



Rancho Santiago Community College District
Sustainable RSCCD Committee

September 19, 2018
District Office
Executive Conference Room #114
3:00 – 4:00 p.m.

Agenda

- | | |
|---|---|
| 1. Cal Recycle Grant Update | Leslie Lukacs,
Director of Zero Waste
SCS Engineers |
| 2. Draft 2016-2018 Sustainability Plan Report | Carri Matsumoto |
| 3. Standards for Sustainability | Carri Matsumoto |
| 4. Other | |

Next Meeting:
October 17, 2018
3:00 p.m.
Executive Conference Room #114

Mission Statement

The mission of the Rancho Santiago Community College District is to provide quality educational programs and services that address the needs of our diverse students and communities.

The mission of Santa Ana College is to inspire, transform, and empower a diverse community of learners.

Santiago Canyon College is an innovative learning community dedicated to intellectual and personal growth. Our purpose is to foster student success and to help students achieve these core outcomes: to learn, to act, to communicate and to think critically. We are committed to maintaining standards of excellence and providing the following to our diverse community: courses, certificates and degrees that are accessible, applicable, and engaging.



DRAFT

SUSTAINABILITY REPORT



Period Covering Fiscal Years
2016-2017 and 2017-2018

Approved by the Sustainable RSCCD Committee

TBD-Date



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INTRODUCTION

On March 3, 2015, the Rancho Santiago Community College District (RSCCD) Board of Trustees approved a District Sustainability Plan (“Plan”). The Plan outlined eight (8) goals in areas of sustainability: Campus & Community Engagement, Curriculum Development, Energy, Facilities Design & Operation, Solid Waste Management, Sustainable Procurement, Transportation and Water Management.

This report was compiled on behalf of the Sustainable RSCCD Committee (SRC) by the Facility Planning, District Construction and Support Services Department and covers a two year fiscal period. The information was compiled through a collaborative effort between the colleges, District and members of the SRC. The report highlights the last two fiscal year achievements, projects, programs, and plans completed as well as the work currently in progress in various phases of planning and implementation.

The SRC’s primary goal over the last several years has been to establish additional recycling programs at the colleges and District facilities by contracting with a new waste hauling management service provider who can assist the District in allowing for more sorting options in collection of waste, and by providing more detailed recycling data for the various sites. The desire is to have the waste hauler provider incorporate recycling activities best suited to the needs of each facility and report recycling outcomes. On-going efforts in this area are still underway and making progress in the solicitation and procurement phases.

Many sustainable activities are on-going and several projects have been completed to meet the goals of the plan. This year, the committee has reorganized the reporting method for the activities, programs, and projects to align the report outcomes with the identified eight (8) goals of the Plan. This reorganization of the reporting format allows for easier collection of information by members of the SRC and is easily comprehensible to interested individuals. The SRC will continue to focus on implementing programs and projects outlined in Section 4 of the Plan: Sustainable Programs and Projects for Implementation.

The SRC continues to strive towards implementing the goals of the Sustainability Plan and is proud to present the attached report covering the fiscal year period of 2016-2018.

Achievements:

- Compiled Utility Data Use for the last 8 years and established the baseline year as 2012-2013.
- Districtwide utility use has gone down by 5% for electricity, gas, and water in comparison to 2012-2013
- A new central chiller plant and replacement of underground utilities were completed at Santa Ana College, along with new sustainable landscaping.
- Santa Ana College’s new Science Center building is under construction and is LEED Silver equivalent, and is 28% more energy efficient than required by code.
- Santiago Canyon College has been utilizing the new Energy Management System (EMS) and making operational adjustments for both HVAC and exterior lighting with the new controls provided.
- A standard set of guidelines for building operators was set for building temperature set points (for heating and cooling) and continues to be implemented across all buildings.

Goals established by the Committee for the next two years are as follows:

- Retain a new waste hauler and start additional recycling programs.
- Add standards for procurement (products).
- Add more water hydration stations at Santa Ana College and Santiago Canyon College.

SUSTAINABLE RSCCD COMMITTEE MEMBERS: 2016-2018

Santa Ana College

Michael Collins, Ed. D., Vice President, Administrative Services (2016-2017)
Adam O'Connor, Interim Vice President, Administrative Services (2018)
Bart Hoffman, Interim Vice President, Administrative Services
James Kennedy, Ed.D., Vice President, Continuing Education Centennial Education Center

Kimo Morris, Ph.D., Faculty
Lisa McKowan-Bourguignon, Faculty (2016)
Marty Moreno, Faculty (2016)
Jim Isbell, Faculty

Angela Guevara, Classified Staff (2016)

Brandon Vu-Student (2017-2018)

Santiago Canyon College

Arleen Satele, Ed. D., Vice President of Administrative Services
Jose Vargas, Vice President of Continuing Education Orange Education Center

Angela Guevara, Faculty
Doug Deaver, Faculty (2017)

Kelsey Bains , Classified Staff (2016)
Claudia Vidal, Classified Staff
Brisa Mendoza (2016), Classified Staff (2016)
Summer Marsh, Classified Staff
Vacant-Student

District Office

Raúl Rodríguez, Ph.D., Chancellor
Carri Matsumoto, Assistant Vice Chancellor, Facilities Planning & District Construction & Support Services
Laurene Lugo, Classified Staff (Retired 2016)
Judy Iannaccone, Director of Public Affairs & Publications (Retired 2018)

GOALS OF THE SUSTAINABILITY PLAN

The Sustainable RSCCD Committee (SRC) has identified the following sustainability goals and priorities. The goals and priorities for the Sustainability Plan reflect campus needs, interests, and available resources.

Goal 1- Campus & Community Engagement

Encourage participation in and awareness of sustainability issues through effective education and engagement. Integrate sustainability into all facets of student life, including student government, clubs, and organizations.

Goal 2- Curriculum Development

Facilitate the inclusion of environmental sustainability and social responsibility into existing curriculum and develop new curricula and career-oriented certificate and training courses with an emphasis on sustainability.

Goal 3- Energy

Utilize 2012-2013 benchmark study to establish annual energy use and demand reduction goals (target 5% reduction). Plan appropriate energy efficiency, demand reduction, or clean self-generation measures by mid-2015 to meet reduction goals.

Goal 4- Facilities Design & Operation

Design and construct all major capital projects and renovations to meet LEED Silver “equivalent” standard and operate facilities to meet solid waste, energy, and water use reduction goals. Employ sustainable landscaping practices.

Goal 5- Solid Waste Management

Continue to implement the landfill diversion program, expand it to include all sectors of recycling and waste reduction to landfills, and strive to meet the statewide landfill recycling goal of 75% by 2020.

Goal 6-Sustainable Procurement

Implement efforts to source campus food, materials, supplies, information technology, equipment, and resources from organizations committed to social responsibility and environmental sustainability.

Goal 7- Transportation

Reduce the reliance of students, faculty, and staff on single occupancy vehicle commutes by 5% within the next five years, and encourage the use of low and zero emissions vehicles.

Goal 8- Water Management

Perform water use benchmarking studies at both campuses and the District Office to better understand usage as compared to similar facilities and community college peers. Based on the results, establish annual water use reduction goals and plan appropriate measures to achieve goals. The goals described above will apply to both Santa Ana College and Santiago Canyon College, the education centers, and the District Office. The goals are listed in alphabetical order, and are not necessarily listed by priority.

The goals and criteria established for the Sustainability Plan will be monitored during Plan implementation as described in Section 5, “Measure and Report Performance.”

Vision Statement

The Rancho Santiago Community College District holds sustainability to be a foundational principle in its current and future development.

As a responsible steward of natural resources and the environment, the District will endeavor to minimize its impact on the environment by implementing best practices for conserving resources, reducing waste, implementing energy reduction and alternative energy generation strategies, constructing efficient buildings, and by developing partnerships that will further these activities.

GOAL 1: CAMPUS & COMMUNITY ENGAGEMENT

Goal Description

Encourage participation in and awareness of sustainability issues through effective education and engagement. Integrate sustainability into all facets of student life, including student government, clubs, and organizations.

ACHIEVEMENTS:

A. Created a Sub-Committee in the Associated Student Government Devoted to Sustainability

Santa Ana College:



Mission Statement: The Associated Student Government of Santa Ana College (ASGSAC) advocates on behalf of students on issues that affect students and ensures a student voice in the decision-making processes of the college. The ASGSAC ensures that a variety of clubs and organizations are available for students to join and is committed to ensuring that students have a fun and eventful learning environment on campus. Also, ASGSAC hopes that all students have an opportunity to participate in extra and co-curricular activities and to enhance their college experience.

- The Associated Student Government (ASG) has created a Sustainability Commissioner position and this position serves on the Sustainable RSCCD committee and promotes sustainability efforts within ASG as well as provides a student voice for sustainability advocacy for the students. The position leads the student effort for the annual Earth Day event.

Santiago Canyon College:



Mission Statement: Our mission is to develop student leaders who will represent, protect, and defend the rights of every student at Santiago Canyon College. It is our duty to research and advocate for new and innovative pathways to improve student success, as well as enhance the overall environment for our students on campus.

- Santiago Canyon College Associated Student Government established a "Green Operations Committee" and the committee continues to be active.

B. Sustainability Events

Both colleges have had successful Earth Day and Sustain-a-Palooza events on campus. Each year, the events are continuously growing with the participation of students, faculty, staff, and vendors.

Santa Ana College:

The college hosted the annual Sustain-A-Palooza, which is a program dedicated to environmental awareness and action. The event has taken place for five (5) consecutive years.

Santiago Canyon College:

The College has hosted the annual Earth Day festivities which included the following activities:

- Planted two (2) trees in the Quad area.
- Site One Landscape Supply of Laguna Niguel demonstrated how to reduce water usage in residential areas.
- Kubot Eberhart Equipment of Santa Ana brought equipment to demonstrate new technologies available to control emissions and protect the environment.
- Southwest Boulder & Stone of Escondino displayed rockscape materials for landscaping.
- Toyota of Corona showcased five (5) energy-efficient vehicles.
- Irvine Campus Housing Authority, Inc. and Adams Streeter Civil Engineering discussed careers in Design and Engineering/Environmental.
- Partnered with Enriched Farms, a local farmers market organization that brought local vendors on campus to sell a variety of goods for Earth Day guests from 9 A.M. to 2 P.M.



Figure 1. Vendors Booth on Earth Day



Figure 2. Toyota of Corona

GOAL 2: CURRICULUM DEVELOPMENT

Goal Description

Facilitate the inclusion of environmental sustainability and social responsibility into existing curriculum and develop new curricula and career-oriented certificate and training courses with an emphasis on sustainability.

ACHIEVEMENTS:

A. Utilize Different Pathways to Integrate Sustainability in the Curriculum

Santa Ana College:

- 3-D Printing/Advance Manufacturing Class uses sustainable filament. Daniel Oase, Assistant Professor/Coordinator of CTE/Business Skills, created a new non-credit Certificate of Completions called 3D Printing/Advance Manufacturing. One of the classes required for this certificate is Introduction to 3D Printing. The PLA filament used to create these models is compostable and recyclable. All objects are corn starched based.

B. Training Opportunities for Students

Santa Ana College:

- Engineering, Biology, Geology field trips.
- Sustainable design elements in engineering and automotive programs.

Santiago Canyon College:

- The Water Utility Science program is developing a Certificate of Proficiency in Water Conservation.
- Advocate for Change at the Statewide Level.

C. Enhance Student Distance Learning

Santa Ana College:

- Added 31 courses that were either new curriculum with the DE Addendum or where the DE Addendum was added to offer online/hybrid.

Placeholder-Need descriptions of 31 courses. [To Be confirmed]



ONLINE CLASSES – Look for the ONLINE class symbol in the schedule



HYBRID CLASSES – Look for the HYBRID class symbol in the schedule.

Students enrolling in online courses will have the opportunity to complete their course work outside of the classroom, although some classes combine on-site testing with online instruction. Students may access course materials via the internet either at home or using an on campus computer.

Hybrid (blended) courses are courses that combine face-to-face classroom instruction with online learning. Students will have required instructional on-campus meetings. On campus required meeting dates, time and place, and instructor contact information can be found on WebAdvisor <http://webadvisor.rsccd.edu>.

GOAL 3: ENERGY

Goal Description

Perform energy use benchmarking studies at both campuses and the District Office to better understand District energy use as compared to similar facilities and community college peers. Based on the results, establish annual energy use and demand reduction goals and plan appropriate energy efficiency, demand reduction, or clean self-generation measures to achieve goals.

ACHIEVEMENTS:

A. Conduct Comprehensive Facility Energy Audits

- Prepared report of energy and gas consumption for all sites, using fiscal year 2012-2013 as a baseline year of measurement (See Exhibit 5 Electricity, Gas and Water Use Data FY 2010-2018).
- The District conducts an annual review of electricity and gas use from the billing information generated from the Southern California Gas Company and Southern California Edison.
- District reviews the trends with the campus to discuss use and changes.
- Set new thermostat guidelines.

B. Identify and Take Advantage of Grants and Incentive Programs

- Leveraged state funding Scheduled Maintenance and Proposition 39 to complete multiple energy efficiency projects.
- District Office replaced existing boiler with new high efficiency boiler providing more efficient means of heating the building.

Santa Ana College:

- Proposition 39 Year 5: District-wide Exterior LED Lighting replacement completed.
- Closeout Proposition 29 Years 1, 2, 3, and 4 projects with the State.



Figure 3. Exterior Lighting at Quad Area, Santa Ana College



Figure 4. Exterior Lighting at Santiago Canyon College

- Participated in Central Plant Load Shifting Program.
- Proposition 39 Year 4: Santa Ana College, Digital Media Center and Orange County Sheriff's Regional Training Academy EMS upgrade project was completed.
- Conversion from gas power carts for Maintenance and Operation to electric carts with incentives for conversion.

New Central Plant Building

- The construction of the new Central Plant building and replacement of all underground utilities (domestic water, sewer, fire water, storm drain, gas, electric and data).
- A reduction of electrical loads during peak demand periods, a new chilled water loop system, connection to seven (7) existing buildings to the HVAC equipment to provide cooling.
- A new Energy Management System (EMS) to control building temperatures and the capability to monitor the system remotely.
- The Central Plant project is based on permanent load shifting through thermal ice storage facilities for cooling.
- Implemented staggered starts for the electrical utilities and equipment (such as HVAC) to reduce electrical consumption. This allows for lower peaks during high demand electrical events.
- Replaced existing constant volume single package HVAC units with more efficient variable air volume units.



Figure 5. New Central Plant Building



Figure 6. Central Plant Cooling Towers

- Installed occupancy sensors to reduce energy consumption during occupied hours of operation.
- Replaced and Repaired Heating Fan Coil Valves in Dunlap Hall, Building D.
- New buildings (Science Center, Johnson Center, and Health Sciences) are designed per Code to accommodate future addition of photovoltaic panels to the roof.

Santiago Canyon College:

- Installed variable frequency drives to adjust pool pump speeds and reduce energy consumption at the Athletics building at Santiago Canyon College.
- Future assessments to replace constant volume HVAC equipment with more efficient variable air volume equipment. The project also includes occupancy-based equipment operation using occupancy sensors to reduce energy consumption during occupied hours of operation.
- Completed the replacement of 42 fan coil units in Building D.

GOAL 4: FACILITIES DESIGN & OPERATION

Goal Description

Design and construct all major capital projects and renovations to meet LEED Silver “equivalent” standard and operate facilities to meet solid waste, energy, and water use reduction goals. Employ sustainable landscaping practices.

ACHIEVEMENTS:

A. Facilities Design

Santa Ana College:

- The Central Plant (image of building is shown on the front cover of this report) project is designed to meet Leadership in Energy and Environmental Design (LEED) Silver equivalence by United States Green Building Council. The energy efficient elements include water-efficient landscaping, plumbing fixtures, high efficient HVAC units, and daylighting.
- The Johnson Student Center building is designed to meet Leadership in Energy and Environmental Design (LEED) Silver equivalence by United States Green Building Council. Some of the efficient elements include water-efficient landscaping and plumbing fixtures, highly efficient HVAC units, daylight harvesting, controlled electrical outlets, and separate building metering.



Figure 7. Johnson Student Center

- The Science Center building is designed to meet Leadership in Energy and Environmental Design (LEED) Silver equivalence by United States Green Building Council. Some of the efficient elements include water-efficient landscaping and plumbing fixtures, highly efficient HVAC units, daylight harvesting, controlled electrical outlets, separate building metering. The building is 28% more energy efficient than required by code.



Figure 8. New Science Center

- The Health Sciences building is designed to meet Leadership in Energy and Environmental Design (LEED) Silver equivalence by United States Green Building Council. Some of the efficient elements include water-efficient landscaping and plumbing fixtures, highly efficient HVAC units, daylight harvesting, controlled electrical outlets, and separate building metering.



Figure 9. New Health Sciences

B. Encourage and Support Energy Efficiency Training of Staff

Santa Ana College:

- Ongoing EMS training and analytics software training as part of the campus-wide EMS upgrades.
- Reviewed commissioning agent's EMS operation and system user manual was reviewed with the college after EMS system turnover. Reviewed air balance report and trained staff on air balance inefficiency corrections.

- Commissioning agent's Central Plant operation and system user manual was reviewed with the college after system turnover. Reviewed air balance reports and trained staff on air balance inefficiency corrections.

Santiago Canyon College:

- Standardized EMS Systems to ensure consistency with user friendly HVAC management.
- Provided new laptops to Maintenance and Operations (M&O) staff to better utilize EMS system
- Provided in-depth EMS training to the M&O staff as part of EMS installation
- Reviewed systems manual and air/water balance reports for all commissioned projects with the maintenance staff to help them better understand system operations and system status.

C. Install Energy Management System

- Santa Ana College, Santiago Canyon College, Orange County Sheriff's Regional Training Academy, Digital Media Center, and District Operations Center now have interior corridor and Exterior lighting controlled by an EMS under a predefined schedule using automatic daylight savings programming.

Santa Ana College:

- Proposition 39 Year 4 project implemented a new EMS system access, as well as the Digital Media Center and Orange County Sheriff's Regional Training Academy.
- Standardized HVAC set point ranges between 70 – 74 to maintain consistent temperatures and removed ability for users to adjust temperature to provide better control of HVAC equipment.

Santiago Canyon College:

- Standardized HVAC set point ranges between 70 – 74 to maintain consistent temperatures and removed ability for users to adjust temperature to provide better control of HVAC equipment.
- Exterior lighting controls have been improved so the lights turn off and on based on local weather station sunrise and sunset data.
- Implemented the sequences into EMS Systems to allow the campus to automatically make set point adjustments at all the buildings when there is an all-call for energy reduction.
- Optimized HVAC building occupancy hour across all the buildings to take advantage of optimal start sequences.
- The Humanities Building at Santiago Canyon College has step dimming and automatic continuous dimming (daylight harvesting) at all classrooms and office spaces.

D. Adjust Temperature Set Points and Schedule Operating Times

- District developed Standard Design Guidelines for temperature set points according to ASHRAE and District Standard Guidelines of 74 degrees for cooling and 68 degrees for heating. These guidelines are used by building operators as they make adjustments where, needed based on use and occupancy.

E. Optimize Building Occupancy Scheduling

District Office and Santiago Canyon College:

- As part of the EMS sequences, all HVAC has been optimized via new sequence programming to start and stop whenever there is a certain number of cooling and heating calls, thereby, eliminating the need for the equipment to run continuously

F. Optimize Equipment Scheduling

District Office:

- The chiller and boiler plant have been optimized via new sequence programming to start and stop whenever there is a certain demand of cooling and heating. Thereby, eliminating the need for the equipment to run continuously.

Santa Ana College:

- Coordinate scheduling of internal and external events with HVAC team and college facilities coordinator to limit operation of HVAC systems when buildings are not being fully utilized.

Santiago Canyon College:

- All new energy efficient projects have undergone commissioning and staff has been trained on EMS operations to maintain operations as originally commissioned

H. Pursue Monitoring-Based Commissioning (MBCX) Retro-Commissioning (RCX)

- The District assessed energy meters districtwide and installed analytics software at selected buildings to monitor system performance and make system corrections for Santa Ana College.

I. Implement Sustainable Design Practices

- District standards have been developed with sustainability in mind. For example, all new light fixtures are required to be LED type to reduce energy waste.
- All projects are required to be enrolled in SCE's 'Savings by Design' program to maximize energy savings, all irrigation systems must have "smart controller" to reduce water waste, and all new buildings must have daylighting systems to dim indoor lighting based on outdoor natural lighting.
- Repairs and maintenance projects by the colleges also incorporate and implement these standards. The standards files are updated on a regular basis and available to access by the colleges and the district via a shared directory file and available to design consultants if needed.

J. Commission New Buildings & Maintain Appropriate Operations to Support Functionally

- The following systems, at a minimum, shall be commissioned for all new buildings: HVAC; lighting controls (including daylight harvesting); plumbing; energy management system; life safety systems (fire alarm, egress pressurization, fire protection); security system; uninterruptible power supply system; and smart irrigation systems.
- Onuma System Work Order System: A new building work order system has been deployed districtwide and is available for all sites to utilize and track work orders. Additionally, this system can eventually assist the colleges with inputting data for managing and tracking preventative maintenance and repairs.

GOAL 5: SOLID WASTE MANAGEMENT

Goal Description

Continue to implement the landfill diversion program, expand it to include all sectors of recycling and waste reduction to landfills, and strive to meet the statewide landfill-recycling goal of 75% by 2020.

ACHIEVEMENTS:

A. Improve Existing Recycling Programs

District:

- Procurement of a new waste hauler is in progress to continue efforts of imploring existing recycling programs.
- All the surplus material such as office furniture, equipment and electronic devices are sent to the District Warehouse. All departments are encouraged to attend the “Open House” for re-use/re-purpose opportunities.
- Districtwide, the paper forms reductions have been implemented.
- Applied and received a grant for Beverage Container Recycling Grant Programs (RBC 28 & RBC 29) to promote recycling and to reduce waste to the landfill by installing beverage containers at the District Office, Santa Ana College, Centennial Education Center, Digital Media Center, Santiago Canyon College, Orange Education Center and Orange County Sheriff’s Regional Training Academy.
- The District has on order 141 recycling stations to be placed inside buildings districtwide.
- Cardboard and paper are sorted on-site and Paper Depot picks up the full bins as needed.
- Beginning May 2018, a report was provided from CR&R of the items that were sorted and recycled.
- These items are the following; beverage containers, glass, plastic (#3-7), cardboard, office paper (mixed), copier/toner cartridges, scrap metal, construction materials/debris.
- The District currently requires contractors to comply with recycling requirements during construction and demolition as the requirements are included within the District’s construction contract documents.



Figure 10. Repurpose Workstation

Santa Ana College:

- Deployed X recycling waste cans on campus. [To be confirmed]
- Received 1 green cart to pick up waste cans, making it more efficient for the campus.
- Created a Hydration Station Map (See Exhibit 2-Santa Ana College Bicycle Racks and Hydration Stations Location Map).



Figure 11. New Green Cart



Figure 12. New recycle bins

Santiago Canyon College:

- Received 1 green cart to pick up waste cans, making it more efficient for the campus
- Three (3) water stations were installed in 2017 to encourage the use of fillable water bottles in order to reduce the consumption of disposable water bottles (See Exhibit 3- Bicycle Racks and Hydration Stations Location Map).

GOAL 6: SUSTAINABLE PROCUREMENT

Goal Description

Implement efforts to source campus food, materials, supplies, information technology, equipment, and resources from organizations committed to social responsibility and environmental sustainability.

A. Green Purchasing

Districtwide:

- Purchased less toxic cleaning solutions.
- LED lighting has reduced hazardous waste and the need to replace lamps.
- Ensure paper products specified contain more recycled product.
- Replace equipment with more energy efficient equipment such as copy machines, refrigerators, computers, etc.

GOAL 7: TRANSPORTATION

Goal Description

Reduce the reliance of students, faculty, and staff on single occupancy vehicle commutes by 5 percent within the next five years, and encourage the use of low and zero emissions vehicles.

ACHIEVEMENTS:

A. Understand Commute and Travel Patterns

Santa Ana College:

- Parking study undertaken in Spring 2014, Fall 2014, Spring 2017 and Fall 2017, school semesters to evaluate a parking demand as well as traffic management plan to better understand use and need of parking during construction of both the Science Center and Johnson Center.

B. Encourage and Enhance Public Transportation and Ridesharing Options



Figure 13. Promotion Free Bus Ride Logo



Figure 14. Image of riders using the OCTA buses

Santa Ana College and Santiago Canyon College:

Partnered with Orange County Transportation Authority (OCTA) on a three-year pilot program that offers the students unlimited bus rides local fixed-routes in Fall of 2017. This program continues until the summer of 2020. Students are offered unlimited rides on all of Orange County bus local fixed routes.

C. Encourage and Enhance Bicycling Options

Districtwide:

- All new buildings shall comply with CalGreen's bicycle parking requirement.

Santa Ana College:

- New bicycle racks were provide and sufficient bicycle racks were added as part of the Central Plant Infrastructure project (See Exhibit 2-Santa Ana College Bicycle Racks and Hydration Stations Map).

Santiago Canyon College:

Each year, a bicycle has been an item that is offered through an opportunity drawing at the college's annual Earth Day Event. Sometimes more than one bicycle has been offered since the first year of the Earth Day Event. (See Exhibit 3-Santiago Canyon College Bicycle Racks and Hydration Station Map)

D. Improve Campus Fleet & Travel

Santa Ana College:

- Two Toyota Prius (2016)

Orange Education Center:

- One Toyota Prius (2016)

E. Encourage Electric Vehicles (EV) for Commuters

Santa Ana College:

- Ongoing assessment for future electric vehicle charging facilities.
- All new construction shall comply with California Green Building Code's Clean Air/Vanpool/EV requirements.
- Currently in Parking Lot 11 there is 1 electric charging station servicing 2 stalls.
- Designing for future in parking lot 11, 2 electric charging stations servicing 4 stalls.
- Designing for future Health Sciences, 2-3 electric charging stations servicing 3-6 stalls, 1 of which is accessible (Parking Lot 6).

Santiago Canyon College:

- Designing for future Safety and Security Building, 2 electric charging stations servicing 4 stalls, 1 of which is accessible (Parking Lot 6).

GOAL 8: WATER MANAGEMENT

Goal Description

Perform water use benchmarking studies at both campuses and the District Office to better understand usage as compared to similar facilities and community college peers. Based on the results, establish annual water use reduction goals and plan appropriate measures to achieve goals.

ACHIEVEMENTS:

A. Establish Water Conservation Goals

District:

- Completed benchmark studies for all District sites.
- Established the fiscal year 2012-13 as the baseline year (consistent with the electricity and gas baseline year) for water use comparison analysis (See Exhibit 5-Electricity, Gas and Water Use Graphs).
- The District conducts an annual review of water utility bills and reviews the trends with the campus to discuss use and changes.

B. Implement Water Conservation Strategies

Several water conservation measures have been implemented throughout the District; Included in Facility Design Standards.

District Office:

- Repaired irrigation system and removed the landscaping material to reduce water usage.

Santa Ana College:

- Planning and scoping the installation of smart irrigation controls on campus are part of the District's Scheduled Maintenance projects.
- Completed the replacement of 6 irrigation controllers
- Phase 2 to replace an additional 14 controllers is in planning.
- Landscaping and Hardscape improvements as part of the Central Plant project.
- Additional Landscaping and Hardscape projects are in planning.

Santiago Canyon College:

- In 2016-2017, a large water conservation project was implemented in the summer 2016-2017 (part of the District's Scheduled Maintenance projects 2015-2016) to upgrade all the irrigation controllers.
- New weather stations were installed and new controllers communicate via WIFI an online website for programming. Users will be able to program controls and measure/monitor water usage.
- Smart controllers will turn the main valves on and off based on ambient weather conditions, current forecasts, and precipitation conditions.
- The new irrigation system will alert users to faulty valves, leaks, and excessive water use.

C. Reduce Storm Water, Sewer Discharges, and Water Pollution

Santa Ana College/Orange County Sheriff's Regional Training Academy:

- A storm water improvement project was completed in Summer 2016, for the undeveloped property at the Orange County Sheriff's Regional Training Academy to address the runoff drainage and erosion from property to implement best storm water management practices.

Santa Ana College:

- New Science Center and Health Sciences buildings will utilize a shared retention basin to manage storm water runoff.
- New Johnson Center will be tied into the existing campus retention basin to manage storm water runoff.

Santiago Canyon College:

- Completed a storm water improvement project in Fall 2016. The improvements diverted excess rainwater from the soccer fields and the undeveloped lot, adjacent to the Coastkeeper’s Garden, to the appropriate catch basins while filtering sediment and debris. This project implemented the storm water best management practices.

D. Adopt Sustainable Landscaping Practices

Districtwide:

- District will continue to review and include landscape materials with California native plants, drought resistant, and employ water-wise landscaping practices.
- All new Facility Design standards require low water use plants and, irrigation systems with controllers to reduce and monitor water use.
- All new construction will comply with California Green Building Code.

Santa Ana College:

Central Mall



Figure 15. New Central Mall

- The new 6.2 acre Central Mall included 15 California, drought tolerant, native plants that are low maintenance and reduce water consumption.
- Utilized water wise irrigation systems which reduces watering plants to once a week.
- The mall included new benches, a focal point water feature with a trellis and installation of the Infinite Spirit Sculpture.

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Santiago
Canyon
College

2323 NORTH BROADWAY • SANTA ANA, CA 92706-1640

www.rsccd.edu

NONDISCRIMINATION POLICY

The Rancho Santiago Community College District is committed to equal opportunity in educational programs, employment, and all access to institutional programs and activities. The District, and each individual who represents the District, shall provide access to its services, classes, and programs without regard to national origin, religion, age, gender, gender identity, gender expression, race or ethnicity, color, medical condition, genetic information, ancestry, sexual orientation, marital status, physical or mental disability, pregnancy, or military and veteran status, or because he or she is perceived to have one or more of the foregoing characteristics, or based on association with a person or group with one or more of these actual or perceived characteristics.

The Chancellor shall establish administrative procedures that ensure all members of the college community can present complaints regarding alleged violations of this policy and have their complaints heard in accordance with the Title 5 regulations and those of other agencies that administer state and federal laws regarding nondiscrimination.

No District funds shall ever be used for membership, or for any participation involving financial payment or contribution on behalf of the District or any individual employed by or associated with it, to any private organization whose membership practices are discriminatory on the basis of national origin, religion, age, gender, gender identity, gender expression, race, color, medical condition, genetic information, ancestry, sexual orientation, marital status, physical or mental disability, pregnancy, or military and veteran status, or because he or she is perceived to have one or more of the foregoing characteristics, or because of his or her association with a person or group with one or more of these actual or perceived characteristics. Inquiries regarding compliance and/or grievance procedures may be directed to District's Title IX Officer and/or Section 504/ADA Coordinator. RSCCD Title IX Officer and Section 504/ADA Coordinator: Judy Chitlik, 2323 N. Broadway, Santa Ana, CA 92706, 714-480-7489.

EXHIBIT 1: Sustainability Plan Pamphlet

6. Sustainable Procurement

Implement efforts to source campus food, materials, supplies, information technology, equipment, and resources from organizations committed to social responsibility and environmental sustainability.



The District continues to purchase “green” custodial paper products.

7. Transportation

Reduce the reliance of students and staff on single occupancy commutes and encourage the use of low and zero emissions vehicles.



Santa Ana College currently has electric vehicle (EV) charging stations with additional stations planned. Santiago Canyon College is currently planning for stations.

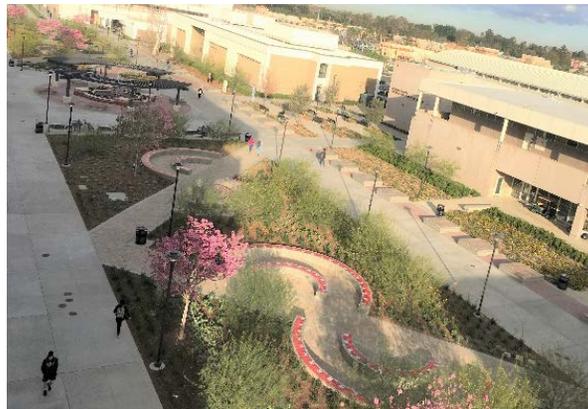
(2014 - Ongoing)



Bicycling is encouraged with bike racks at various locations throughout both campuses. (Ongoing)

8. Water Management

Establish annual water use reduction goals and plan appropriate measures to achieve goals.



The Central Mall at Santa Ana College utilizes an efficient water-wise irrigation system which reduces watering to only once a week. (Opened 2018)



Together let's continue do our part to reduce our carbon footprint!



SUSTAINABILITY PLAN

Vision Statement

The Rancho Santiago Community College District holds sustainability to be a foundational principle in its current and future development.

As a responsible steward of natural resources and the environment, the District will endeavor to minimize its impact on the environment by implementing best practices for conserving resources, reducing waste, implementing energy reduction and alternative energy generation strategies, constructing efficient buildings, and by developing partnerships that will further these activities.

Approved by the Board of Trustees March 9, 2015

Background/History

The Rancho Santiago Community College District (RSCCD) has been proactive in the area of sustainability for many years. The Board of Trustees established policies for District sustainability that have been incorporated into the District Educational and Facilities Master Plans.

The Sustainable RSCCD Committee (SRC) consists of faculty, staff and students representing the different campus stakeholders. Eight (8) goals and priorities for the Sustainability Plan were established. The goals and examples of achievements are briefly outlined below.

1. Campus & Community Engagement

Encourage participation in and awareness of sustainability issues through effective education and engagement.



"Earth Day" at Santiago Canyon College (2018)

2. Curriculum Development

Facilitate the inclusion of environmental sustainability and social responsibility into existing curriculum.



Courses created to better prepare students to career paths within the "green" economy (Ongoing)

3. Energy

Plan appropriate energy efficiency, demand reduction, or clean self-generation measures.



LED lighting installed at all District facilities including Santa Ana College and Santiago Canyon College. (2013 - Ongoing)

4. Facilities Design & Operation

Design and construct all major capital projects and renovations to meet LEED Silver "equivalent" standard and operate facilities to meet solid waste, energy, and water use reduction goals.



New Central Plant at Santa Ana College (Opened 2018)

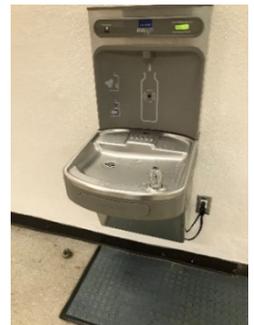
5. Solid Waste Management

Continue to implement the landfill diversion program, expand it to include all sectors of recycling and waste reduction to landfills.

Water bottle filling stations and trash recycling receptacles have been installed at both campuses



(2018 - Ongoing)



(2016 - Ongoing)

EXHIBIT 2: Santa Ana College Bicycle Racks and Hydration Stations Location Map

COLLEGE AVENUE

Bristol Street

Where are the Electric Vehicle Charging Stalls?
Current: 
Future: 

Where are the Hydration Stations to fill my water bottle?


I have a bike. Where are the Bike Racks?

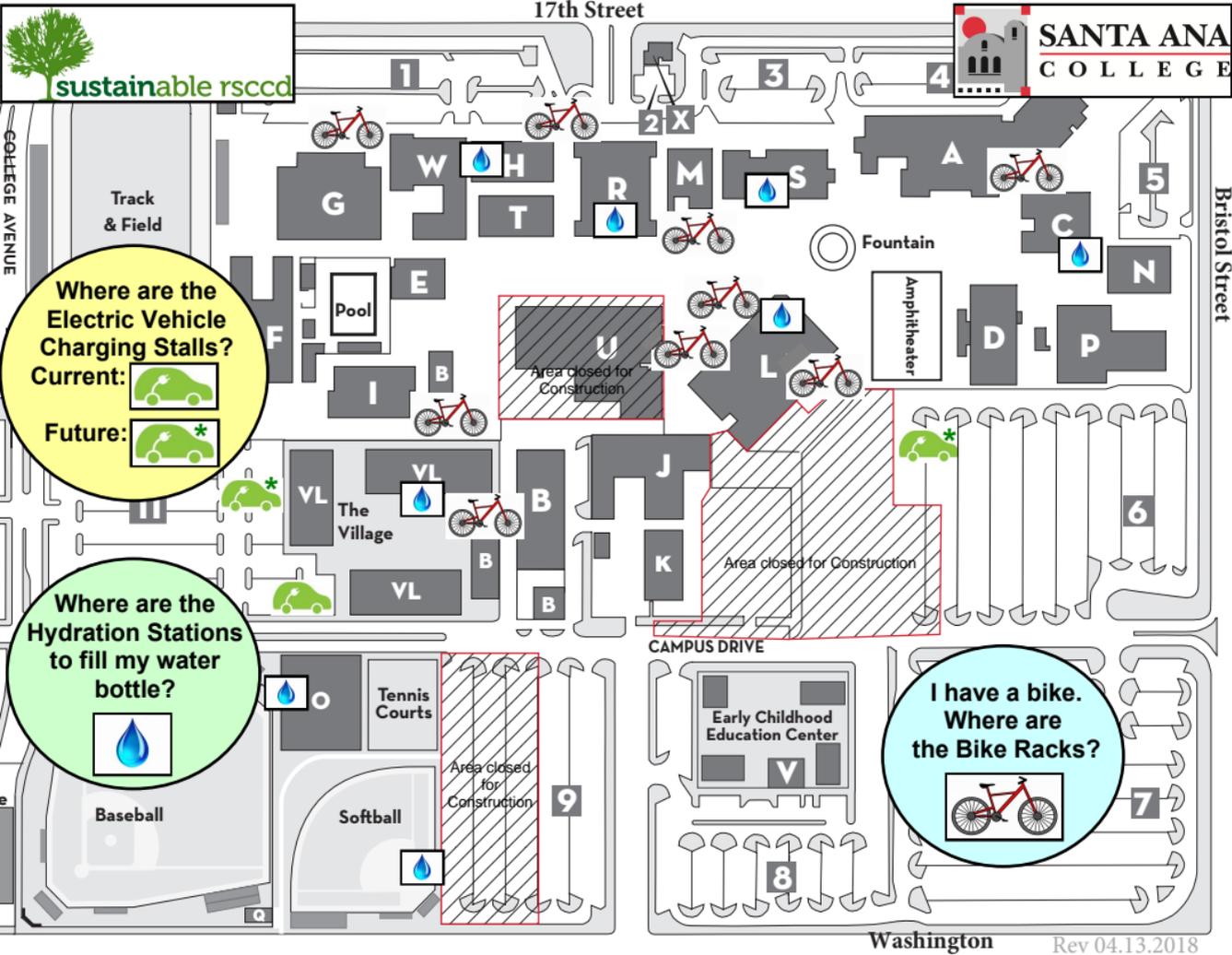
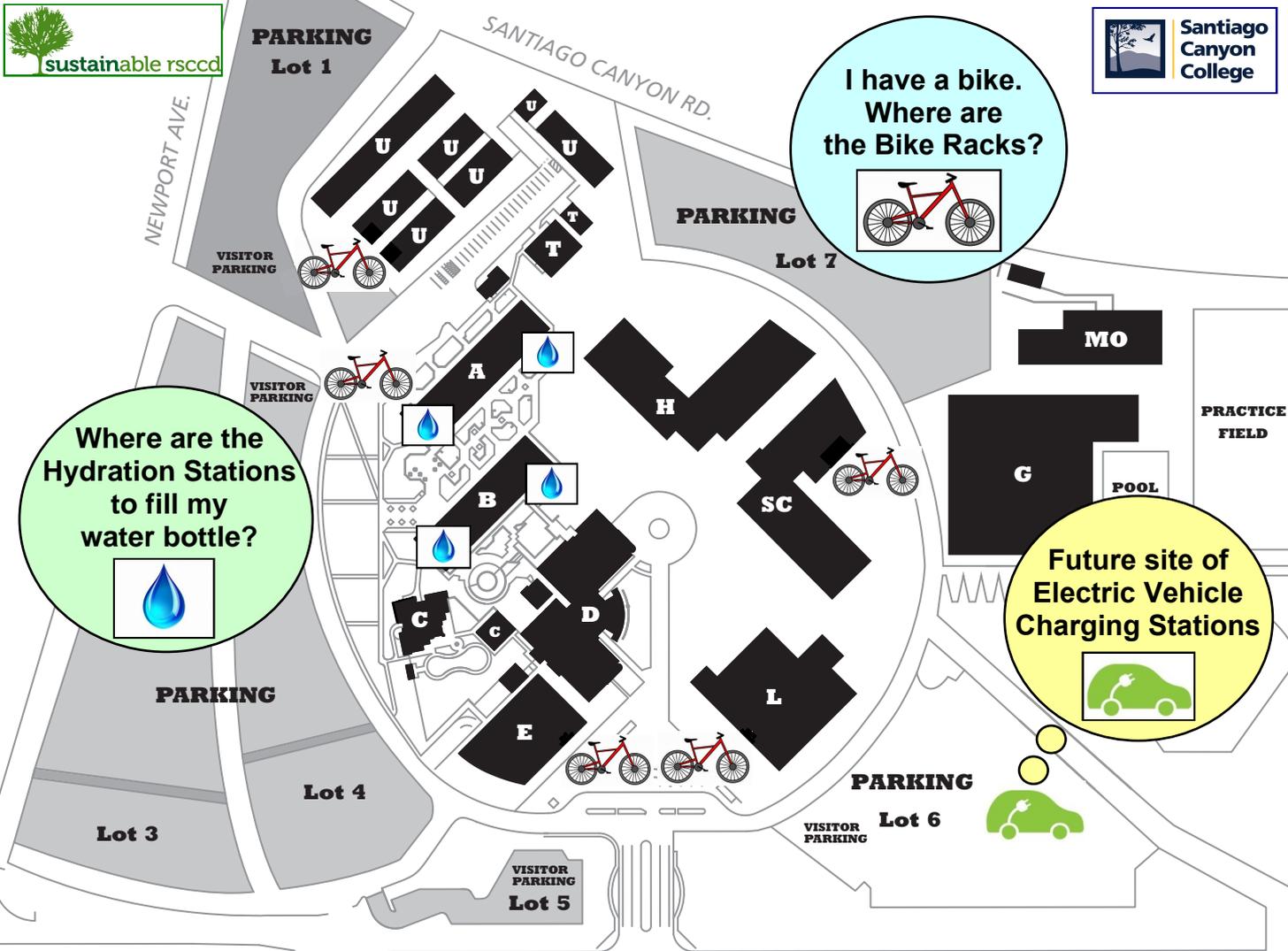



EXHIBIT 3: Santiago Canyon College Bicycle Racks and Hydration Stations Location Map



Where are the Hydration Stations to fill my water bottle?



I have a bike. Where are the Bike Racks?



Future site of Electric Vehicle Charging Stations



EXHIBIT 4: Central Mall Landscape Walking Tour



California Lilac - *Ceanothus griseus* 'Yankee Point': This shrub displays a truly handsome appearance with its glossy, dark green leaves and deep blue flower clusters. It is no wonder it is an attraction to butterflies, hummingbirds and beneficial insects.



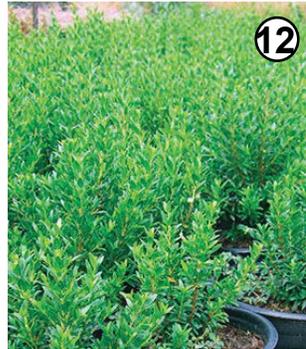
Rock Purslane-*Cistanthe grandiflora*: This succulent plant is native to Chile. It exhibits fleshy, egg-shaped gray-green leaves. In spring through fall, it grows to 2'-3' in height and births beautiful 2" wide purple flowers that each last only one day.



Lantana-*Lantana spp.*: A gorgeous vividly colored butterfly magnet that blooms in abundance with little attention. This trailing variety, native to South America, can reach heights of 12" to 15" and makes a wonderful choice for year round ground cover.



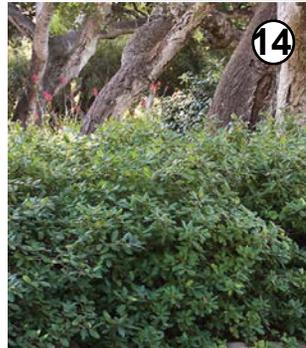
Mexican Lobelia-*Lobelia laxiflora*: This eye-catching 2' to 4' tall drought tolerant perennial is native to Arizona, Mexico and Central America. These bright tubular orange and red summer flowers display vibrant throats of yellow and orange.



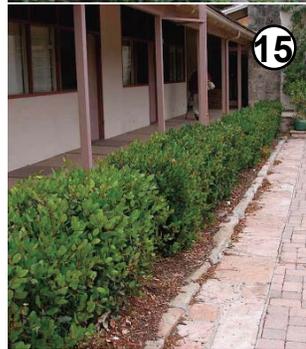
Dwarf Myrtle-*Myrtus communis* 'compacta': This is a popular, compact tightly branched evergreen shrub with creamy white flowers. It is native to southern Japan and proves to be very dependable as a low hedge and foundation plant.



Dwarf Olive-*Olea europaea* 'Little Ollie': This gray-green evergreen shrub thrives in hot, dry areas as well as coastal regions. Even though it is named a dwarf, this non-fruit bearing shrub will grow to 8' in height.



Coffeeberry - *Rhamnus californica*: This California native is a richly colored evergreen shrub that reaches 6' to 8' in height. It thrives in sun or partial shade and in all soil types. In late summer, this variety reveals large green and black berries.



Lemonade Berry - *Rhus integrifolia*: This robust evergreen shrub exhibits aromatic leaves and produces small white to pink flowers as well as red berries. This California native can reach 30' in height.

Central Mall Landscape Walking Tour



Palos Verdes-*Parkinsonia 'Desert Museum'*: This stunning, thornless hybrid makes a fine, upright shade tree. Large yellow blossoms display a dazzling exhibition of color in the spring, lasting longer than any other in the species.



Coast Live Oak-*Quercus agrifolia*: This round-headed evergreen tree is native to California and is quite appealing to butterflies. This hardy tree can reach 15' to 40' in height and grow as wide as 20'.

Water conservation can be beautiful. Santa Ana College proudly displays a new Central Mall as part of the efforts mandated by the Governor to reduce water consumption. It was constructed as a Site Improvement Beautification Project funded by Measure Q. The selected drought tolerant landscape includes many California native plants. The Central Mall utilizes an efficient water-wise irrigation system which reduces watering to only once a week.

Please enjoy the Central Mall Landscape Walking Tour.



3

Holly Oak-*Quercus ilex*:

This richly colored evergreen oak exhibits lush dark green leaves. With its height ranging from 30' to 60', it will prove to be a prime source of shade throughout the year.



4

Pink Trumpet Tree-*Tabebuia impetiginosa*:

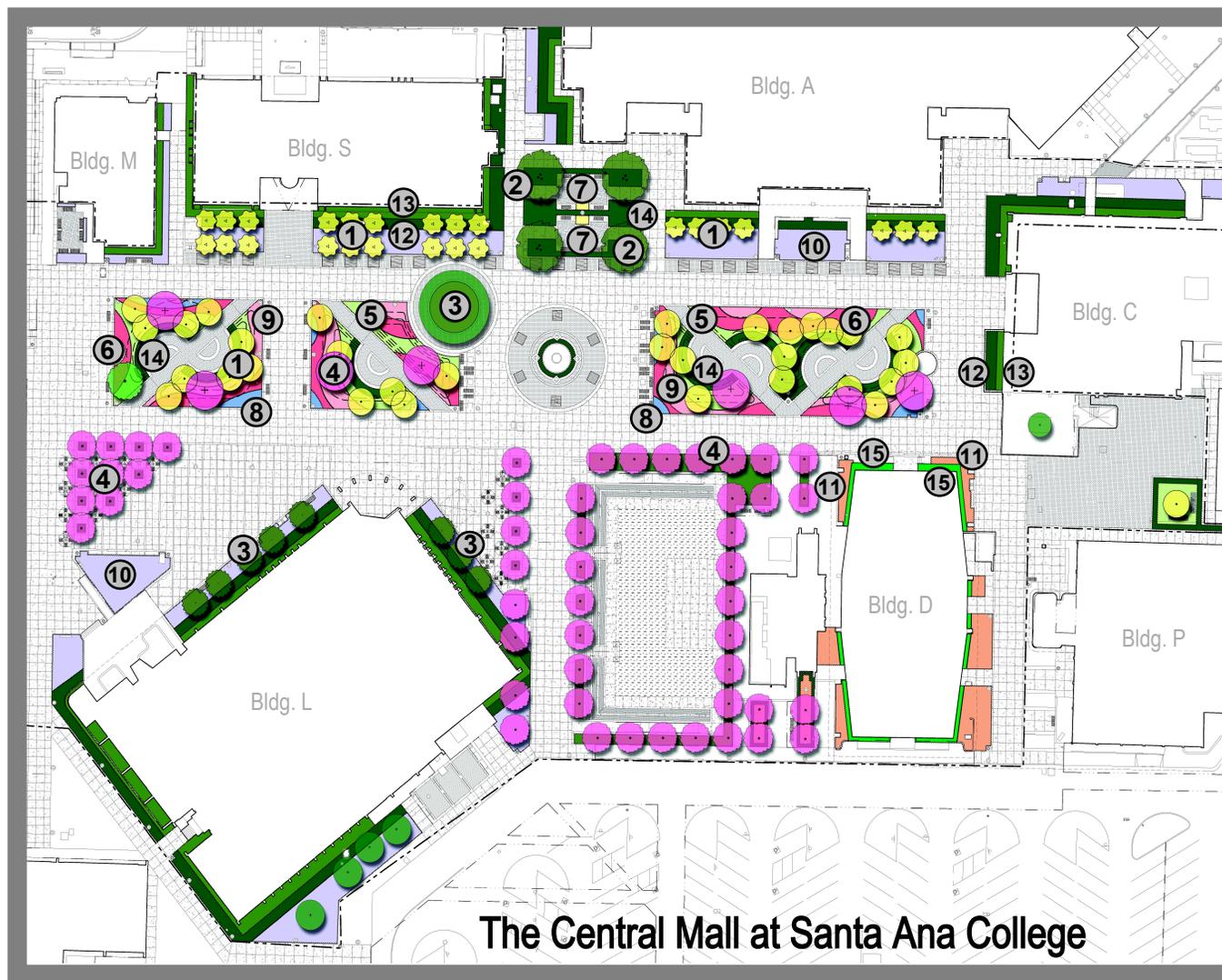
This breathtaking flowering tree is recognized by its soft pink blossoms. This hardy deciduous tree is native to Mexico through Argentina and can reach a height of up to 90'.



5

Fox Tail Agave-*Agave attenuata*:

This Central Mexican native makes a bold statement to the landscape with its unusual shape. Its large rosette of light green leaves are perched on a long curving trunk.



The Central Mall at Santa Ana College



6

Kangaroo Paw-*Anigozanthos spp.*:

This distinct warm-weather perennial displays various tall, brightly colored, velvety flowers amongst its grassy leaves. The buds of this Australian native resemble a kangaroo paw. Butterflies and hummingbirds are attracted to this special variety.



7

Bulbine-*Bulbine frutescens*:

This beautiful South African native is an excellent erosion control selection. Its expansive hardy ground cover of succulent evergreen leaves bearing clusters of small yellow flowers can be found all year round.

EXHIBIT 5: Electricity, Gas and Water Use Data FY 2010-2018

SUMMARY OF UTILITY USE PER SITE BY FISCAL YEAR

Water Use by Gallon per Site by Fiscal Year

Sites	2010-11	2011-12	2012-13 (Baseline)	2013-14	2014-15	2015-16	2016-17	2017-18
District Operations Center	2,080,188	2,172,192	1,977,160	1,875,984	1,831,900	1,438,404	1,674,024	2,093,652
Santa Ana College	33,998,096	30,550,564	35,623,500	36,499,408	31,588,788	27,595,964	27,123,976	35,047,300
Centennial Education Center	1,485,528	1,408,484	1,329,944	1,442,892	1,376,320	1,415,964	1,281,324	1,207,272
Digital Media Center	567,732	650,012	335,104	454,784	549,032	308,176	272,272	388,960
Orange County Sheriff's Regional Training Academy	2,191,640	2,353,956	1,859,528	2,033,064	2,132,620	1,259,632	1,259,632	868,428
Santiago Canyon College	25,950,364	26,570,456	37,986,432	41,012,840	32,291,908	20,534,096	22,499,092	29,388,172
Orange Education Center	1,500,488	1,543,124	1,414,468	742,016	878,900	373,252	1,040,468	963,424
Districtwide	67,774,036	65,248,788	80,526,136	84,060,988	70,649,468	52,925,488	55,150,788	69,957,208

Water Use Net Percent Change from Fiscal Year 2012-13 (Baseline Year)

Sites	2013-14	2014-15	2015-16	2016-17	2017-18	Five Year Average %
District Operations Center	-5.12%	-7.35%	-27.25%	-15.33%	-10.77%	-13%
Santa Ana College	2.46%	-11.33%	-22.53%	-23.86%	-25.69%	-16%
Centennial Education Center	8.49%	3.49%	6.47%	-3.66%	-11.20%	1%
Digital Media Center	35.71%	63.84%	-8.04%	-18.75%	-40.13%	7%
Orange County Sheriff's Regional Training Academy	9.33%	14.69%	-32.26%	-32.26%	-38.04%	-16%
Santiago Canyon College	7.97%	-14.99%	-45.94%	-40.77%	-45.14%	-28%
Orange Education Center	-47.54%	-37.86%	-73.61%	-26.44%	40.22%	-29%
Districtwide	11.31%	10.49%	-203.17%	-161.07%	-34.39%	-75%

Natural Gas Use by Thermas Per Site by Fiscal Year

Sites	2010-11	2011-12	2012-13 (Baseline)	2013-14	2014-15	2015-16	2016-17	2017-18
District Operations Center	10,474	10,880	7,303	8,360	5,331	7,347	11,106	14,738
Santa Ana College	151,053	162,060	141,777	125,931	104,654	111,837	122,282	138,617
Centennial Education Center	2,725	3,200	2,939	2,134	1,790	2,029	2,055	1,702
Digital Media Center	8,013	2,912	3,602	3,489	3,308	3,420	5,903	3,127
Orange County Sheriff's Regional Training Academy	13,324	12,793	7,037	6,195	3,004	4,377	4,210	6,831
Santiago Canyon College	61,230	73,264	157,091	142,773	105,171	114,746	112,475	101,995
Orange Education Center	14,086	12,802	10,426	6,886	210	1,138	187	-34
Districtwide	260,904	277,912	330,176	295,769	223,468	244,894	258,218	266,977

Natural Gas Use by Thermas Per Site by Fiscal Year 2012-13 (Baseline Year)

Sites	2013-14	2014-15	2015-16	2016-17	2017-18	Five Year Average %
District Operations Center	14.48%	-27.00%	0.60%	52.08%	76.29%	23%
Santa Ana College	-11.18%	-26.18%	-21.12%	-13.75%	10.07%	-12%
Centennial Education Center	-27.38%	-39.10%	-30.96%	-30.09%	-20.24%	-30%
Digital Media Center	-3.15%	-8.18%	-5.06%	63.86%	-10.37%	7%
Orange County Sheriff's Regional Training Academy	-11.98%	-57.31%	-37.80%	-40.17%	10.27%	-27%
Santiago Canyon College	-9.11%	-33.05%	-26.96%	-28.40%	-28.56%	-25%
Orange Education Center	-33.95%	-97.98%	-89.09%	-98.21%	-100.49%	-84%
Districtwide	-10.42%	-32.32%	-25.83%	-21.79%	-9.73%	-20%

Electricity Use by Kilowatts Per Site by Fiscal Year

Sites	2010-11	2011-12	2012-13 (Baseline)	2013-14	2014-15	2015-16	2016-17	2017-18
District Operations Center	1,302,385	1,208,298	1,222,424	1,379,409	1,125,280	847,325	865,735	883,893
Santa Ana College	8,991,583	8,487,114	8,669,762	8,722,061	8,140,174	8,166,950	8,244,453	8,460,769
Centennial Education Center	699,234	700,901	680,089	659,451	659,451	624,532	605,279	622,904
Digital Media Center	731,256	466,222	492,034	508,408	528,452	529,502	529,429	428,529
Orange County Sheriff's Regional Training Academy	751,765	773,334	823,648	889,446	936,498	876,507	785,915	725,676
Santiago Canyon College	4,204,383	4,437,742	5,855,675	5,896,758	6,438,820	5,837,157	5,882,146	5,446,611
Orange Education Center	1,062,580	1,034,058	780,722	514,535	444,519	427,247	351,542	235,468
Districtwide	17,743,186	17,107,669	18,524,354	18,570,068	18,273,194	17,309,220	17,264,499	16,803,850

Electricity Use by Kilowatts Per Site by Fiscal Year 2012-13 (Baseline Year)

Sites	2013-14	2014-15	2015-16	2016-17	2017-18	Five Year Average %
District Operations Center	12.84%	-7.95%	-30.68%	-37.24%	-21.45%	-17%
Santa Ana College	0.60%	-6.11%	-5.80%	-5.48%	3.94%	-3%
Centennial Education Center	-3.03%	-3.03%	-8.17%	-8.21%	-5.54%	-6%
Digital Media Center	3.33%	7.40%	7.61%	4.13%	-18.91%	1%
Orange County Sheriff's Regional Training Academy	7.99%	13.70%	6.42%	-11.64%	-22.51%	-1%
Santiago Canyon College	0.70%	9.96%	-0.32%	-0.25%	-15.41%	-1%
Orange Education Center	-34.09%	-43.06%	-45.28%	-31.68%	-47.03%	-40%
Districtwide	-11.67%	-29.09%	-6.56%	-7.03%	-8.04%	-12%

Note: 2012-13 Baseline Year established per Sustainability Plan
 All utility bills and data for fiscal year 2017-2018 is not yet available.
 How to find percent change from baseline year: (fiscal year-baseline year)/baseline year

**Updated based on available information as of 09/18/18 (subject to change)*