

# Tucson Electric Power Cottonwood 138 kV Substation

Special Exception Land Use Permit

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DESIGN REVIEW BOARD #2– OCTOBER 7, 2022

# Introductions

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Brian Pugh, Environmental & Land Use Planning Supervisor

Amanda Wittenborn, Engineering Project Manager

Miranda Jackson, Civil/Transmission Engineer

Regina Beem, Civil Engineer Consultant

Scott Martinez, Landscape Architect

# Agenda:

## Design Review Board Hearing #2

Special Exception Land Use Permit (SELUP)

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- Existing Residential Character in the R-1 Zone
- Operational Substations Adjacent to the R-1 Zone
- Preliminary Development Plan Rendering
- Photos of Unscreened Substation Equipment
- Cross Sections of Substation to Santa Cruz River
- Sign Standard For Substation Walls
- Exterior Wall Design
- Visual Simulations From the Santa Cruz River



EXISTING CONDITION ON COTTONWOOD LANE





EXISTING CONDITION ADJACENT TO SUBSTATION





HARRISON SUBSTATION LANDSCAPE SCREENING ADJACENT TO R-1





HARRISON SUBSTATION LANDSCAPE SCREENING ADJACENT TO R-1





KINO SUBSTATION LANDSCAPE SCREENING ALONG GATEWAY CORRIDOR (2020)





KINO SUBSTATION LANDSCAPE SCREENING ALONG GATEWAY CORRIDOR (2022)





KINO SUBSTATION LANDSCAPE SCREENING ALONG GATEWAY CORRIDOR (2022)





▲ Security Camera Location

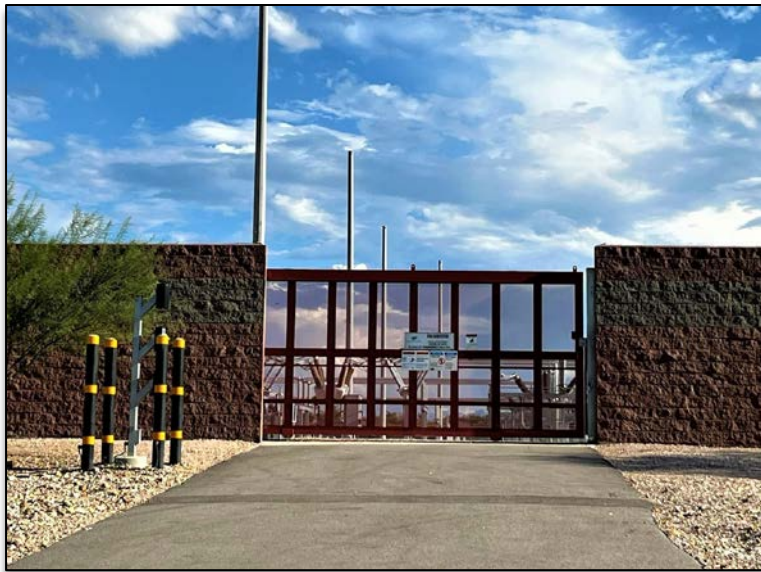
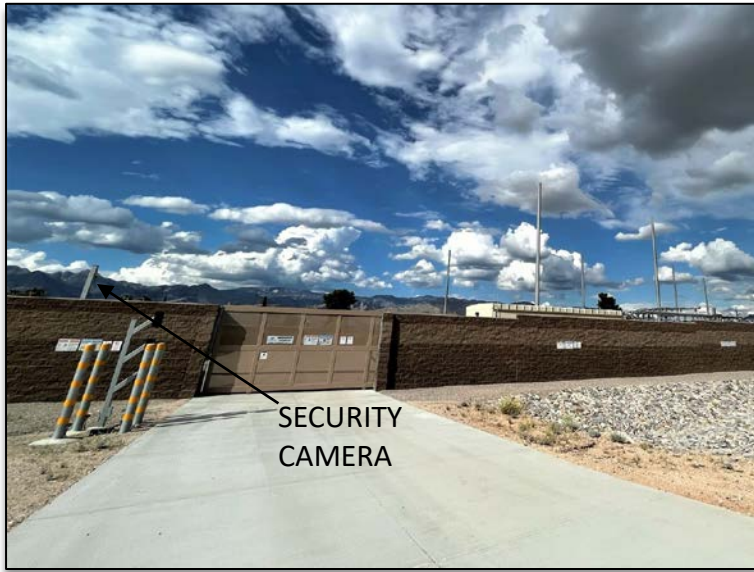
PRELIMINARY DEVELOPMENT PLAN (PDP)



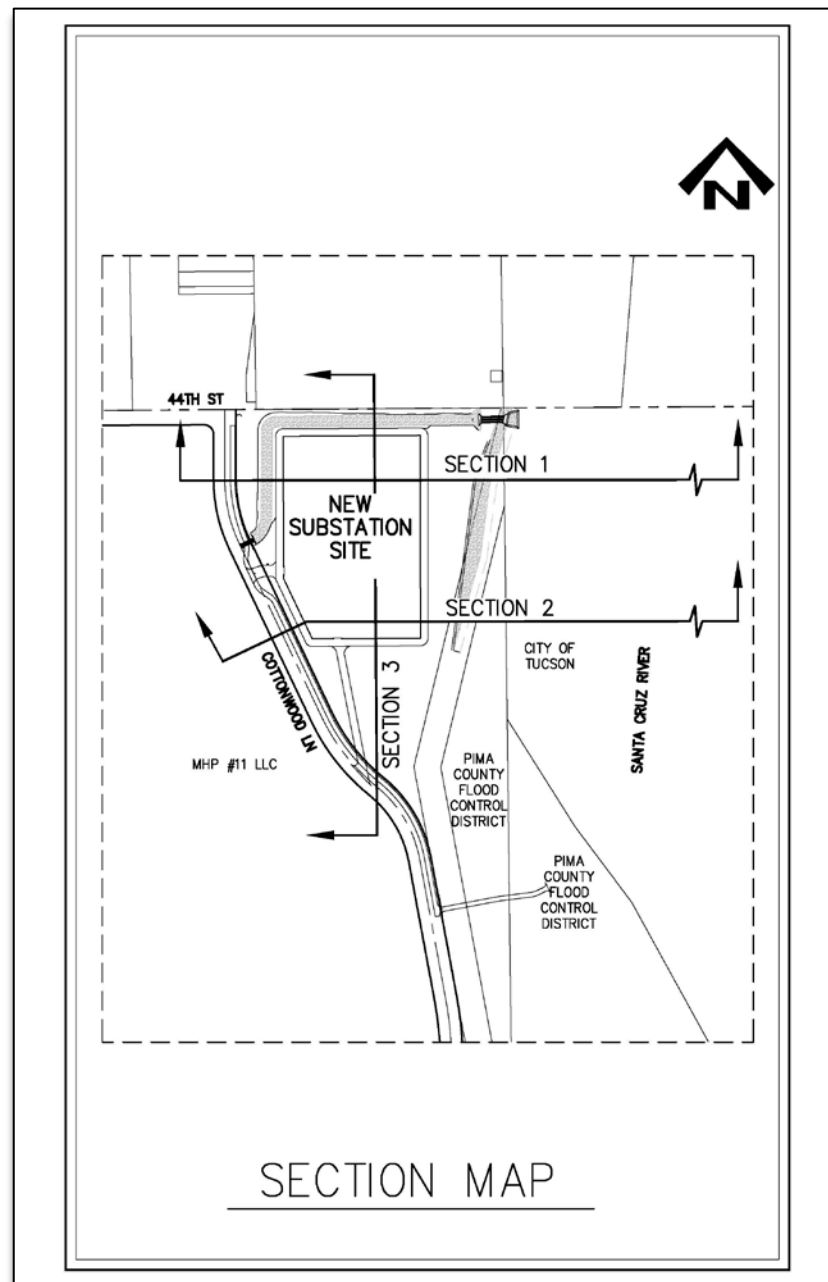


EXISTING CONDITION: MULTI USE PATH CONNECTION TO RIVER



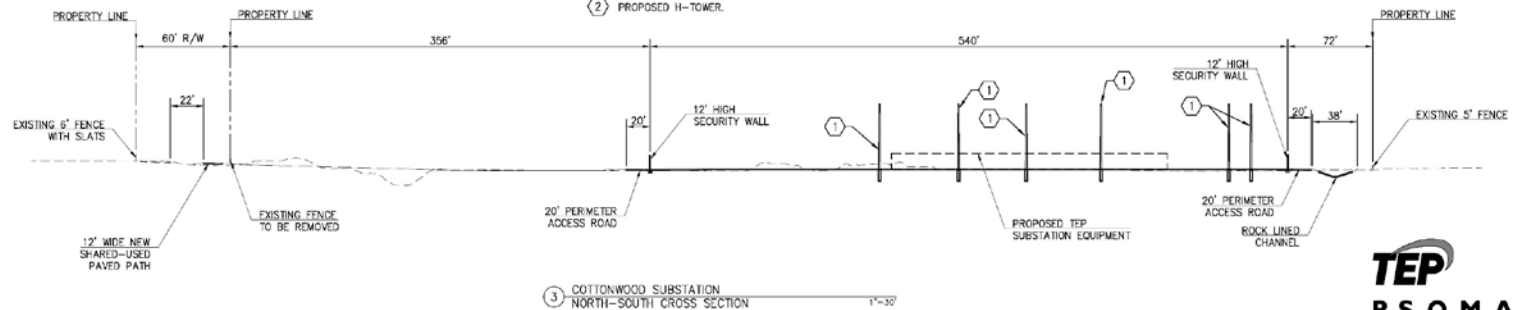
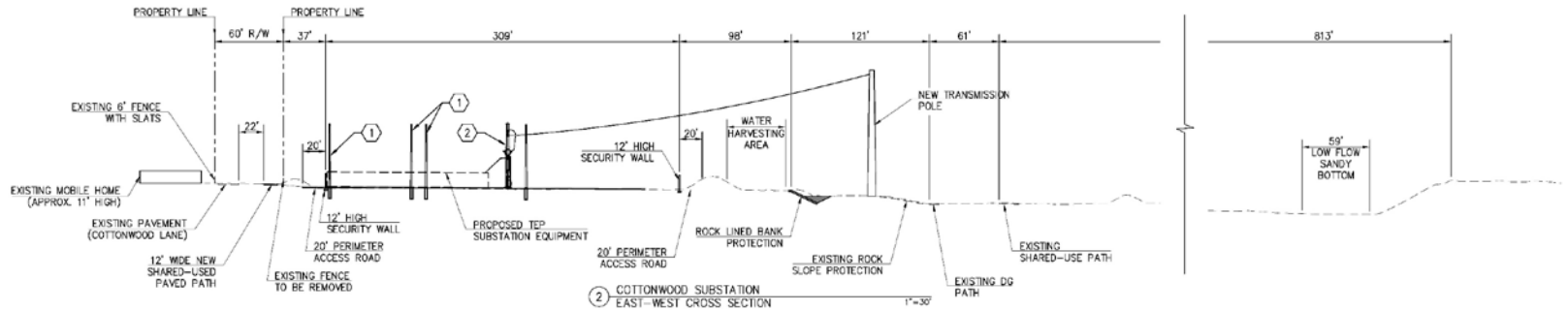
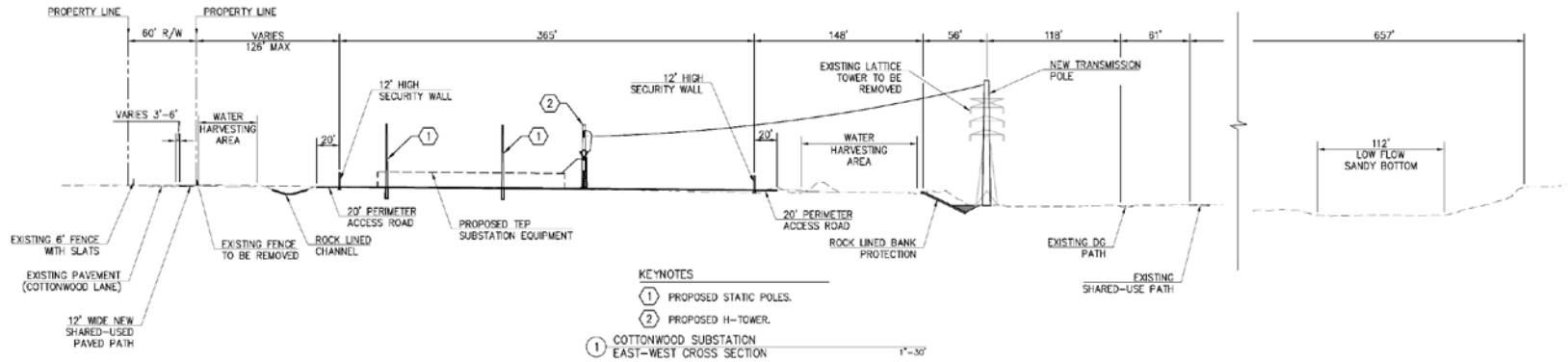


PHOTOS OF UNSCREENED SUBSTATION EQUIPMENT





# COTTONWOOD SUBSTATION



**TEP**  
PSOMAS

ANSI Z535: Standard used by OSHA to federally regulate hazard communications in the workplace and in Public.

“Safe viewing distance shall be 25ft minimum. Placement to be every 40-50ft.”

**SIGN, WARNING, SUBSTATION**  
BILINGUAL, HAZARDOUS VOLTAGE

**WARNING** **ADVERTENCIA**

**Keep Out!** **¡Mantengase Alejado!**

Hazardous voltage inside. Can shock, burn or cause death.

**TEP** Tucson Electric Power

HEIGHT LOCATION OF SIGN FOR WALLS OR 12'-0" FENCES: SEE NOTE 2 FOR OTHER REQUIREMENTS.

HEIGHT LOCATION OF SIGN FOR FENCES 6'-0" OR LOWER: SEE NOTE 2 FOR OTHER REQUIREMENTS.

ITEM NUMBER	STORES NUMBER	DESCRIPTION	DIMENSIONS (INCHES)	
			H	W
SB10.1	2151922	ELECTROMARK: WARNING, KEEP OUT, HAZARDOUS VOLTAGE (TEP)	14	28

**NOTES:**

1. MUST MEET ANSI Z535, LATEST EDITION.
2. SAFE VIEWING DISTANCE SHALL BE 25 FT. MINIMUM. PLACEMENT TO BE EVERY 40-50 FT., BASED ON ANSI Z535 AND ABOVE FONT SIZES.
3. MATERIAL: 0.063" ALUMINUM WITH REFLECTIVE MATERIAL.
4. ORANGE AND BLACK ON WHITE REFLECTIVE BACKGROUND.
5. USE STORES NUMBER 2171010, FOR FENCE MOUNTING HARDWARE (TAMPERPROOF).

**TEP** UniSourceEnergy Services INITIATED BY LR REVISION NO. 02 STANDARDS COMM. 01/18/13 REVISOR CH SM-S010 Pg. 1 of 3

**SIGN, KEEP OUT**  
BILINGUAL, PRIVATE PROPERTY (TEP)

**NOTICE** **AVISO**

**Keep Out!** **¡Mantengase Alejado!**

Private property. No trespassing. Violators will be prosecuted.

**TEP** Tucson Electric Power

TRESPASSING ON THESE PREMISES IS A FELONY UNDER A.R.S. 18-1504 A(1). VIOLATORS WILL BE PROSECUTED.

HEIGHT LOCATION OF SIGN FOR WALLS OR 12'-0" FENCES: SEE NOTE 2 FOR OTHER REQUIREMENTS.

HEIGHT LOCATION OF SIGN FOR FENCES UNDER 6 FEET: SEE NOTE 2 FOR OTHER REQUIREMENTS.

ITEM NUMBER	STORES NUMBER	DESCRIPTION	DIMENSIONS (INCHES)	
			H	W
SB11.1	2151931	ELECTROMARK: NO TRESPASSING, PRIVATE PROPERTY (TEP)	14	28

**NOTES:**

1. MUST MEET ANSI Z535, LATEST EDITION.
2. SAFE VIEWING DISTANCE SHALL BE 25 FT. MINIMUM. PLACEMENT TO BE EVERY 40-50 FT., BASED ON ANSI Z535 AND ABOVE FONT SIZES.
3. MATERIAL: 0.063" ALUMINUM WITH REFLECTIVE MATERIAL.
4. ORANGE AND BLACK ON WHITE REFLECTIVE BACKGROUND.
5. USE STORES NUMBER 2171010, FOR FENCE MOUNTING HARDWARE (TAMPERPROOF).

**TEP** UniSourceEnergy Services INITIATED BY LR REVISION NO. 01 STANDARDS COMM. 08/15/22 REVISOR CH SM-S011 Pg. 1 of 2

**SIGN, NO DRONE ZONE**  
BILINGUAL, PROHIBITED ON THIS PROPERTY

**NOTICE** **AVISO**

**NO DRONE ZONE!** **¡DRONES NO PERMITIDOS!**

Launching, landing or operating drone or remote controlled aircraft is prohibited on this property. AZ State Code: SB1449/2016

**TEP** Tucson Electric Power

HEIGHT LOCATION OF SIGN FOR WALLS OR 12'-0" FENCES: SEE NOTE 2 FOR OTHER REQUIREMENTS.

HEIGHT LOCATION OF SIGN FOR FENCES UNDER 6 FEET: SEE NOTE 2 FOR OTHER REQUIREMENTS.

ITEM NUMBER	STORES NUMBER	DESCRIPTION	DIMENSIONS (INCHES)	
			H	W
SB06.1	2152006	OFFICIAL: BILINGUAL, PROHIBITED ON PROPERTY, NO DRONE ZONE (TEP)	14	28

**NOTES:**

1. MUST MEET ANSI Z535, LATEST EDITION.
2. SAFE VIEWING DISTANCE SHALL BE 25 FT. MINIMUM. PLACEMENT TO BE EVERY 40-50 FT., BASED ON ANSI Z535 AND ABOVE FONT SIZES.
3. MATERIAL: 0.063" ALUMINUM WITH REFLECTIVE MATERIAL.
4. BLUE, RED AND BLACK ON WHITE REFLECTIVE BACKGROUND.
5. USE STORES NUMBER 2171010, FOR FENCE MOUNTING HARDWARE (TAMPERPROOF).

**TEP** UniSourceEnergy Services INITIATED BY RMC REVISION NO. 00 STANDARDS COMM. 08/15/22 REVISOR CH SM-S006 Pg. 1 of 1



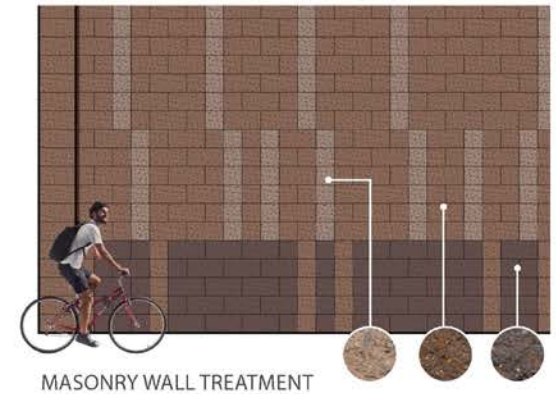
## PROPOSED COTTONWOOD SUBSTATION | MASONRY WALL TREATMENT



## PROPOSED COTTONWOOD SUBSTATION | PERSPECTIVES



LOOKING NORTH ON COTTONWOOD



McGann & Associates  
Landscape Architects and Planners

PSOMAS

TEP  
Tucson Electric Power

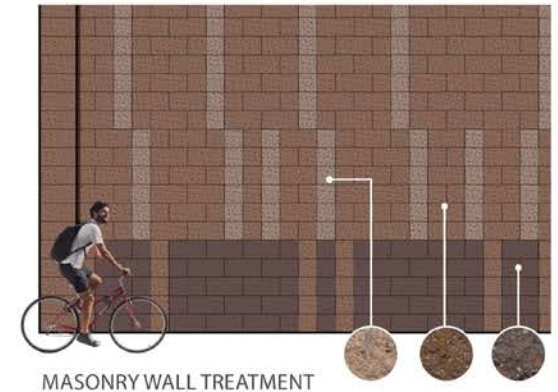
# VISUAL SIMULATIONS FROM COTTONWOOD LANE



## PROPOSED COTTONWOOD SUBSTATION | PERSPECTIVES



LOOKING SOUTHEAST ON COTTONWOOD



McGann & Associates  
Landscape Architects and Planners

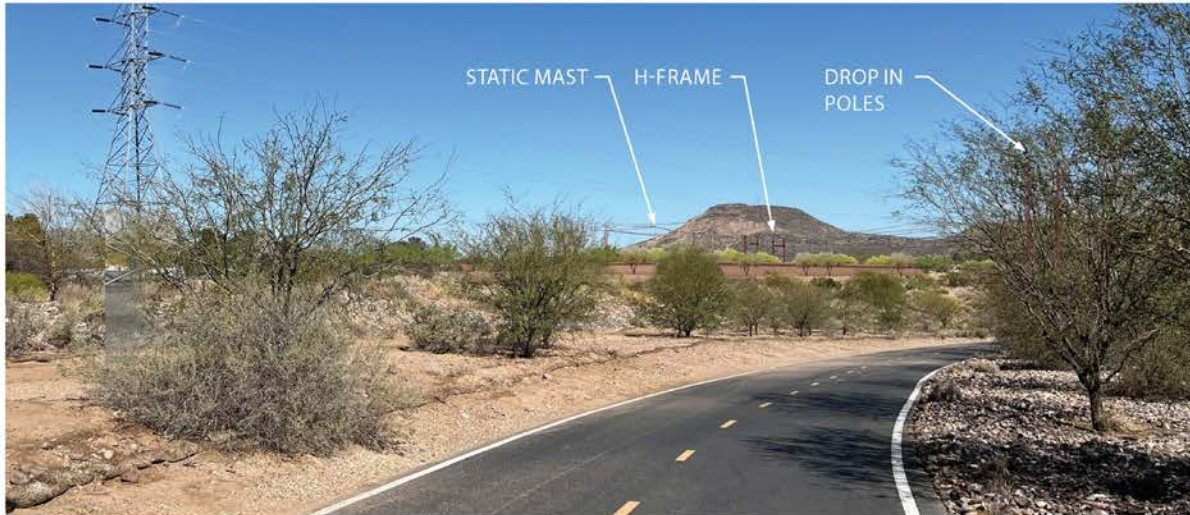
PSOMAS

TEP  
Tucson Electric Power

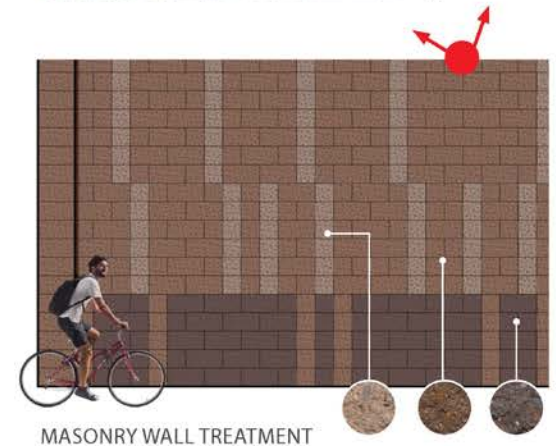
# VISUAL SIMULATIONS FROM COTTONWOOD LANE



## PROPOSED COTTONWOOD SUBSTATION | PERSPECTIVES



LOOKING NORTHWEST ON PASEO DE LAS IGLESIA PATH



MASONRY WALL TREATMENT





## PROPOSED COTTONWOOD SUBSTATION | PERSPECTIVES



LOOKING WEST FROM EAST BANK





## PROPOSED COTTONWOOD SUBSTATION | PERSPECTIVES



LOOKING WEST FROM BIKE TRAIL



VISUAL SIMULATIONS FROM WEST BANK OF THE SANTA CRUZ RIVER





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<https://www.tep.com/cottonwood-substation/>