon can be a problem in homes of all types: old homes, new homes, drafty homes, insulated homes, homes with basements, homes without basements. Local geology, construction materials, and how the home was built are among the factors that can affect radon levels in homes.***
MYTH: *Radon is only a problem in certain parts of the country.*	***FACT:*** ***High radon levels have been found in every state. Radon problems do vary from area to area, but the only way to know your radon level is to test.***
MYTH: *A neighbor's test result is a good indication of whether your home has a problem.*	***FACT:*** ***It's not. Radon levels can vary greatly from home to home. The only way to know if your home has a radon problem is to test it.***

RADON MYTHS AND FACTS *continued*

MYTH: *Everyone should test their water for radon.*

FACT: ***Although radon gets into some homes through water, it is important to first test the air in the home for radon. If your water comes from a public water system that uses ground water, call your water supplier. If high radon levels are found and the home has a private well, call the Safe Drinking Water Hotline at (800) 426-4791 for information on testing your water.***

MYTH: *It's difficult to sell homes where radon problems have been discovered.*

FACT: ***Where radon problems have been fixed, home sales have not been blocked or frustrated. The added protection is sometimes a good selling point.***

MYTH: *I've lived in my home for so long, it doesn't make sense to take action now.*

FACT: ***You will reduce your risk of lung cancer when you reduce radon levels, even if you've lived with a radon problem for a long time.***

MYTH: *Short-term tests can't be used for making a decision about whether to fix your home.*

FACT: ***A short-term test followed by a second short-term test* can be used to decide whether to fix your home. However, the closer the average of your two short-term tests is to 4 pCi/L, the less certain you can be about whether your year-round average is above or below that level. Keep in mind that radon levels below 4 pCi/L still pose some risk. Radon levels can be reduced in most homes to 2 pCi/L or below.***

**If the radon test is part of a real estate transaction, the result of two short-term tests can be used in deciding whether to mitigate. For more information, see EPA's "Home Buyer's and Seller's Guide to Radon."*

FOR FURTHER INFORMATION

EPA Radon Website

https://www.epa.gov/radon
EPA's radon page includes links to publications, hotlines, private proficiency programs and more.

Frequent Questions:
https://iaq.zendesk.com/hc/en-us/sections/202349927

Radon Hotlines

1-800-SOS-RADON (767-7236)*
Purchase radon test kits by phone.

1-800-55RADON (557-2366)*
Get live help for your radon questions.

1-800-644-6999*
Radon Fix-It Hotline. For general information on fi or reducing the radon level in your home.

1-866-528-3187*
Línea Directa de Información sobre Radón en Español. Hay operadores disponibles desde las 9:00 AM hasta las 5:00 PM para darle información sobre radón y como ordenar un kit para hacer la prueba de radón en su hogar.

1-800-426-4791
Safe Drinking Water Hotline. For general information on drinking water, radon in water, testing and treatment, and standards for radon in drinking water. Operated under a contract with EPA.

*Operated by Kansas State University in partnership with EPA.

EPA Regional Offices

https://www.epa.gov/radon/find-information-about-local-radon-zones-and-state-contact-information. Check the above website for a listing of your EPA regional office.

Ordering Radon Publications

Many EPA radon publications are available from https://*www.epa.gov /radon/ publications-about-radon*

Radon publications may be ordered through the National Service Center for Environmental Publications (NSCEP) by calling 1-800-490-9198, by visiting the NSCEP website at *https://www.epa.gov/nscep* or by email at nscep@lmsolas.com.

Surgeon General Health Advisory

"Indoor radon is the second-leading cause of lung cancer in the United States and breathing it over prolonged periods can present a significant health risk to families all over the country. It's important to know that this threat is completely preventable. Radon can be detected with a simple test and fixed through well-established venting techniques."

January 2005

U.S. EPA Assessment of Risks from Radon in Homes

In June 2003, the EPA revised its risk estimates for radon exposure in homes. EPA estimates that about 21,000 annual lung cancer deaths are radon related. EPA also concluded that the effects of radon and cigarette smoking are synergistic, so that smokers are at higher risk from radon. EPA's revised estimates are based on the National Academy of Sciences 1998 BEIR VI (Biological Effects of Ionizing Radiation) Report which concluded that radon is the second leading cause of lung cancer after smoking.

EPA
United States
Environmental Protection
Agency

Indoor Environments Division (6609J)
EP 402/K-12/002 | May 2012 | www.epa.gov/radon

Neighborhood Meeting Invitation and Summary

PARADIGM
LAND DESIGN LLC
GPO@ParadigmLand.US • (520) 664-4304

PROJECT:	Redford Estates Rezoning	**DATE:**	6/10/2022
SUBJECT:	Neighborhood Outreach Summary	**PROJECT #:**	19ayd01

Two virtual neighborhood meetings have been held regarding this proposed rezoning. The first was held on August 19, 2021. Notifications of the meeting were sent to the 135 landowners within 300' of the project. Three neighbors attended the meeting. The project's location, zoning, density, and various design elements were explained using several PowerPoint slides. Primary concerns expressed were related to existing and potential traffic congestion. Other questions and comments expressed were related to drainage, building height, radon, landscape bufferyards, and safety issues related to existing homeless camps nearby. We explained that this project will need to provide mitigation for its proportionate share of traffic impacts, which will include installation of turn lanes and bus stops along Cardinal Avenue. Furthermore, we explained that County drainage code prohibits development from impacting upstream or downstream properties.

The second meeting was held on March 24, 2022. Notifications of the meeting were sent to the 692 landowners within 1,000' of the project. Nineteen neighbors attended the meeting. Questions and comments expressed were nearly identical to the first meeting. The president of the Cardinal Neighborhood Association expressed support for the project.

Outside of the meetings we have received calls from approximately 11 nearby residents, all providing similar comments and questions as were expressed at the neighborhood meetings.

Attached to this summary are copies of the neighborhood meeting invitation letters (which included a site plan of the proposed neighborhood).

Sincerely,

Paul Oland

PARADIGM LAND DESIGN LLC
GPO@ParadigmLand.US • (520) 664-4304

TO:	Project Neighbors	**FROM:**	Paul Oland
PROJECT:	Redford Estates Rezone Neighborhood Meeting Invitation	**DATE:**	8/5/2021
		PROJECT #:	19ayd01

Dear Neighbor,

Approximately 61 acres of land between Cardinal Avenue and Westover Avenue south of Valencia Road is proposed for a rezoning to allow for the development of a residential neighborhood of approximately 220 - 230 homes, which is a density of 3.8 homes per acre. The neighborhood will be a mix of 1- and 2-story homes, and will feature landscaped bufferyards around the entire perimeter and roughly 4.5 acres of recreation area including play structures, picnic tables, ramadas, and walking paths. The proposed site plan is shown on the back of this letter.

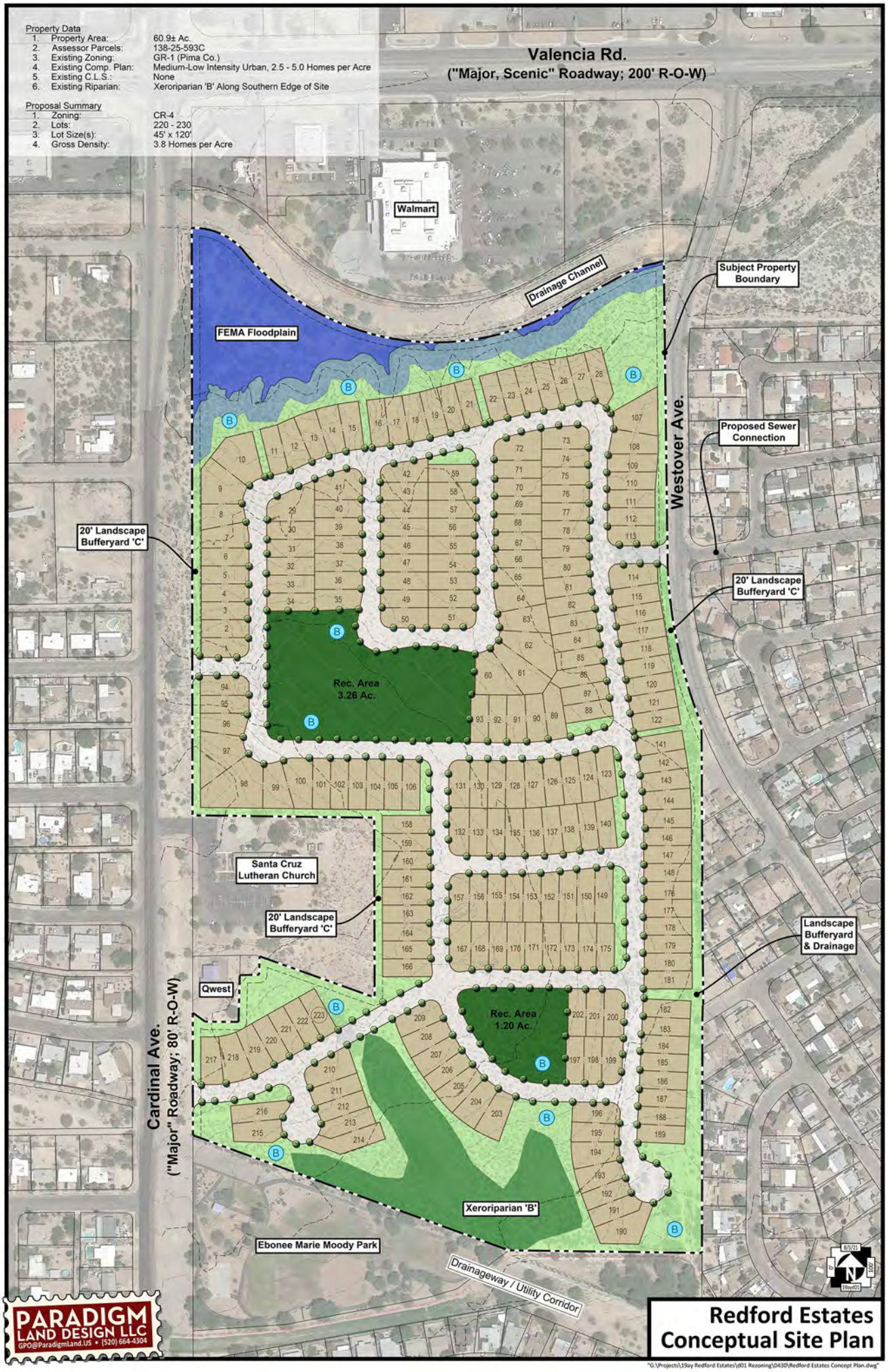
A web-based informational meeting will be held on Thursday, August 19th from 6:00 pm – 7:30 pm. If you'd like to join the meeting, please go to https://tinyurl.com/redford8-19-21 or join the meeting via phone by calling (623) 469-4514 and entering Conference ID: 313 753 756#. The purpose of the meeting will be to present basic information about the proposed development, answer questions, and listen to comments and suggestions from our neighbors.

If you have any questions, please do not hesitate to contact me at (520) 664-4304, GPO@ParadigmLand.US, or by mail at:

Paradigm Land Design LLC
7090 N Oracle Rd, Suite 178-193
Tucson, AZ 85704

Sincerely,

Paul Oland


Property Data
1. Property Area: 60.9± Ac.
2. Assessor Parcels: 138-25-593C
3. Existing Zoning: GR-1 (Pima Co.)
4. Existing Comp. Plan: Medium-Low Intensity Urban, 2.5 - 5.0 Homes per Acre
5. Existing C.L.S.: None
6. Existing Riparian: Xeroriparian 'B' Along Southern Edge of Site
Proposal Summary
1. Zoning: CR-4
2. Lots: 220 - 230
3. Lot Size(s): 45' x 120'
4. Gross Density: 3.8 Homes per Acre
Valencia Rd.
("Major, Scenic" Roadway; 200' R-O-W)
Walmart
Drainage Channel
FEMA Floodplain
Subject Property Boundary
Westover Ave.
Proposed Sewer Connection
20' Landscape Bufferyard 'C'
Rec. Area 3.26 Ac.
Santa Cruz Lutheran Church
Qwest
Rec. Area 1.20 Ac.
Landscape Bufferyard & Drainage
Cardinal Ave.
("Major" Roadway; 80' R-O-W)
Xeroriparian 'B'
Ebonee Marie Moody Park
Drainageway / Utility Corridor
PARADIGM LAND DESIGN LLC
GPO@ParadigmLand.US • (520) 664-4304
Redford Estates
Conceptual Site Plan
"G:\Projects\19ay Redford Estates\d01 Rezoning\0430\Redford Estates Concept Plan.dwg"

PARADIGM LAND DESIGN LLC
GPO@ParadigmLand.US • (520) 664-4304

TO:	Project Neighbors	**FROM:**	Paul Oland
PROJECT:	Redford Estates Rezone Neighborhood Meeting Invitation	**DATE:**	3/4/2022
		PROJECT #:	19ayd01

Dear Neighbor,

Approximately 61 acres of land between Cardinal Avenue and Westover Avenue south of Valencia Road is proposed for a rezoning to allow for the development of a residential neighborhood of approximately 270 homes, which is a density of 4.4 homes per acre. The neighborhood will be a mix of 1- and 2-story homes and will feature landscaped bufferyards around the entire perimeter and roughly 5.8 acres of recreation area including play structures, picnic tables, ramadas, and walking paths. The proposed site plan is shown on the back of this letter.

A web-based informational meeting will be held on Thursday, March 24th from 6:00 pm – 7:30 pm. If you'd like to join the meeting, please go to https://tinyurl.com/redford3-24-22 or join the meeting via phone by calling (623) 469-4514 and entering Conference ID: 191 521 538#. The purpose of the meeting will be to present basic information about the proposed development, answer questions, and listen to comments and suggestions from our neighbors.

If you have any questions, please do not hesitate to contact me at (520) 664-4304, GPO@ParadigmLand.US, or by mail at:

Paradigm Land Design LLC
7090 N Oracle Rd, Suite 178-193
Tucson, AZ 85704

Sincerely,

Paul Oland


Property Data
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3. Existing Zoning: GR-1 (Pima Co.)
4. Existing Comp Plan: Medium-Low Intensity Urban, 2.5-5.0 Homes per Acre
5. Existing C.L.S.: None
6. Existing Riparian: Xeroriparian 'B' Along Southern Edge of Site
Proposal Summary
1. Zoning: CR-4
2. Lots: 269
3. Lot Size: 40' x 120'
4. Phasing:
Phase | Area | 40'x120's | Rec. Area
Ph.1 | 30.7± Ac. | 144 | 4.17± Ac.
Ph. 2 | 30.2± Ac. | 125 | 1.69± Ac.
60.9± Ac. | 269 | 5.86± Ac. (949 Sq. Ft / Lot)
5. Gross Density: 4.4 Homes per Acre
Valencia Rd.
("Major, Scenic" Roadway; 200' R.O.W.)
Barrel Dr.
100-Year Floodplain
Drainageway
Install New Bus Pull-Out
Rec Area 4.17± Ac.
Pincushion Ln.
20' Landscape Bufferyard 'C'
Subject Property Boundary
Calle Canario
Emergency Access & Trail Connection
PH. 1
PH. 2
Paseo de las Aves
Santa Cruz Lutheran Church
Calle Pajarito
Install New Bus Pull-Out
Via Cuervo
Rec Area 1.69± Ac.
Xeroriparian 'B'
Tucker St.
Trail Connection to Park
Ebonee Marie Moody Park
Terry Ln.
Cardinal Ave.
("Major" Roadway; 80' R.O.W.)
Christopher Dr.
Calle del Rosita
Calle del Tigre
Drainageway / Utility Corridor
Vereda de la Tierra
Vereda Roja
Vereda Verde
Vereda Azul
Vereda Opalo
Vereda Amarillo
20' Landscape Bufferyard 'C'
Vereda de la Arboles
Vereda de Gente
Westover Ave.
Vereda de las Nubes
Vereda de la Manana
Vereda Sombria
Min 20' Landscape Bufferyard 'C' & Drainage
Trail Connection to Existing Path Leading to Utility Corridor Trail
1" = 300'
2/24/22
N
19ayd01
PARADIGM LAND DESIGN LLC
Exhibit III-B-2
Preliminary Development Plan
40
"G:\Projects\13Rey Redford Estates\d01 Rezoning\D230\Site Analysis\Exhibits\Exh III-B-2 PDP.dwg"

PARADIGM LAND DESIGN LLC
GPO@ParadigmLand.US • (520) 664-4304

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PROJECT:	Redford Estates Rezone Neighborhood Meeting Invitation	**DATE:**	3/4/2022
		PROJECT #:	19ayd01

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Paul Oland


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100-Year Floodplain
Drainageway
Install New Bus Pull-Out
Rec Area 4.17± Ac.
Pincushion Ln.
20' Landscape Bufferyard 'C'
Subject Property Boundary
Calle Canario
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Rec Area 1.69± Ac.
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Tucker St.
Trail Connection to Park
Ebonee Marie Moody Park
Terry Ln.
Cardinal Ave.
("Major" Roadway; 80' R.O.W.)
Christopher Dr.
Calle del Rosita
Calle del Tigre
Drainageway / Utility Corridor
Vereda de la Tierra
Vereda Roja
Vereda Verde
Vereda Azul
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20' Landscape Bufferyard 'C'
Vereda de la Arboles
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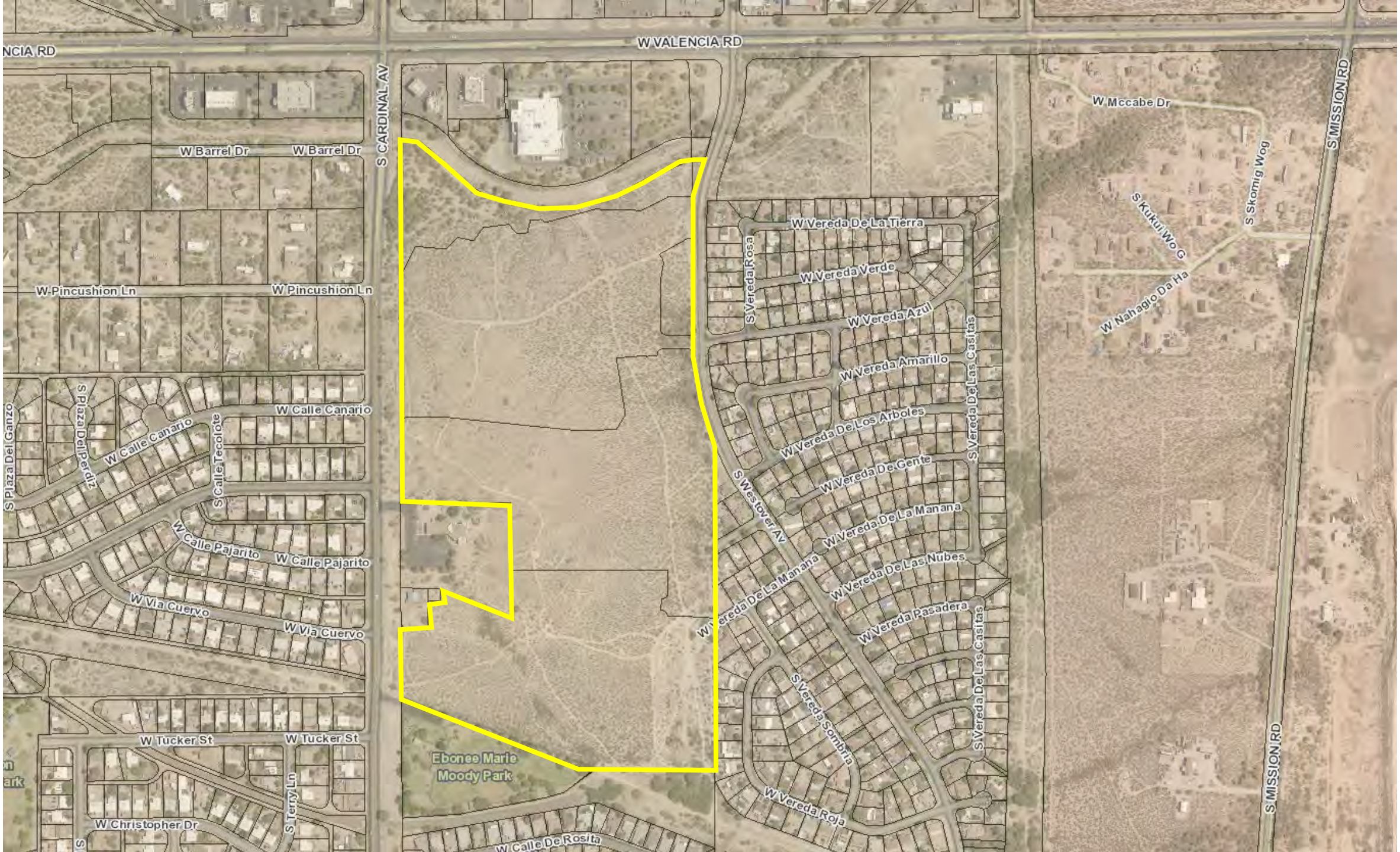
Exhibit III-B-2
Preliminary Development Plan
40
"G:\Projects\13Rey Redford Estates\d01 Rezoning\D230\Site Analysis\Exhibits\Exh III-B-2 PDP.dwg"

Welcome.

The Redford Estates neighborhood meeting will begin at 6:00 pm.

Thank you.


W VALENCIA RD
S CARDINAL AV
S MISSION RD
W Barrel Dr
W Pincushion Ln
W Calle Canario
S Plaza Del Ganzo
S Plaza Del Perdiz
S Calle Tecolote
W Calle Pajarito
W Via Cuervo
W Tucker St
S Terry Ln
W Christopher Dr
W Calle De Rosita
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W Vereda De La Tierra
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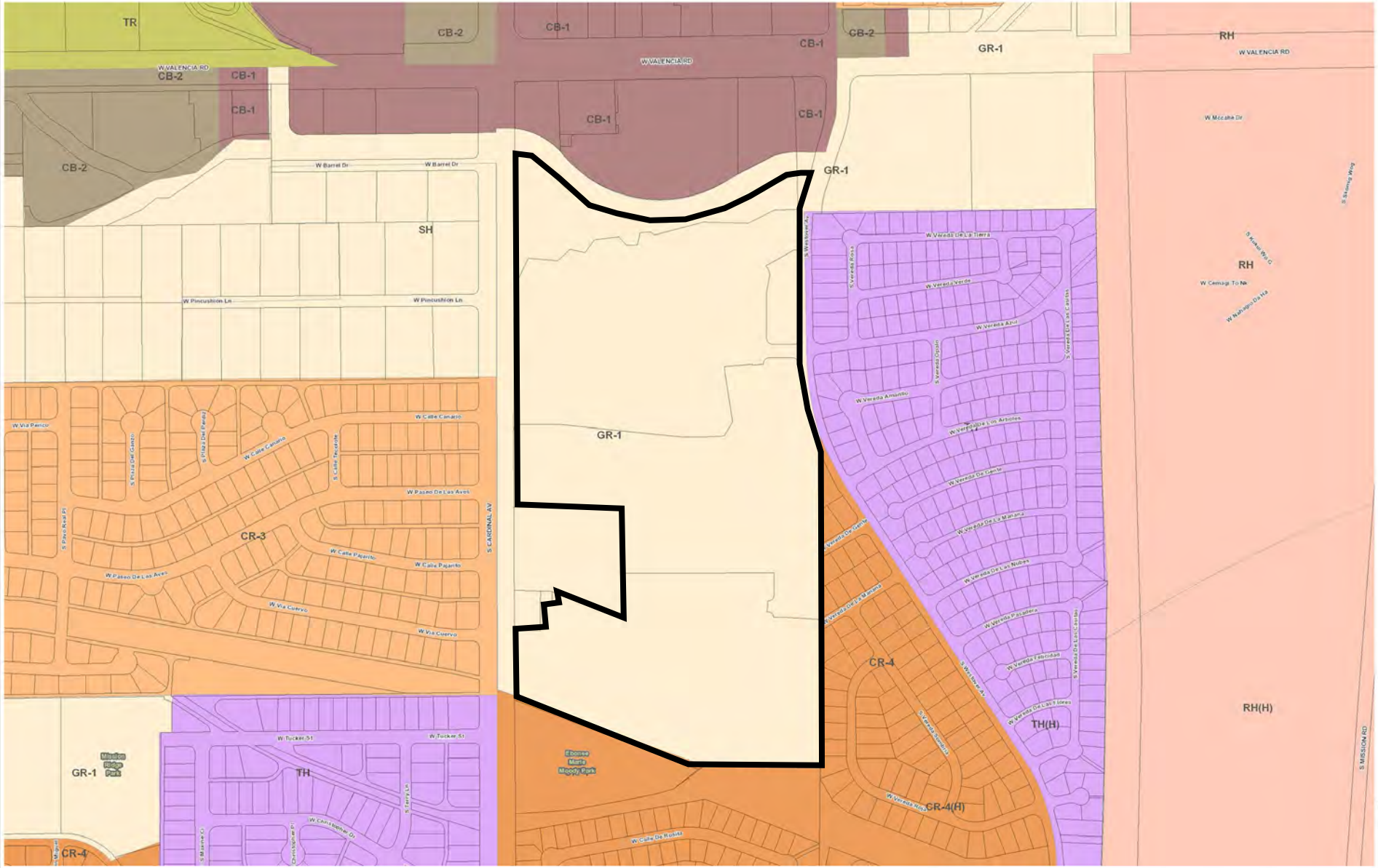
W Vereda De Los Arboles
W Vereda De Gente
W Vereda De La Manana
W Vereda De Las Nubes
W Vereda Pasadera
W Vereda Roja
S Vereda Rosa
S Vereda De Las Casitas
S Vereda Sombria
S Westover Av
W Mccabe Dr
S Kukui Wo G
S Skomig Wog
W Nahagio Da Ha

Existing Zoning



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Feet

Pima County GIS

This map is static output from an internet mapping site and no warranty is expressed or implied as to the accuracy, reliability, currency or completeness of the data, and is for reference only

Legend

- Parcels

Zoning - County

- CB-1
- CB-1(H)
- CB-2
- CB-2(H)
- CI-1
- CI-2
- CI-3
- CMH-1
- CMH-2
- CPI
- CR-1
- CR-2
- CR-2(H)
- CR-3
- CR-4
- CR-4(H)
- CR-5
- CR-5(GC)
- CR-5(H)
- GR-1
- GR-1(H)
- IR
- ML
- MR
- MU
- RH
- RH(GC)
- RH(H)
- RVC
- SH
- SH(H)
- SP
- SR
- SR-2

Notes:

8/19/2021


Valencia Rd.
("Major, Scenic" Roadway; 200' R.O.W.)
Walmart
Schematic Basin Locations (Typ.)
Drainageway
Barrel Dr.
100-Year Floodplain
Rec Area ≥4.26± Ac.
Install New Bus Pull-Out
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Westover Ave.
On 1/4/22 PCDOT App'd. an SDSS Waiver not to Continue these Streets into the Project
Vereda de la Manana
Vereda de las Nubes
Vereda Sombria
Min 20' Landscape Bufferyard 'C' & Drainage
Trail Connection to Existing Path Leading to Utility Corridor Trail
Drainageway / Utility Corridor
Calle del Rosita
Calle del Tigre
1" = 300'
2/28/22
19ayd01
PARADIGM LAND DESIGN LLC
Exhibit III-B-2
Preliminary Development Plan

From: DSD Application for Rezoning or Specific Plan
To: DSD Planning
Subject: Application for Rezoning / Specific Plan Submission
Date: Friday, January 14, 2022 1:34:52 PM
Attachments: Letter of Authorization Document - 1 - Owner Authorization Ltr (Signed).pdf

New submission

You received a new submission.

Owner name
Tucson Unified School District No. 1

Owner address
530 S. Norris

Owner city
Tucson

Owner state
AZ

Owner zipcode
85719

Owner phone
5202254948

Email
bryant.nodine@tusd1.org

Applicant name
Paradigm Land Design LLC

Applicant address
7090 N. Oracle Rd. #178-193

Applicant city
Tucson

Applicant state
AZ

Applicant zipcode
85704

Applicant phone
5206644304

Applicant_email
GPO@ParadigmLand.US

Property address
6775 S. Cardinal Ave.

Property parcel number
138-25-593L, 138-25-593M, 138-25-593N, 138-25-593P, 138-25-593Q

Property acreage
61

Property present zone
GR-1

Property proposed zone
CR-4

Policies
S-29

Letter of authorization document
1 - Owner Authorization Ltr (Signed).pdf

Ftp-link
https://paradigmlandus-my.sharepoint.com/:b:/g/personal/gpo_paradigmland_us/EcEHyb3WRiNJuOdEYHR-OIsBbPixiZ8L-tqvZh8RCnSvsg?e=JfRoCk

Signature
I confirm the information provided is true and accurate to the best of my knowledge. I am the owner of the above described property or have been authorized by the owner to make this application. (By checking the box, I am electronically signing this application.)

Application date
14-Jan-2022

August 27, 2021

Pima County Development Services
201 N. Stone Ave.
Tucson, AZ 85701

Re: Redford Estates, ~61-Ac. SE of Valencia Rd. & Cardinal Ave.
Rezoning Request

To Whom it May Concern:

This letter shall serve as authorization for Paradigm Land Design LLC to represent the Tucson Unified School District in the application for a rezoning extension affecting the property referenced above.

Tucson Unified School District

Signature:

Printed Name:

Bryant Hodine

Title:

OPS. Program Mgr.

Development Services Department
Planning Division
201 N. Stone Avenue, 1st Floor
Tucson, AZ 85701

RE: P22RZ00001 Tucson School District No. 1-S. Cardinal Avenue Rezoning

As a longtime Tucson citizen and homeowner, I oppose this rezoning unless the new homeowners are informed of the history of this land prior to their purchase.

Many years ago, TUSD intended to build a High school on this land until they discovered high Radon gas levels. The plan for the high school was stopped and they made do with the existing Cholla High. The land has remained idle since. I am not an engineer, yet Radon gas takes more than 20 years to disappear, if EVER.

Houses can be built to minimize the effects of the Radon Gas, so I hope you are requiring those changes in the plans for the houses on this land. Also, that the developer needs to inform potential homebuyers of the health risks involved, since playgrounds are included.

Progress and rezoning for building is inevitable, but part of your responsibly is to ensure those changes do not involve risk to the children and citizens who will live there. Developers have big money to ensure the zoning changes, but people have the right to make INFORMED decisions. Please assist in providing them that right.

Thank you for the chance to be heard,

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