

Turf to Xeriscape Program

Sustainability and Technology Subcommittee
November 8, 2024



2023-2025 Strategic Framework

- **Neighborhoods**
 - Well-maintained public infrastructure promotes neighborhood aesthetics, safety and community vitality
- **Sustainability and Technology**
 - Leading in the sustainability of water infrastructure and conservation.
 - Managing urban forestry and green space assets in a way that enhances livability while respecting the desert environment.



Agenda

- Why and What is Xeriscape
- WIFA Grant Overview
- Public Outreach
- Public Responses
- Turf to Xeriscape Options
- Staff Recommendations
- Timeline for Phase 1
- Phase 2 Project

Why Convert Grass Retention Basins to Xeriscape?

Chandler's 2023-2025 Strategic Framework described the city's intention to embrace water sustainability and be a leader in water conservation. The average Chandler stormwater retention basin with grass uses between three and six million gallons of irrigation water each year. That is roughly equivalent to the annual water use for 30-60 homes.



What is Xeriscape?

Xeriscape is a type of landscape design that uses minimal irrigation by incorporating drought tolerant trees, shrubs and native grasses.



More than just rocks





Why now?

Chandler has always been committed to water conservation and has a long history of water conservation programs designed to encourage xeriscape landscaping. However, turf to xeriscape conversions of large grass areas are quite expensive. This past year, the State of Arizona offered grant funds to implement water conservation programs such as turf to xeriscape conversions.

WIFA Grant Funding

- Chandler was awarded a grant of \$3M dollars with a 25% match in city funding for xeriscaping city owned drainage basins.
- Council approved the design contract on February 22, 2024, using \$110,223 local funds and \$330,666 grant funds.

Timing for Grant Spending Milestones:

- December 2, 2024 - \$200,000
- December 31, 2025 - \$2,000,000
- March 31, 2026 - \$3,000,000
- Project Completion - \$4,000,000



Is There Savings When You Xeriscape ?

Potential Savings with Planned Xeriscape Conversions:

- Substantial Utility Bill Cost Savings of **\$83,667/yr total**
- Substantial Gallons of Water Savings = **26.9 million gal/yr total**

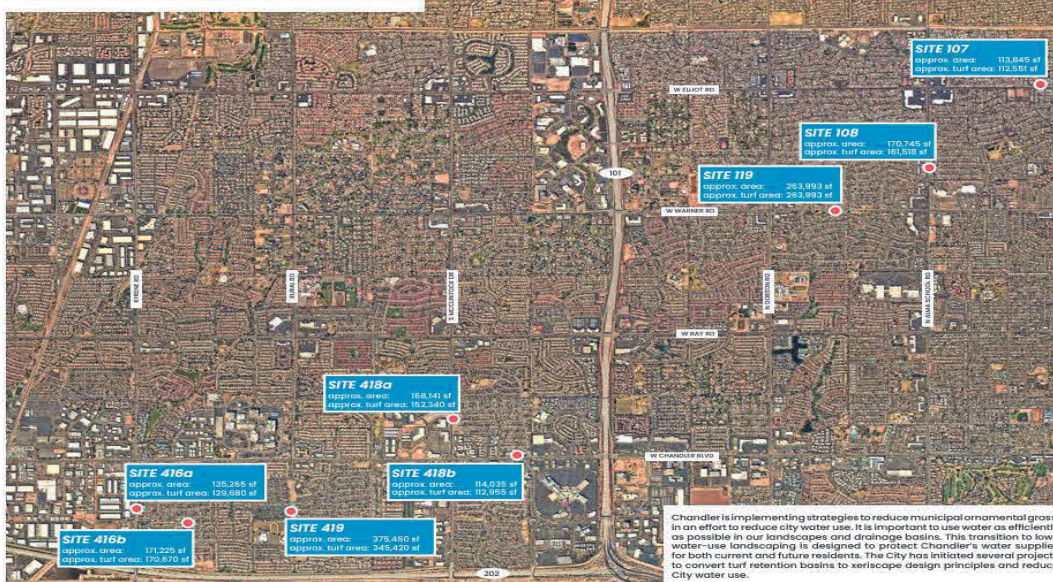
Maintenance Costs per Acre:

- May Increase Slightly When Xeriscape Complete Due to Higher Number of Trees and Shrubs But We Will Make Every Effort to Keep Costs Flat.
- Current Citywide Landscape Contract Term is 5 yrs, With Options to Adjust Costs Per Year Until August 2028



Phase 1 Xeriscape Locations – Sites for Public Meeting #1

PROJECT LOCATIONS



Xeriscaped Site Examples



Public Involvement

- Postcards mailed to 3,500 residents who live near the retention basins
- First public meeting was held on May 30, 2024
- Website – chandleraz.gov/TurfToXeriscape
- Online survey
- Calls and emails



Chandler's Turf to Xeriscape Program

Project No. ST2405.301

Chandler is implementing strategies to reduce municipal ornamental grass, in an effort to reduce city water use. It is important to use water as efficiently as possible in our landscapes and drainage basins. This transition to low-water-use landscaping is designed to protect Chandler's water supplies for both current and future residents. The city has initiated several projects to convert turf retention basins to xeriscape design principles and reduce city water use.

If you live adjacent to a retention basin planned for conversion (see map below), please provide your comments.



Public Involvement – Feedback Received

Site #	Feedback	Summary
107	• 1 survey response	Resident looking for shade cover for walks. This project will add trees along the sidewalk to help provide shade for walks.
108	• 3 open house comments • 5 survey responses	Residents were concerned about drainage issues, which will be addressed as part of the project; concerned about providing a play area for kids and dogs, which is available at the nearby park.
119	• 2 open house comments • 5 survey responses	Residents were concerned about noise, wildlife, heat effect, and added dust. These concerns will be addressed as part of the project.
416a	• 2 open house comments • 7 survey responses • 1 call/email	Comments regarding basin Site 416a and 416b together. Minimal resident concerns specific to Site 416a.
418a	• 6 open house comments • 2 survey responses	Comments regarding basin Site 418a and 418b together. Only one of the residents uses this basin for dog walking and playing with kids.
416b	• 3 open house comments • 7 survey responses • 1 call/email	Comments regarding basin Site 416a and 416b together. Many residents highlighted current usage for sports, dog walking and family activities.
418b	• 3 open house comments • 2 survey responses	Residents use this basin for recreational purposes. This basin has areas that can be xeriscaped and still provide the residents with an area that meets their needs.
419	• 10 open house comments • 18 survey responses • 2 calls/emails	Many residents noted that parts of the basin are heavily used for all different types of activities.

Positive Feedback Received – Area 107

ELLIOT RD. & SUMMIT PL.

BEFORE



AFTER



Utility Bill Cost Savings
\$10,000/yr

Gallons Savings
3.3 Million Gallons/yr

Xeriscape Maintenance Cost
Currently \$446/acre. Cost
Increases are possible when
sites are reevaluated by
contractor but we will make
every effort keep costs flat



0' 30' 60'

QUANTITIES

Approx. site area: 113,845 SQ. FT.
Approx. turf removed: 112,551 SQ. FT.

OPINION OF PROBABLE CONSTRUCTION COST

\$ 730,902.99

Positive Feedback Received – Area 108

ALMA SCHOOL RD. & PALOMINO DR.

BEFORE



AFTER



Utility Bill Cost Savings
\$15,000/yr

Gallons Savings
5.0 Million Gallons/yr

Xeriscape Maintenance Cost
Currently \$446/acre. Cost
Increases are possible when
sites are reevaluated by
contractor but we will make
every effort keep costs flat

QUANTITIES

Approx. site area: 170,745 SQ. FT.
Approx. turf removed: 161,518 SQ. FT.

OPINION OF PROBABLE CONSTRUCTION COST

\$ 1,001,631.50



Positive Feedback Received – Area 119

WARNER RD. & PENNINGTON DR.

BEFORE



AFTER



Utility Bill Cost Savings
\$8,000/yr

Gallons Savings
2.6 Million Gallons/yr

Xeriscape Maintenance Cost
Currently \$446/acre. Cost
Increases are possible when
sites are reevaluated by
contractor but we will make
every effort keep costs flat

QUANTITIES

Approx. site area: 263,993 SQ. FT.
Approx. turf removed: 263,993 SQ. FT.

OPINION OF PROBABLE CONSTRUCTION COST

\$ 1,666,704.95



Positive Feedback Received – Area 416A

KYRENE RD. & CHICAGO ST.

BEFORE



AFTER



Utility Bill Cost Savings
\$10,000/yr

Gallons Savings
3.0 Million Gallons/yr

Xeriscape Maintenance Cost
Currently \$446/acre. Cost
Increases are possible when
sites are reevaluated by
contractor but we will make
every effort keep costs flat

QUANTITIES

Approx. site area: 135,265 SQ. FT.
Approx. turf removed: 129,680 SQ. FT.

OPINION OF PROBABLE CONSTRUCTION COST

\$ 807,862.58



Positive Feedback Received – Area 418A

MCCLINTOCK DR. & GALVESTON ST.

BEFORE



AFTER



Utility Bill Cost Savings
\$10,000/yr

Gallons Savings
3.2 Million Gallons/yr

Xeriscape Maintenance Cost
Currently \$446/acre. Cost
Increases are possible when
sites are reevaluated by
contractor but we will make
every effort keep costs flat



QUANTITIES

Approx. site area: 114,035 SQ. FT.
Approx. turf removed: 112,955 SQ. FT.

OPINION OF PROBABLE CONSTRUCTION COST

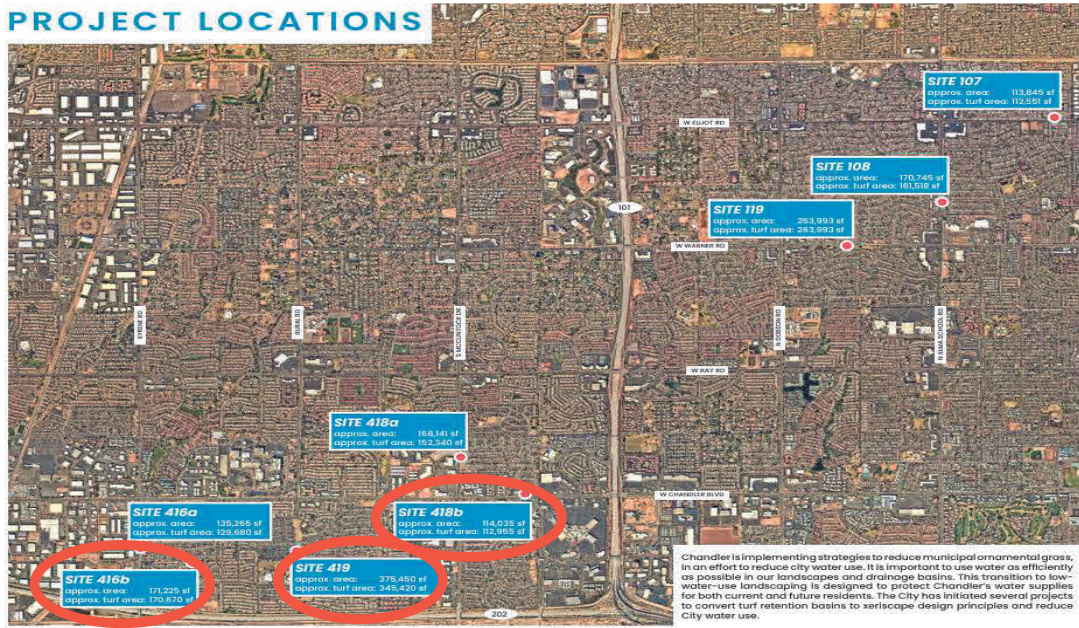
\$ 940,247.03

Recommendations for Sites that Received Positive Feedback

- The following sites are proposed to be built as shown in the original Public Meeting. City staff will contact residents that had comments and answer any questions they may have.
 - Site 107 - North side of Elliot Road east of Alma School Road.
 - Site 108 - East side of Alma School north of Warner Road
 - Site 119 - South side of Warner Road east of Dobson Road
 - Site 416a - East side of Kyrene Road South of Chandler Boulevard
 - Site 418a - East side of McClintock Drive north of Chandler Boulevard

Sites with Mixed Feedback From Public Meeting #1

PROJECT LOCATIONS



Xeriscaped Site Examples



Options Discussion – Area 416B

OAK ST. & FOLLEY ST.



Utility Bill Cost Savings
\$8,000/yr

Gallons Savings
2.5 Million Gallons/yr

Xeriscape Maintenance Cost
Currently \$446/acre. Cost Increases are possible when sites are reevaluated by contractor but we will make every effort keep costs flat

Options Discussion – Area 418B

CHANDLER BLVD. & COUNTRY CLUB WY.



QUANTITIES
Approx. site area: 114,035 SQ. FT. Approx. turf removed: 112,955 SQ. FT.
OPINION OF PROBABLE CONSTRUCTION COST
\$ 706,460.25

QUANTITIES
Approx. site area: 114,035 SQ. FT. Approx. turf removed: 92,830 SQ. FT.
OPINION OF PROBABLE CONSTRUCTION COST
\$ 747,128.70

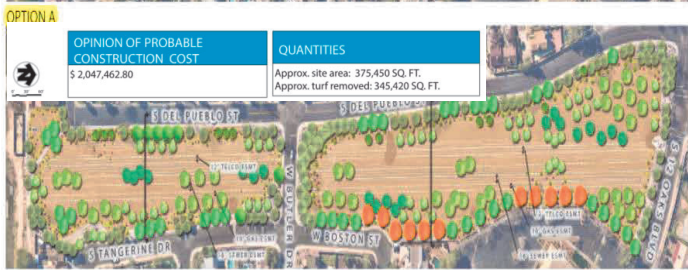
Utility Bill Cost Savings
\$9,500/yr

Gallons Savings
3.075 Million Gallons/yr

Xeriscape Maintenance Cost
Currently \$446/acre. Cost Increases are possible when sites are reevaluated by contractor but we will make every effort keep costs flat

Options Discussion – Area 419

BASINS AT BUTLER DR. & DEL PUEBLO ST.



OPINION OF PROBABLE CONSTRUCTION COST
\$ 2,002,732.08
QUANTITIES
Approx. site area: 375,450 SQ. FT. Approx. turf removed: 223,442 SQ. FT.

OPINION OF PROBABLE CONSTRUCTION COST
\$ 2,208,821.34
QUANTITIES
Approx. site area: 375,450 SQ. FT. Approx. turf removed: 315,966 SQ. FT.

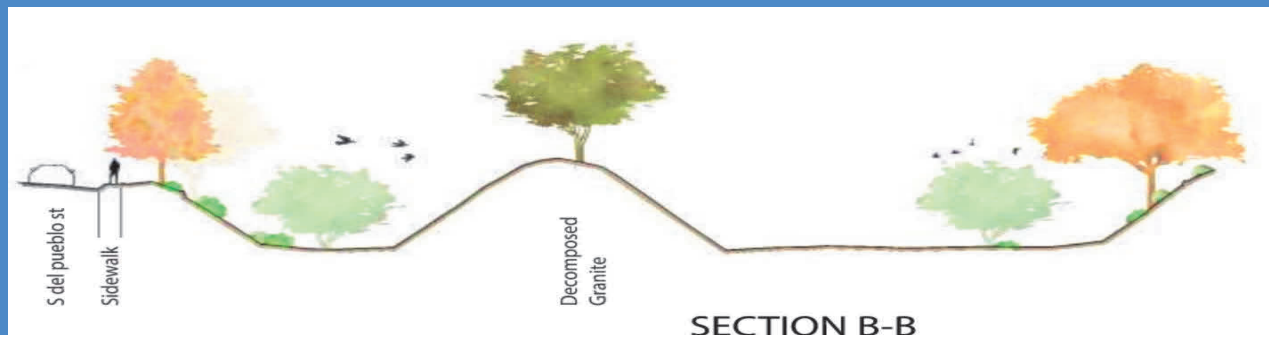
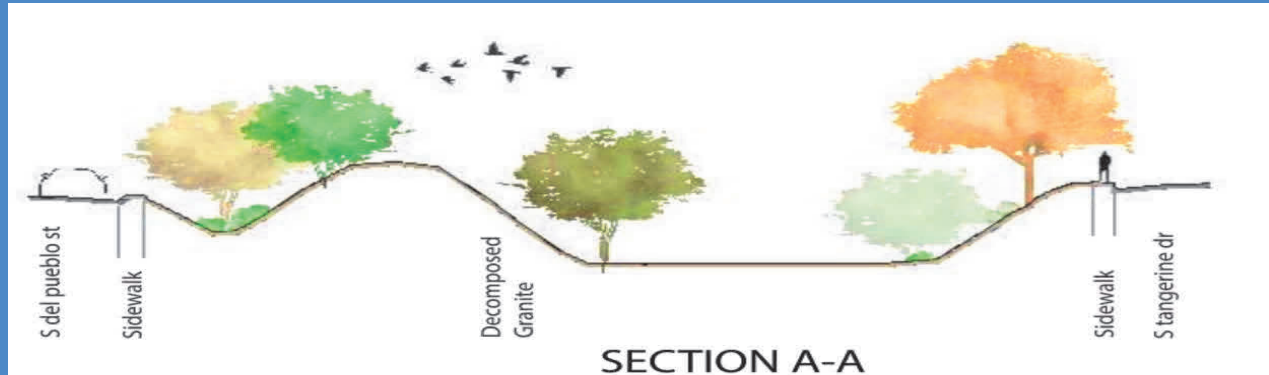
Utility Bill Cost Savings
\$13,167/yr

Gallons Savings
4.167 Million Gallons/yr

Xeriscape Maintenance Cost
Currently \$446/acre. Cost Increases are possible when sites are reevaluated by contractor but we will make every effort keep costs flat

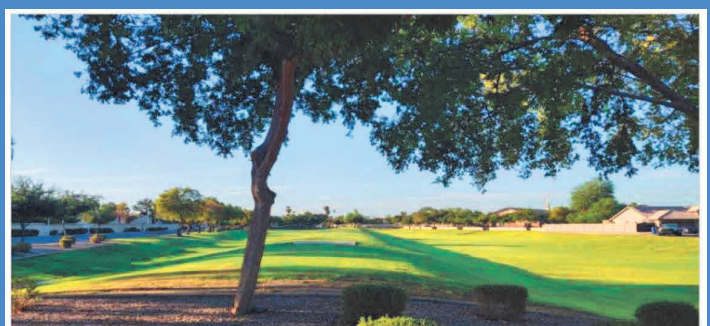
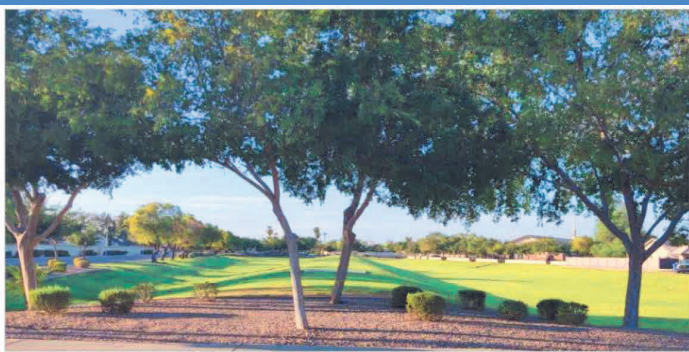
Options Discussion – Area 419

Cross-Sections



Options Discussion – Area 419

Existing Photos



Recommendations for Sites That Received Mixed Feedback

- The following sites will be modified to address neighbors' questions, suggestions, and concerns. City staff will contact each resident that had a comment and discuss how we incorporated their ideas into the design.
 - Site 416b – South of Chandler Boulevard and east of Kyrene Road within the neighborhood.
 - Staff recommends Option A, full xeriscaping to match adjacent HOA basins as shown at the public meeting.
 - Site 418b – North side of Chandler Boulevard east of McClintock Drive
 - Staff recommends Option A, full xeriscaping as shown at the public meeting.
 - Site 419 – South of Chandler Boulevard within the 12 Oaks Community
 - Staff recommends Option C, leaving grass in the northeast quadrant per residents' recommendation.

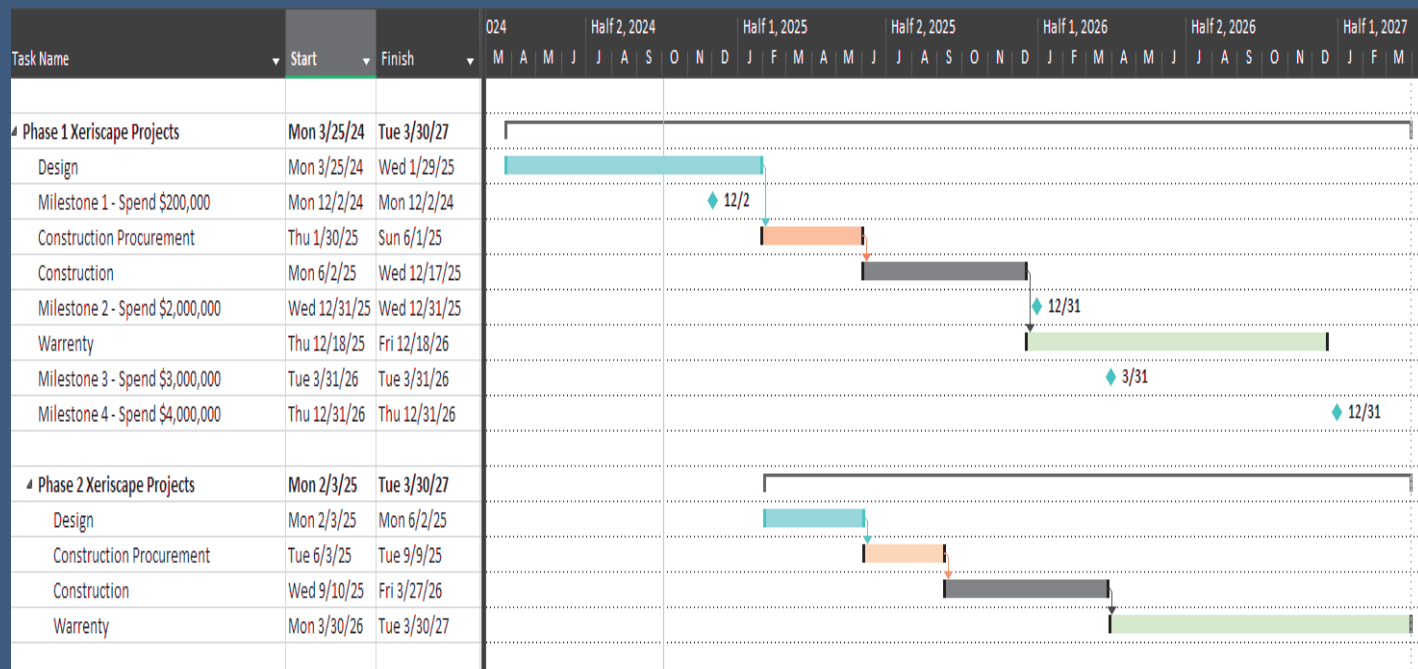
Site Conversion Totals Shown Per Staff Recommendations

Phase I Sites Proposed Conversion Totals

Site	Area Total (SF)	Area Converted (SF)	Estimated Const. Cost (\$)	Water Volume Saved (MGAL/YR)	Water Bill Savings (\$/YR)	*Maintenance Bill Savings (\$/YR)
Positive Feedback Sites						
107	113,854	112,531	\$730,903	3.3	\$10,000	\$0
108	170,745	161,518	\$1,001,632	5.0	\$15,000	\$0
119	263,993	263,993	\$1,666,705	2.6	\$8,000	\$0
416A	135,265	129,680	\$807,863	3.0	\$10,000	\$0
418A	114,035	112,955	\$940,247	3.2	\$10,000	\$0
	797,892	780,677	\$5,147,350	17	\$53,000	\$0
Mixed Feedback Sites						
416B	171,225	170,670	\$1,014,588	2.5	\$8,000	\$0
418B	114,035	112,995	\$706,460	3.1	\$9,500	\$0
419	375,450	315,966	\$2,208,821	4.2	\$13,167	\$0
	660,710	599,631	\$3,929,869	10	\$30,667	\$0
Phase 1 Totals	1,458,602	1,380,308	\$9,077,219	27	\$83,667	\$0

*Xeriscape maintenance cost currently \$446/acre. Cost Increases are possible when sites are reevaluated by contractor but we will make every effort keep costs flat

Project Timeline



Review of Recommendations for Phase I Sites:

Sites With Positive Resident Feedback:

- The following sites are proposed to be built as shown in the original Public Meeting.
 - Site 107 - North side of Elliot Road east of Alma School Road.
 - Site 108 - East side of Alma School north of Warner Road
 - Site 119 - South side of Warner Road east of Dobson Road
 - Site 416a - East side of Kyrene Road South of Chandler Boulevard
 - Site 418a - East side of McClintock Drive north of Chandler Boulevard

Site With Mixed Resident Feedback:

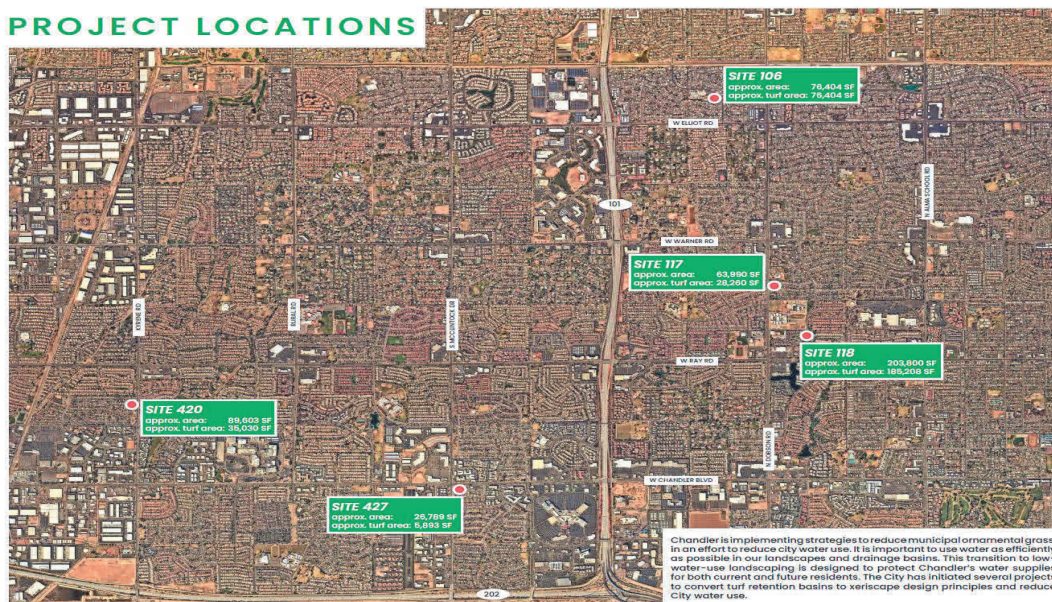
- The following sites will be modified to address neighbors' questions, suggestions, and concerns.
 - Site 416b – South of Chandler Boulevard and east of Kyrene Road within the neighborhood.
 - Staff recommends Option A, full xeriscaping to match adjacent HOA basins as shown at the public meeting.
 - Site 418b – North side of Chandler Boulevard east of McClintock Drive
 - Staff recommends Option A, full xeriscaping as shown at the public meeting.
 - Site 419 – South of Chandler Boulevard within the 12 Oaks Community
 - Staff recommends Option C, leaving grass in the northeast quadrant per residents' recommendation.

How Will We Communicate Back to Residents?

City staff will contact each resident that had a comment by phone or email to discuss our path forward and how we incorporated their ideas into the design of the project. Final designs will also be posted on City web page for project

Xeriscape Locations – Sites for Public Meeting #2 (Phase 2)

PROJECT LOCATIONS



Xeriscaped Site Examples

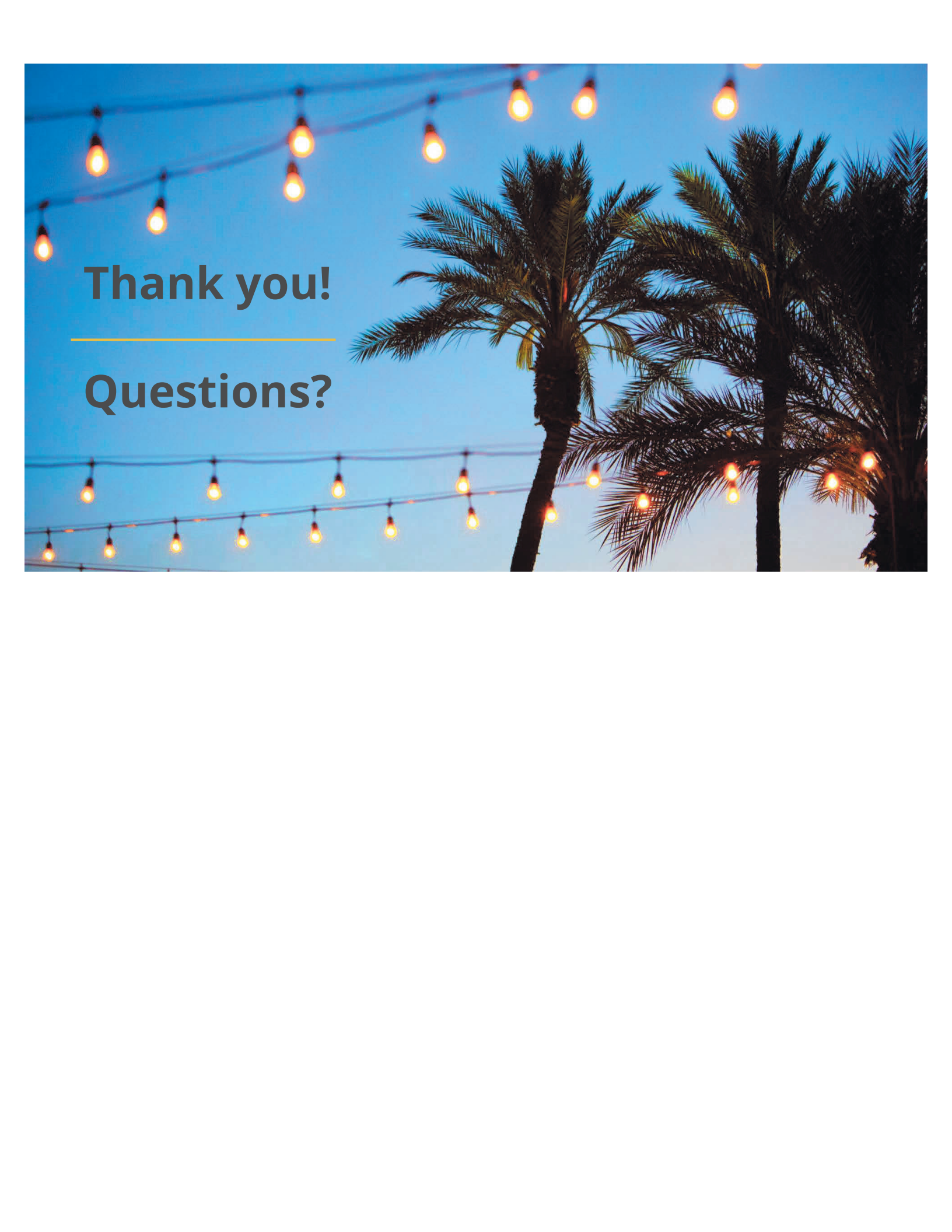


October, 2024



ST2405.201 Turf to Xeriscape Program
OVERALL CONTEXT MAP – Phase 2

Design

A photograph of palm trees and string lights at dusk. The sky is a deep blue, and the palm trees are silhouetted against it. Strings of warm white lights are strung across the frame, some of which are in focus and glowing. The text "Thank you!" is overlaid on the left side of the image.

Thank you!

Questions?