

Administration and Finance - 2021

FACILITIES MANAGEMENT ASSESSMENT PLAN

Facilities Management (FM) Turf Replacement Plan

■ Assessment Purpose

- Facilities Management sought to understand the turf reduction outcomes made through new construction and drought-tolerant xeriscaping projects.
- Question: **How much green space has been replaced since the beginning of the turf reduction plan?**



FM Turf Replacement Plan

■ Assessment Methodology

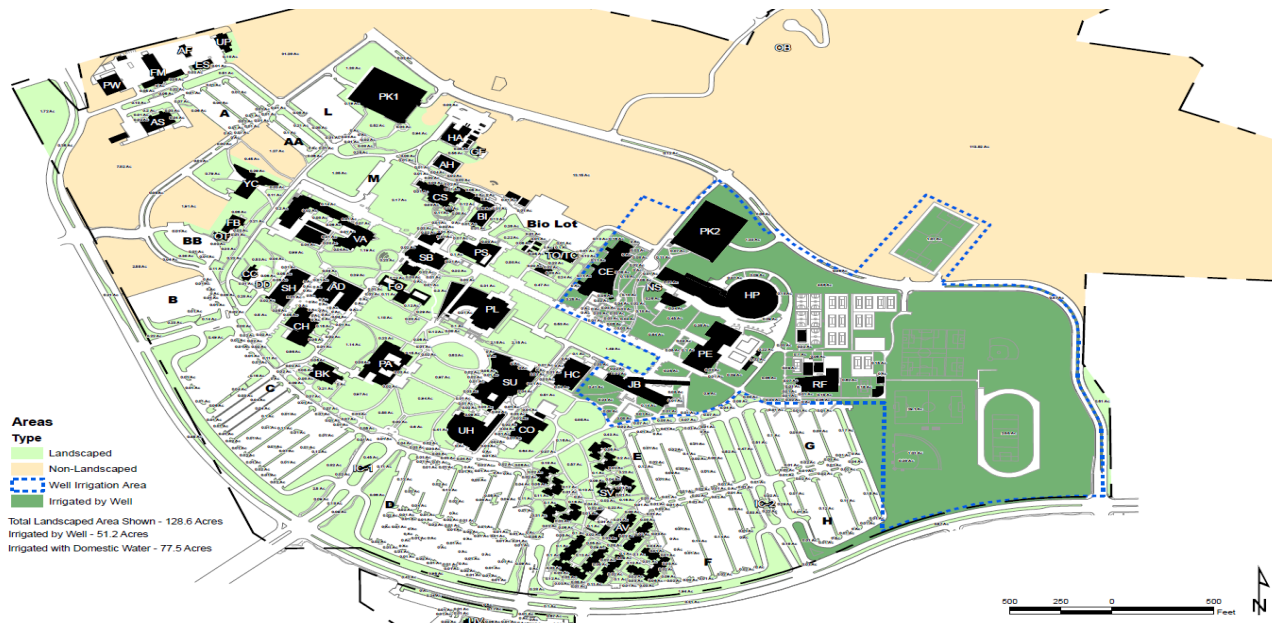
- This assessment involved collecting and reviewing data from the following:
 - Facilities Planning Design and Construction Reports and Records
 - Facilities Management Reports and Records
 - Office of Sustainability Reports and Records
- This assessment evaluated the data from:
 - Fall of 2016 beginning with the construction of Parking Lot N
 - Fall of 2024 with the planned construction of the Performing Arts Center building



FM Turf Replacement Plan

■ Assessment Data

- The assessment included the following measures:
 - ✓ **Square Feet/Acres Removed or Replaced**
 - ✓ **Gallons of Water (at .002)**



CSUSB

WE DEFINE THE

Future

Assessment Findings

Parking Lot N Completed Fall 2016			
Pre-Construction/Replacement		Post-Construction/Replacement	
Undeveloped Land	532,409	New, Non-Turf Planting	130,734
		New Turf	0
		Increased Landscaping	130,734
		Water Increase	4,052,754 gal/sq.ft/yr
		Water Costs	\$8,105/yr

Student Housing and Dining Completed Fall 2018			
Pre-Construction/Replacement		Post-Construction/Replacement	
Primarily Parking Lot	338,500	New, Non-Turf Planting	7,370
		New Turf	9,950
		Increased Landscaping	17,320
		Water Increase	536,920 gal/sq.ft/yr
		Water Costs	\$1,073/yr



Assessment Findings

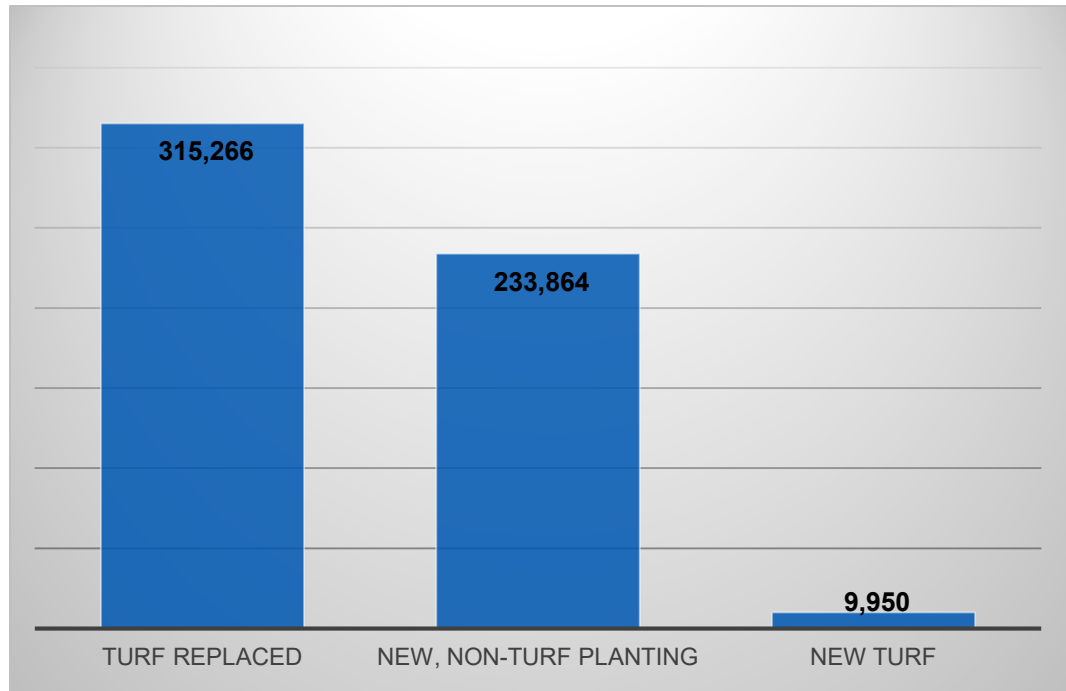
Center for Global Innovation Completed Fall 2019			
Pre-Construction/Replacement		Post-Construction/Replacement	
Primarily Turf	117,332	New, Non-Turf Planting	45,000
		New Turf	0
		Reduced Landscaping	-72,332
		Water Reduction	2,242,292 gal/sq.ft/yr
		Water Savings	\$4,484/yr

SMSU North Fall of 2021			
Pre-Construction/Replacement		Post-Construction/Replacement	
Turf	99,324	New, Non-Turf Planting	25,000
		New Turf	0
		Reduced Landscaping	-74,324
		Water Reduction	2,304,044 gal/sq.ft/yr
		Water Savings	\$4,608/yr

Assessment Findings

New Shade Structure North of SMSU			
Pre-Construction/Replacement		Post-Construction/Replacement	
Turf	3,192	New, Non-Turf Planting	0
		New Turf	0
		Reduced Landscaping	-3,192
		Water Reduction	98,952 gal/sq.ft/yr
		Water Savings	\$197.90/yr
City of San Bernardino Rebate Project Winter/Spring 2021			
Pre-Construction/Replacement		Post-Construction/Replacement	
Turf	15,418	New, Non-Turf Planting	760
		New Turf	0
		Reduced Landscaping	-14,658
		Water Reduction	454,398 gal/sq.ft/yr
		Water Savings	\$908/yr
Performing Arts Center in Design Tentative Fall 2024			
Pre-Construction/Replacement		Post-Construction/Replacement	
Primarily Turf	80,000	New, Non-Turf Planting	25,000
		New Turf	0
		Reduced Landscaping	-55,000
		Water Reduction	1,705,000 gal/sq.ft/yr
		Water Savings	\$3,410/yr

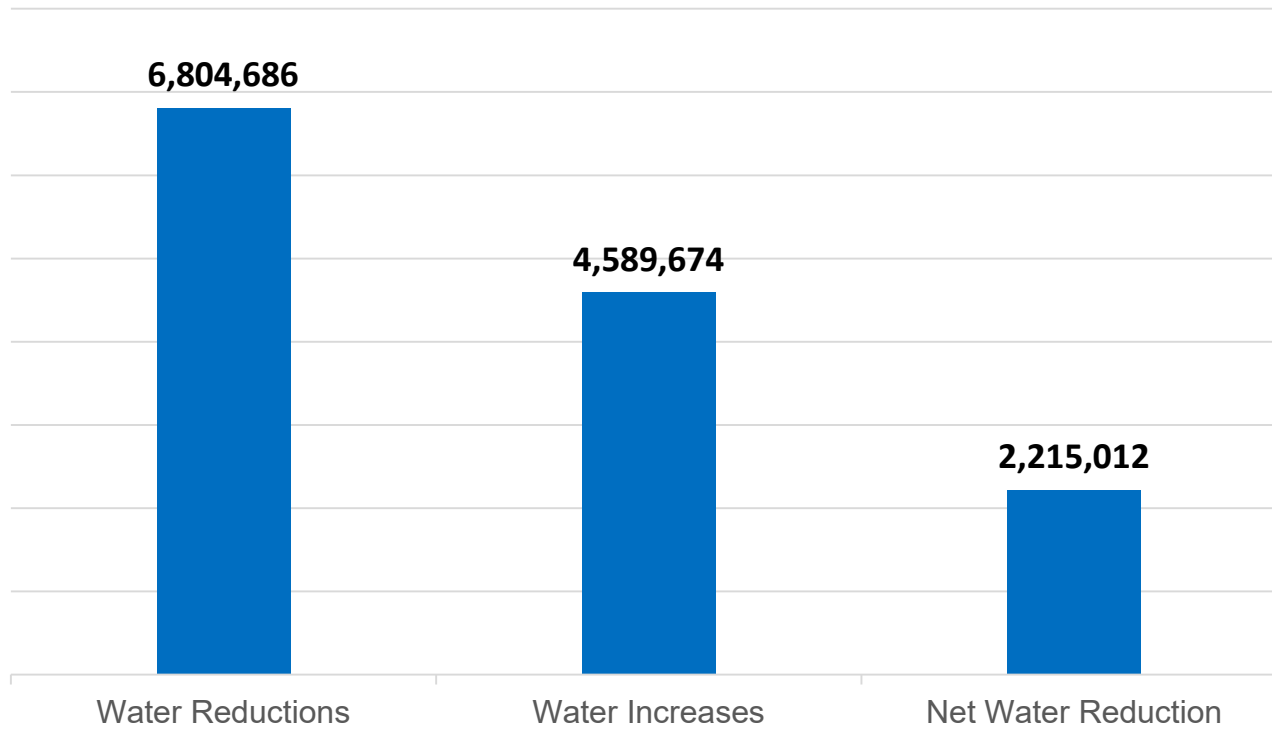
Assessment Findings



CSUSB

WE DEFINE THE *Future*

Assessment Findings: Water Reductions and Increases



Measurements in gal/ sq.ft/yr



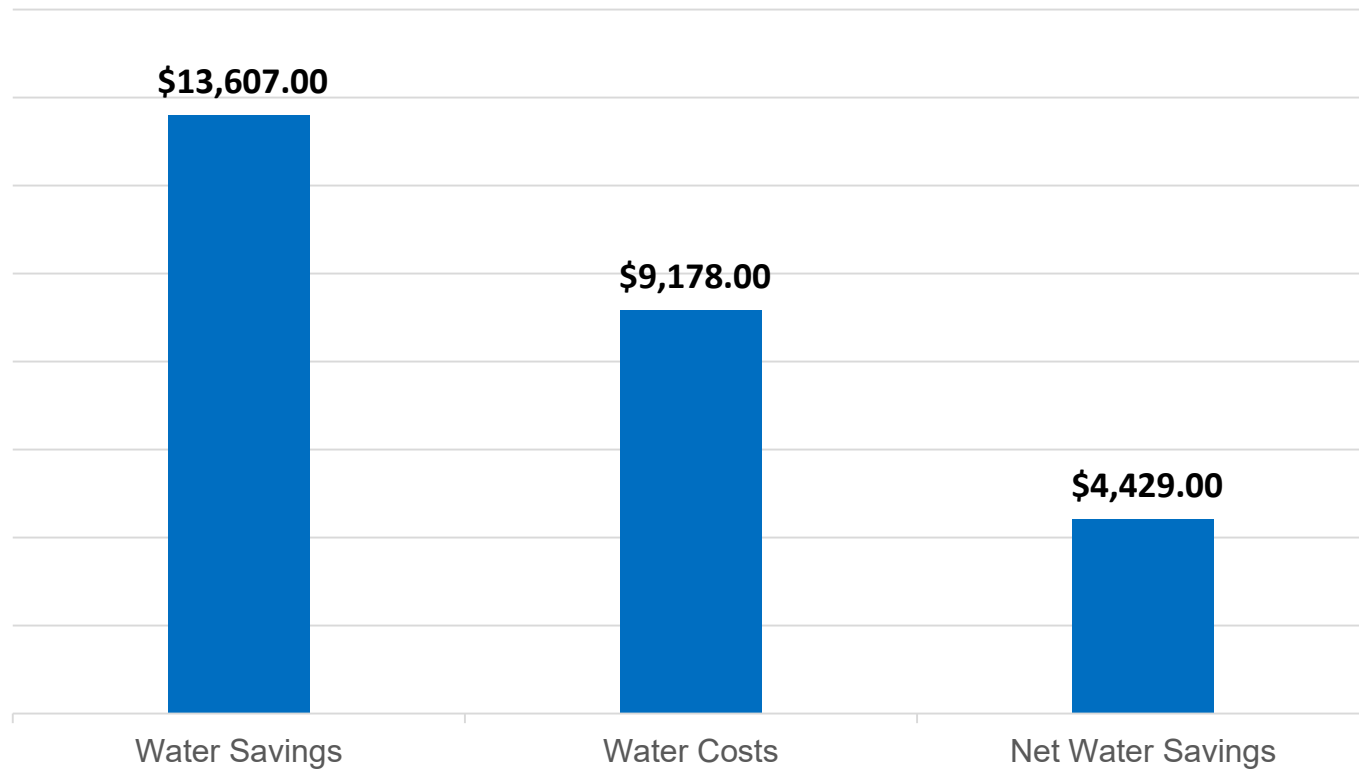
CSUSB

WE DEFINE THE

Future

Assessment Findings:

Water Costs and Savings



CSUSB

WE DEFINE THE *Future*

FM Assessment Outcomes

■ Summary of Cost Reductions

- Total Annual Net Water Reduction From Turf Removal 2,215,012 gal/sq.ft/yr
- Total Annual Estimated Water Savings from Turf Removal \$4,429/yr
- Rebate from the City of San Bernardino Water Department \$30,836
- Total Cost Avoidance due to Turf Removal Efforts \$4,429/yr
- Other Costs: Maintenance and Parts, Fertilizers, Weed Control, Gas, etc.



FM Assessment Outcomes

■ Implications for Practice

- ✓ Governor's Drought Emergency in 41 Counties Two Years After Last Drought
- ✓ Rebate and Grant Opportunities are Available for Future Projects
- ✓ In Line With Sustainability Resilient CSUSB Plan
- ✓ More Research is Required to Determine the Return on Investment (ROI)
- ✓ FM Needs to Continue to Take Advantage of Opportunities During New Construction and/or Small Campus Projects

FM Turf Replacement Assessment



Thank You

Questions?