



SAC FACILITIES MEETING
 MINUTES –MARCH 18, 2014
 1:30P.M. – 3:00P.M.

Approved 4/29/2014

The mission of Santa Ana College is to be a leader and partner in meeting the intellectual, cultural, technological and workforce development needs of our diverse community. Santa Ana College provides access and equity in a dynamic learning environment that prepares students for transfer, careers and lifelong intellectual pursuits in a global community.

Administrators		Academic Senate		CSEA	
Michael Collins, Co-chair	Rhonda Langston	Maria Aguilar Beltran	Valinda Tivenan(a)	Edward Luna(a)	Mike Ediss
Bart Hoffman(a)	Loy Nashua(a)	Elliott Jones, Co-chair	John Zarske	Sarah Salas	Maria Taylor(a)
Jim Kennedy(a)	Linda Rose	Susan Sherod(a)	Louis Pedroza(a)	District Liaison	
Eve Kikawa	Mark Wheeler			Carri Matsumoto	
Guests				Campus Safety & Security	
Tom Bonetati	Don Mahany	Cathy Shaffer		John Follo	
John Garakian	Harold Pearce	Matt Shoenamen		ASG Representative	
Ron Jones	Christina Romero			Jorge Sandoval	
1. WELCOME AND INTRODUCTIONS					
		Self Introductions were made		Meeting called to order – 1:32p.m. Adjourned at 3:08p.m.	
2. PUBLIC COMMENTS					
		<ul style="list-style-type: none"> • A concern was raised regarding condition of the balcony floors and stairs in the R building. It was suggested that the floors could be painted. • The committee was provided an overview of the Student Representation fee initiative that is promoted by the ASG on campus. This non mandatory fee of \$1.00 will provide students the opportunity to be represented at the local state or federal level. In addition, the fee will fund workshops where students can learn about leadership and effective communication. A request was made for advertisement of the fee initiative through the SAC website and the marquee. <ul style="list-style-type: none"> o Dr. Rose will follow up on this request. • ASG has been offered a donation opportunity for 3 televisions through mtvU, a television network for college students. This would involve entering into a contract for 1 year as well as some electrical work in the lounge and bookstore. The facilities committee was asked for assistance with this project. <ul style="list-style-type: none"> o Dr. Collins requested that Jorge Sandoval makes an appointment to discuss the mtvU contract to ensure that the terms of the agreement 			

PUBLIC COMMENTS (cont.)		
	<p>are fully understood. In addition, all aspects of the work required will be discussed.</p> <ul style="list-style-type: none"> • A concern regarding wheelchair access between W&H building was discussed. It was noted that this issue has already been identified and that options are being explored for resolve once the project is closed out. • It was noted that ADA compliance is a high priority for the campus. 	<p>FOLLOW UP ADA access will be discussed as new business for the April meeting.</p>
3. MINUTES	DISCUSSION/COMMENTS	ACTIONS/ FOLLOW UPS
	<p>The February 4, 2014 meeting minutes were presented for approval.</p>	<p>ACTION Motion was moved by J. Sandoval to approve the February 4, 2014 Facilities committee minutes as presented. 2nd - M. Beltran The motion carried unanimously.</p>
4. PROJECT UPDATES	DISCUSSION/COMMENTS	ACTIONS/ FOLLOW UPS
	<p><u>Central Mall Conceptual Design</u> A presentation of the Central Mall Conceptual design was presented by John Garakian of Westberg & White. Members were reminded that this is a conceptual design.</p> <ul style="list-style-type: none"> • The entire underground utility system will be upgraded which involves trenching and re-working of what currently exists. The system will include new chilled water lines, new sewer, new electrical lines and new fire water lines. • General concept of the top space will not change. • Green space will be increased. • The environment will be similar but materials will change within and throughout the space through the use of pavers, landscape, a variety of seating areas designs, and hardscape designs all with a focus of a more interactive campus. • The way this area is used will slightly change. • Important to ensure accessibility. • The fountain is not accessible. DSA notes that with the level of improvements to the area, the fountain will need to be accessible. <ul style="list-style-type: none"> ○ It was determined that it is more cost effective to replace the current fountain with a fountain that meets accessibility. ○ Location will remain the same, but the configuration will slightly change ○ All the concrete will be gone and replaced with pavers that are removable allowing for utility work. ○ Fountain area intended to be a central point of the campus. • Dunlap Hall - Elevator and enhancement of restrooms was noted. • Amphitheatre will be replaced with a lawn amphitheatre. This will be a bigger environment and the flat surface will allow for various types of uses 	

PROJECT UPDATES (cont.)	DISCUSSION/COMMENTS	ACTIONS/ FOLLOW UPS
	<p>for the space.</p> <ul style="list-style-type: none"> • The plan shows a larger plaza space with more hard surface allowing for more room in a concentrated area. • The lawn amphitheatre and the larger plaza space were created as two major anchors. • If “The Spot” remains the area was identified as an indoor outdoor area. • Improved access to the backside of Johnson Center is planned. • All green areas represent some level of landscape. Lighter green represent turf areas. • The red areas of the plan identify color in the landscape. • Some of the designed walkways are the result of a circulation pattern review others are planned for access purposes. • Art has been incorporated into the plan. • Bicycle parking locations have been incorporated. • The Don Express will remain at this time however it was noted that it is tied to the future Performing Arts Theatre project. • Library will receive a landscape enhancement. • The architects are taking measures to unify the campus in many ways. • The existing monument will receive some enhancements. • There will some modifications to the security cameras to ensure their effectiveness throughout campus. • Power and Wi-fi are being incorporated into the design • A graphic design team has developed a master plan for signage. It is not known when that will begin. <p>It was noted that considerations to areas that will be affected by future Master Plan work have been taken into account, specifically by not spending a lot of monies in areas that will be touched by future projects within the master plan. The design considered costs, manageability and flexibility for the future.</p>	
PROJECT UPDATES (cont.)	DISCUSSION/COMMENTS	ACTIONS/ FOLLOW UPS
	<p>A project update was provided y Carri Matsumoto (see attached). The project reviewed Measure E and Q projects. Additional update as noted.</p> <p><u>Perimeter Site Improvements</u></p> <p>There are some miscellaneous items that will be wrapped up to complete the scope of work for the project.</p> <p><u>Parking Lot 11 Expansion and Improvements, Temporary Village and Tessman Planetarium upgrade and Restroom Addition</u></p> <ul style="list-style-type: none"> • These projects have been combined into a 3 pak project. • Contractor is McCarthy Construction. • Construction manager for the project is Matt Shoenemen. • This project is on a short timeline as it needs to be completed by the end of July. 	

PROJECT UPDATES (cont.)	DISCUSSION/COMMENTS	ACTIONS/ FOLLOW UPS
	<ul style="list-style-type: none"> • Members were provided with an overview of the pedestrian and vehicle routing map. It was noted that the map is on the SAC Facilities Committee’s webpage. <p>Ms. Matsumoto updated the membership on a plan to provide a broader range of communication for students and visitors. The intent would be for this to be the standard protocol for construction communication - 72 hours Construction Alerts. Link to updates directly on the SAC website.</p> <p><u>Dunlap Hall Renovation</u> DPR Construction is being recommended to the board for the Dunlap Hall project.</p> <p>Move management company has been hired to ensure a coordinated and efficient move.</p> <ul style="list-style-type: none"> • David Haun has been hired. • The program has begun for the move to the Village with an inventory of the existing space, furniture and equipment. • Facilities Planning is in the process of procuring furniture and equipment for the Village as well as a review of the layouts of each space. • Once the faculty returns there will be a two week window to remedy any issues before instruction begins. <p>It was noted that once the construction company comes on board there will be more detail provided in regards to the timeline. There will be consideration given to instruction and it is anticipated that the semester will end in the building. Week to week updates will be available.</p> <p>Key cards will not be necessary for the new elevators in Dunlap Hall.</p> <p><u>Central Plant</u> A construction company has been hired to partner on this project, Hensel Phelps. They will be working with Westberg & White on the design reviews, reviewing constructability of each of the phases and working on an achievable schedule.</p> <p>There will be between ten to eleven DSA submittals for this project.</p> <p>Phase 1 will begin January 2015. The work will extend over a couple of years of work. This utility infrastructure phase one work will be the most disruptive and most challenging.</p> <p>A BIM model is being built for clash detection in relation to the Central Plant project. A BIM model will provide information regarding all the obstruction exists in the project. This first step has begun with the survey of the upper level.</p> <p><u>Johnson Center Renovation</u> Looking to start the design phase.</p>	

PROJECT UPDATES (cont.)	DISCUSSION/COMMENTS	ACTIONS/ FOLLOW UPS
	<p>Getting ready to release an RFP for an architect. Reviewing the schedule.</p> <p><u>STEM Building</u> A RFP is being initiated for an architect regarding the programming phase of the project.</p> <p><u>Health Sciences</u> This project is on hold until the funding needed to complete the project is determined. There is a shortfall of 19mil for this project.</p> <p><u>Parking Lot at 17th and Bristol St.</u> A traffic engineer has been hired for this project. They have been reviewing capacity loads at certain times of day, pedestrian and vehicular paths in an effort to provide scenarios of how best to address the congestion and meet parking needs on campus with the new lot.</p> <p>The membership was also provided an overview and update on the Active Scheduled Maintenance projects. It was noted that some of these projects will be completed this summer.</p> <p>Matt Schoeneman was introduced to the committee. He expressed his enthusiasm to be working on the SAC campus. He provided an update of the active project he is working on.</p> <ul style="list-style-type: none"> • Construction fencing has gone up and access routes have been posted. The access route is also located on line. • Evacuation maps will be posted to the buildings that are adjacent to the construction where the egress evacuation was affected due to the construction. • Contractor is buying out the remaining parts of the contract for the different sub-contractors and conducting a survey within the next few weeks. • Work will begin to identify some of the known utilities lines. • The bulk of the demo will begin next week in parking lot #11 on the westside of campus and proceed east. <ul style="list-style-type: none"> ○ Once the lot is stripped and demoed, underground utility routing and underground for future buildings. • There will be some major excavation on the north/eastside of the softball field to allow for drainage for the percolation field. <ul style="list-style-type: none"> ○ Electrical lines will also be relocated out of the pathway of the excavation. • The Planetarium work will be soon underway. <ul style="list-style-type: none"> ○ All fire life safety will be removed and the building will be isolated. ○ Some abatement will be done. 	

PROJECT UPDATES (cont.)	DISCUSSION/COMMENTS	ACTIONS/ FOLLOW UPS
	<ul style="list-style-type: none"> o Structural steel will be added to the westside of the building. o Project slated to go through September 30. <p>Members were advised that the construction crew parking will not impact student or staff parking. Crew will be parking between lot #11 and the percolation field.</p> <p>Members were also advised that there is scheduled to be some traffic modification to Campus Drive for utility work. Specifically the north lane along with the island will be closed. The south lane will be stripped to become two-way traffic until mid July. Once that work is completed the north lane will open and the south most lane will be closed to finish the work from July to September.</p> <p>A concern was raised regarding the reduction in parking during construction.</p> <p>Members were advised that the impact to the students is a huge concern, however these measures are necessary in order to move forward with the campus plans.</p> <ul style="list-style-type: none"> • Lt. Follo working with Mark to experiment in opening other parking that are normally non-parking. • Officers are being advised to look hard at citing unless it impacts the flow of traffic. • SAPD traffic division has been advised of the parking situation as students may defer to parking in the neighborhood. <p>Dr. Collins noted that he is in discussions regarding parking with his SAC Coordination team.</p>	
6. Standing Reports	DISCUSSION/COMMENTS	ACTIONS/ FOLLOW UPS
HEPSS (Health, Emergency Preparedness, Safety and Security) Task Force	<p>A HEPSS report was provided for the members by Mark Wheeler. (Please see attachment.)</p> <p>Dr. Collins advised the members that a study regarding how well is are we prepared for emergency threats, active shooters, etc. had been produced by Paul Walters. This study is provided as a recommendation to the college. The study does discuss the future of our personnel and how they can be trained and better prepared for an emergency response. It also discusses collaboration with SAPD and local agencies.</p> <p>After a full, the study will be brought to the Facilities committee through the HEPSS task force.</p>	
Facilities Report	<p>The SAC Facilities Report was presented by Mark Wheeler (see attached). In addition to the report, the following notations were made:</p> <ul style="list-style-type: none"> • The U bldg. elevator was repaired at a significantly reduced cost. The original cost was estimated at \$59,000 however, the repair was able to be made utilizing old parts at a cost of \$22, 040. • The work in W106 resulted directly from the Resource Allocation request process. 	

PROJECT UPDATES (cont.)	DISCUSSION/COMMENTS	ACTIONS/ FOLLOW UPS
Environmental Task Force	<p>Report was provided by Susan Sherod for members to review. (Please see attachment.) Ms. Sherod provided information related to solar assisted natural ventilation design for the membership to review.</p> <p>It was noted that the district has selected a consultant to develop a sustainability plan for the district. This will allow for a more dynamic sustainability plan that will be reflected in the buildings built as well as improvements made.</p> <p>It was noted that SAC has a significant list of sustainability practices that are currently managed throughout the campus. The campus's best practices will be incorporated into the plan. The college looks to opportunities to move forward in other sustainability practices.</p> <p>Members were reminded of the campus's Sustain-A-Palooza on April 23rd and advised to contact KJ Saterfield if there is an interest to showcase any items for the event.</p>	
7. Old Business	DISCUSSION/COMMENTS	ACTIONS/ FOLLOW UPS
Committee Goals Evaluation	<p>2013/2014 Committee goals</p> <p>A discussion ensued regarding recommendations on how each goal could be evaluated.</p> <p>Goal #1 This goal could be measured by the adherence to the district guidelines, best practices for sustainability and the district sustainability plan.</p> <p>Goal #2 This goal can be measured by monthly Facilities meeting updates and reports.</p> <p>Goal #3 This goal can be measured by Facilities updates and M&O reports.</p> <p>Goal #4 This goal can be measured by the actions and expenditures at the college's ancillary sites.</p> <p>Goal #5 This goal can be measured by the by Facilities meeting minutes and actions that is taken by College Council and information that is provided.</p> <p>Goal #6 This goal can be measured by the actions taken to remediate the issues as the committee became aware.</p> <p>Goal #7 This goal can be measured by the Facilities and College Council meeting minutes.</p>	

9. Other	DISCUSSION/COMMENTS	ACTIONS/ FOLLOW UPS
	<p>An inquiry was made regarding the water conservation efforts of the college.</p> <ul style="list-style-type: none"> • A drip sprinkler system has been installed in the perimeter planters. • Smart Irrigation Control system options are being explored. These systems are sensitive to temperature, rain and will adjust schedules accordingly. • Some areas for xeriscape landscaping on campus have been identified. These are Native American plants that require watering two times per month versus weekly watering. • An action plan to minimize the water cycle for the artificial turf soccer field will be developed to save water. • Thatching of the green areas will be done to help reduce water usage. • Artificial turf will be integrated in a few test areas on campus. <p>Mark Wheeler will bring to the next meeting best practices utilized by the Facilities department in regards to water conservation. The importance of having a plan in place was noted.</p>	<p><u>FOLLOW UP</u></p> <p>Mark Wheeler will bring to the next meeting best practices utilized by the college in regards to water conservation.</p>

SUBMITTED BY Geni Lusk 4/18/2014



FACILITIES COMMITTEE MEETING
MARCH 18, 2014



PROJECT UPDATES



MEASURE at WORK

MEASURE E

ACTIVE PROJECT UPDATES

- ▶ Perimeter Site Improvements
- ▶ Building G Renovation
- ▶ Parking Lot #11 Expansion & Improvements
- ▶ Temporary Village
- ▶ Tessman Planetarium Upgrade & Restroom Addition
- ▶ Chavez Hall Renovation



PROJECT UPDATE

SANTA ANA COLLEGE

PERIMETER SITE IMPROVEMENTS

Project Summary:

- ▶ Renovation of parking lots 1, 2, 3, 4, 5 and 6. Construction of the entries at Bristol and 17th Streets including pedestrian access, landscaping and walkways.
- ▶ Update pedestrian pathways, parking lighting, provide exterior campus signage and graphics for the entire campus.

Current Status:

- ▶ This project is in the close out phase with the contractor.
- ▶ Working on DSA certification of project.

Budget:

- ▶ \$ 7 million





PROJECT UPDATE

SANTA ANA COLLEGE

BUILDING G RENOVATION

Project Summary:

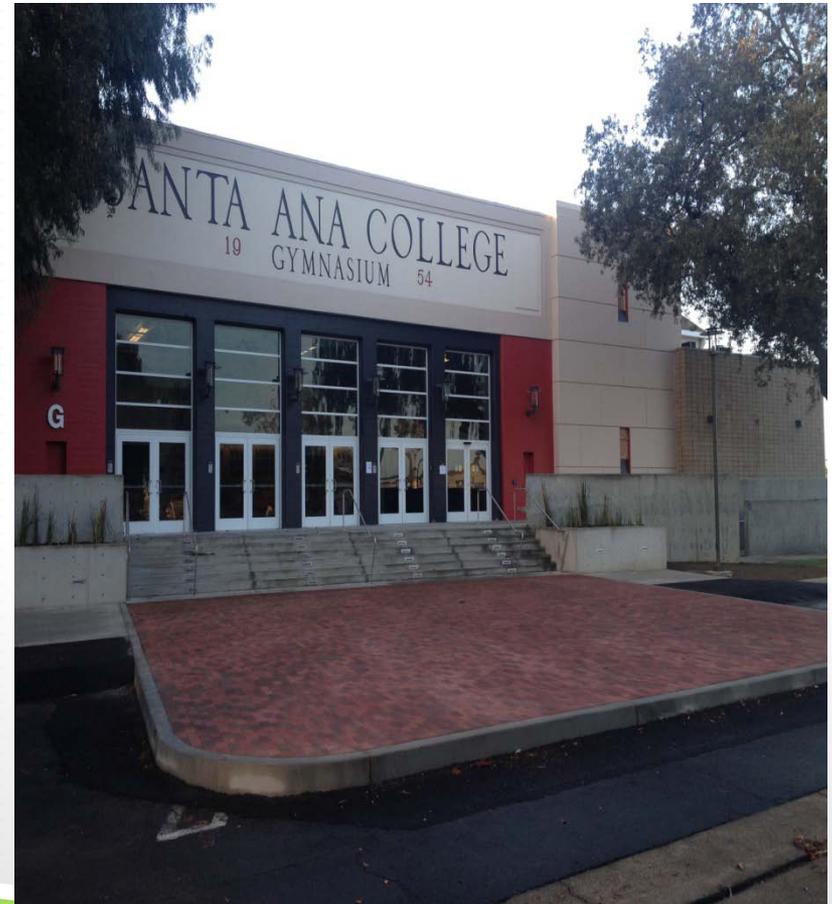
- ▶ Replace gym doors and storefront glass at the entrance, replace non-compliant stairs, improve pedestrian access at side walk and parking lot I.
- ▶ Replace exterior building lights with new LED fixtures for energy efficiency.

Current Status:

- ▶ Project is complete.
- ▶ Working on DSA certification of project.

Budget:

- ▶ \$580,000



Project Summary:

- ▶ Replace the old soccer field with a new parking lot that will include new accessible (ADA) parking and an electric car charging station.
- ▶ The storm drainage system will be enhanced to provide a retention system that will divert storm runoff back into the natural aquifer reducing runoff and pollutants that would otherwise run into the ocean.

Current Status:

- ▶ Construction has started with completion anticipated in mid July 2014.

Budget:

- ▶ \$11.8 million





PROJECT UPDATE SANTA ANA COLLEGE TEMPORARY VILLAGE

Project Summary:

- ▶ Provide temporary classrooms, lecture halls, and faculty offices for the Dunlap Hall project, the Johnson Building project, as needed.

Current Status:

- ▶ Portable building fabrication and installation is planned for July 2014.
- ▶ Target move in early August 2014.

Budget:

- ▶ \$ 4.26 million





PROJECT UPDATE SANTA ANA COLLEGE TESSMAN PLANETARIUM UPGRADE & RESTROOM ADDITION

Project Summary:

- ▶ Renovate the Tessmann Planetarium to comply with accessibility requirements and repurpose the office space for the Veterans Affairs group.
- ▶ Enhance the building exterior.
- ▶ Construct a new restroom annex.

Current Status:

- ▶ Construction is underway with the completion expected in October 2014.

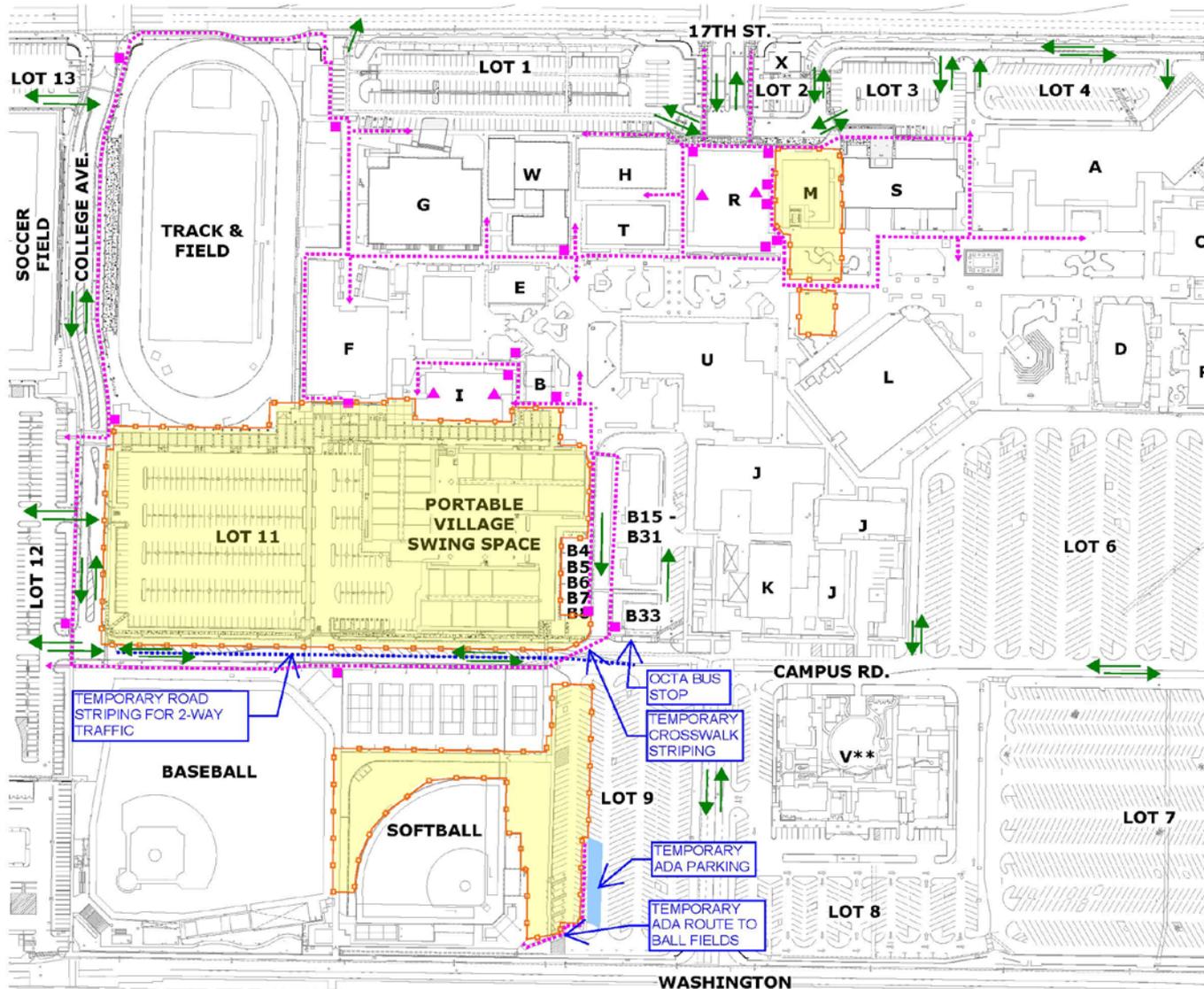
Budget:

- ▶ \$ 2.95 million



TESSMANN PLANETARIUM





CAMPUS IMPROVEMENT CONSTRUCTION TEMPORARY PEDESTRIAN & VEHICLE ROUTING



PROJECT UPDATE SANTA ANA COLLEGE CHAVEZ HALL PROJECT

Project Summary:

- ▶ Includes an assessment to address the exterior walls, parapet and restore or replace the exterior finish.

Current Status:

- ▶ Forensic building consultant approved by Board March 10, 2014.
- ▶ Investigations of building underway.

Budget:

- ▶ \$906,000





MEASURE Q PROJECT UPDATES

- ▶ Dunlap Hall Renovation
- ▶ Central Plant 3 Phases
- ▶ Johnson Center Renovation
- ▶ Science, Technology, Engineering and Mathematics (STEM) Building
- ▶ Health Sciences Building
- ▶ 17th & Bristol Parking Lot



PROJECT UPDATE SANTA ANA COLLEGE DUNLAP HALL RENOVATION

Project Summary:

- ▶ Renovate and replace the aging guard rails around the pedestrian walk ways on all levels of Dunlap Hall, as well as, providing a new elevator and stair tower.
- ▶ Remodel the existing restrooms.

Current Status:

- ▶ Plans approved by the Division of State Architect.
- ▶ Pending bid award by Board on March 24, 2014 utilizing Lease-Leaseback construction delivery method.
- ▶ Construction is expected to begin the first week in April 2014 with target completion expected in June 2015.

Budget:

- ▶ \$14.2 million





PROJECT UPDATE SANTA ANA COLLEGE CENTRAL PLANT (CONST.) PROJECT

Project Summary:

- ▶ Construction of the Central Plant in 3 phases.
- ▶ It includes a new central cooling plant, underground chilled water piping loop as well as upgrading existing site gas and domestic water piping system, sewer, drainage and fire water systems.
- ▶ It will also include HVAC system conversion for 8 existing buildings to be connected to the new Central Cooling Plant and a new campus wide energy management system (EMS).
- ▶ The central plant building will be designed to achieve LEED Silver accreditation.

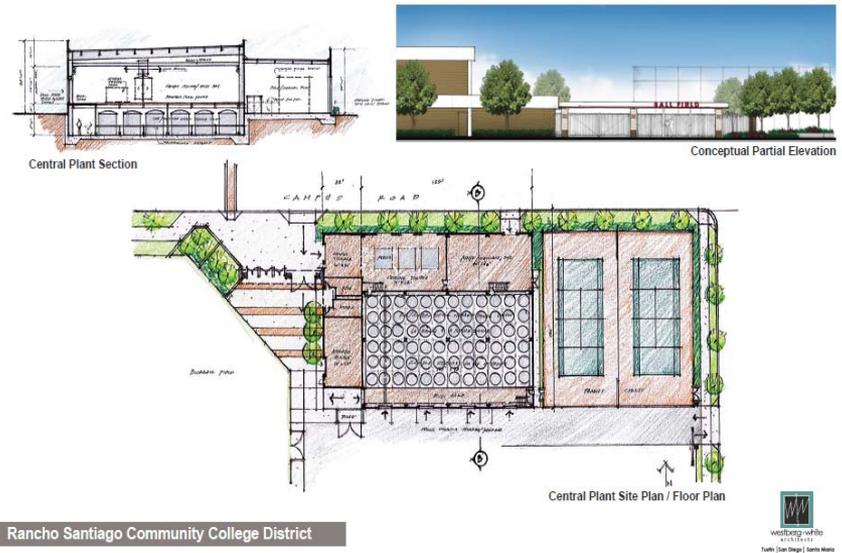
Current Status:

- ▶ Project is in design.
- ▶ First phase of the work is expected to begin January 2015.

Budget:

- ▶ \$68.1 million

Santa Ana College - Central Plant Concept





PROJECT UPDATE SANTA ANA COLLEGE JOHNSON CENTER RENOVATION PROJECT

Project Summary:

- ▶ Renovate the Johnson building to better utilize the space available and repurpose the space to support the new program requirements established by the master plan.
- ▶ The old bookstore annex will be torn down due to seismic safety issues.
- ▶ New elevators will be added to increase accessibility for students and faculty. Measure E funds supported the programming phase. The construction will be funded by Measure Q.

Current Status:

- ▶ Programming is complete.
- ▶ Pending start of design phase in May 2014.
- ▶ Target construction start is May 2016.

Budget:

- ▶ \$16.7 million





PROJECT UPDATE SANTA ANA COLLEGE SCIENCE, TECHNOLOGY ENGINEERING AND MATHEMATICS (STEM)

Project Summary:

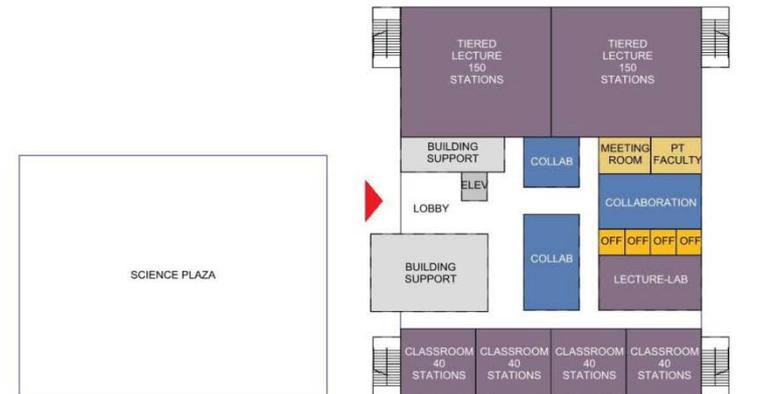
- ▶ Construction of a new 63,100 square foot science and math complex housing modern laboratories, classrooms, lecture halls, and faculty offices.

Current Status:

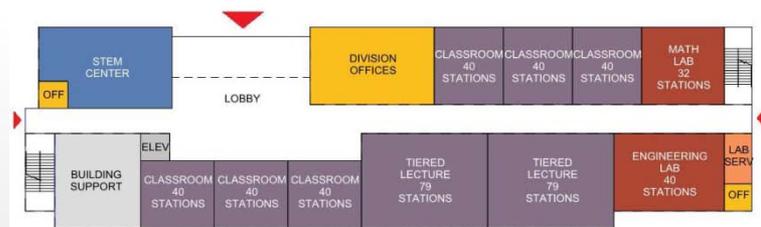
- ▶ The project is in the planning stages.
- ▶ Pending start of programming phase in August 2014.
- ▶ Target construction start is June 2017.

Budget:

- ▶ \$66 million



HEALTH SCIENCE BUILDING- LEVEL ONE



STEM BUILDING - LEVEL ONE
SCALE: 1/32" = 1'-0"



PROJECT UPDATE SANTA ANA COLLEGE HEALTH SCIENCES PROJECT

Project Summary:

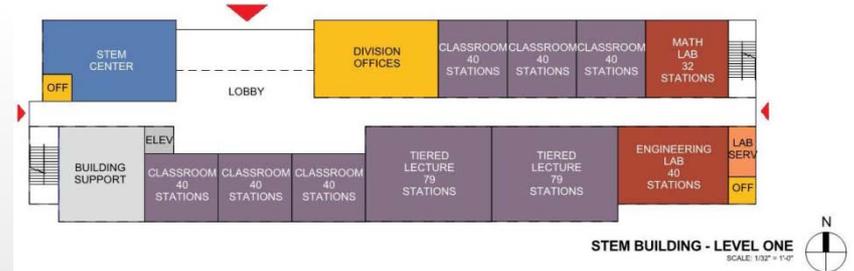
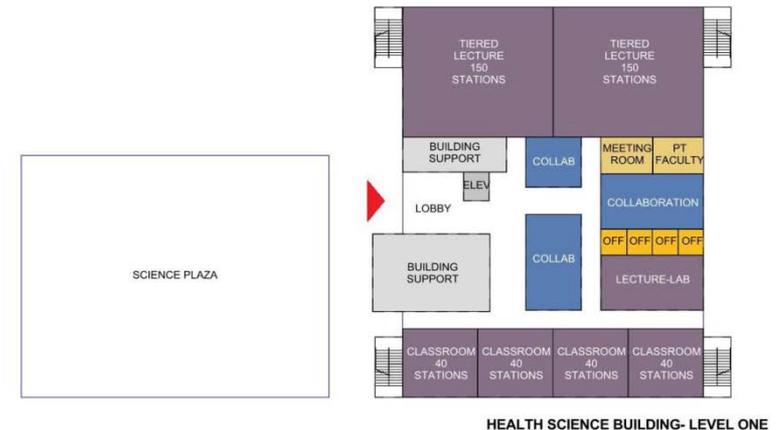
- ▶ Construction of a 55,138 square feet facility to allow for the consolidation and growth of the Health Sciences Programs including Nursing, Occupational Therapy Assistant, Medical Assistant, Emergency Medical Technician and Pharmacy Technology.

Current Status:

- ▶ This project has been submitted to the state for future funding.
- ▶ Design and construction start to be determined.

Budget:

- ▶ \$50 million
- ▶ Need additional funds to start construction.





PROJECT UPDATE SANTA ANA COLLEGE PARKING LOT AT 17TH/BRISTOL ST.

Project Summary:

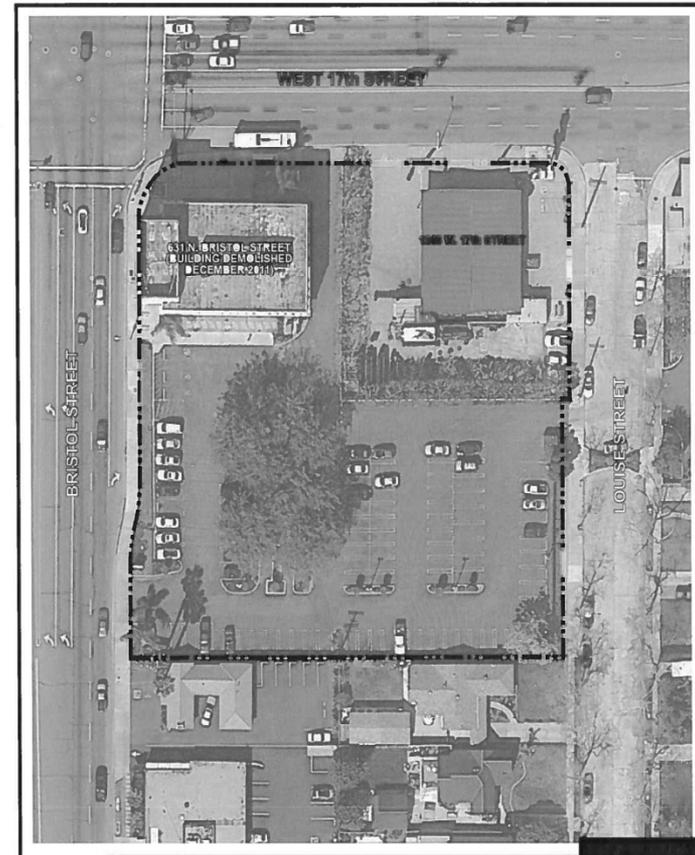
- ▶ New surface parking lot.

Current Status:

- ▶ Architect Board approved March 10, 2014.
Donald Krotee Partnership.
- ▶ Design underway.
- ▶ Demolition package preparing to bid in March 2014.
- ▶ Target construction start is November 2014
with a completion in February 2015.

Budget:

- ▶ \$1.7 million
- ▶ Acquisition of property was paid by Measure E funds.



MEASURE Q
MASTER PROGRAM BUDGET
 (BASED ON NO STATE FUNDING)

****ESTIMATED**

TARGET

<u>PROJECT</u>	<u>TOTAL BUDGET</u>	<u>STATUS</u>	<u>CONSTRUCTION</u>
❖ Dunlap Hall Renovation	\$14.2 M	Pending Construction	April 2014 - June 2015
❖ 17 th & Bristol Parking Lot	\$ 1.7 M	In Design	June 2014 - Feb 2015
❖ Central Plant 3 Phases	\$68.1 M	In Design	Jan 2015 – Sept 2016
❖ Johnson Center Reno	\$16.7 M	Programming	May 2016 – July 2017
❖ STEM Building	\$66 M	Programming	June 2017 – June 2019
❖ *Health Sciences Building	\$50 M	Pending	To Be Determined
TOTAL	\$216.7 M		

*State Funding Eligible \$19 M

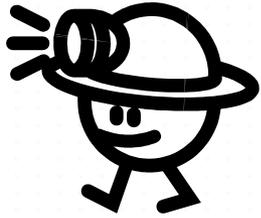
**Includes construction, design and owner contingencies



Scheduled Maintenance and Other Projects

ACTIVE SCHEDULED MAINTENANCE & OTHER PROJECTS

- ▶ Russell Hall Guard Rail Repair & Replacement
- ▶ Buildings A, F & R Boiler Replacements
- ▶ Door Hardware Upgrade
- ▶ Building H Windows and Screen Replacement
- ▶ Buildings H & R Painting
- ▶ Buildings C, H, N, P & R Roof Repairs
- ▶ Football Field Reconditioning
- ▶ CEC Parking Lot and Utility Upgrades
- ▶ Prop 39 LED Lighting Replacement



ACTIVE
OTHER PROJECT
RUSSELL HALL GUARD RAIL
EMERGENCY REPAIR AND REPLACEMENT

Project Summary:

- ▶ Remove, repair and replace guard rail screen system on second and third floors of the Russell Hall.

Current Status:

- ▶ In construction.
- ▶ Anticipated target completion is mid April 2014.

Budget:

- ▶ \$400,000





ACTIVE SCHEDULED MAINTENANCE

Buildings A, F, & R Boiler Replacements

Project Summary:

- ▶ Remove and replace existing boilers.
- ▶ The existing boilers at Building A, F & R have been deemed by the Air Quality Management Department (AQMD) to be in non-compliance with the existing state standards.

Current Status:

- ▶ Closing contract with the contractor.
- ▶ In DSA Certification phase.

Budget:

- ▶ \$321,850

High Voltage Preventative Maintenance

Project Summary:

- ▶ To perform preventative maintenance on the high voltage equipment.

Current Status:

- ▶ Pending preparation of as built drawings of the electrical distribution system.

Budget:

- ▶ \$61,146



Door Hardware Upgrade

Project Summary:

- ▶ To retrofit door hardware.
- ▶ Included in this project is the purchase of key stock and cores.

Current Status:

- ▶ Preparing Request for Proposal for hardware consultant to manage this project.

Budget:

- ▶ \$176,800

Buildings H & R Painting

Project Summary:

- ▶ Painting of the building exteriors.

Current Status:

- ▶ Bid pending.
- ▶ Target construction start in May 2014 and target completion date of June 2014.

Budget:

- ▶ \$58,000



ACTIVE SCHEDULED MAINTENANCE

Building H Windows and Screen Replacement

Project Summary:

- ▶ To replace windows and screens in Bldg. H.

Current Status:

- ▶ Bid pending.
- ▶ Target construction start May 2014 and completion in June 2014.

Budget:

- ▶ \$170,000

Buildings C, H, N, P & R Roof Repairs

Project Summary:

- ▶ Repair roofs.

Current Status:

- ▶ Bid pending.
- ▶ Target construction start June 2014 and completion in August 2014.

Budget:

- ▶ \$1.06 million



ACTIVE SCHEDULED MAINTENANCE

Football Field Reconditioning

Project Summary:

- ▶ To recondition the turf of the football field.

Current Status:

- ▶ Developing the scope of work.
- ▶ The work is anticipated to begin on May 2014 and target completion date of June 2014.

Budget:

- ▶ \$100,000

CEC Parking Lot and Utility Upgrades

Project Summary:

- ▶ To resurface and stripe the parking lot, replace the concrete walks, and water main line.

Current Status:

- ▶ Pending design start.
- ▶ Request for proposals underway for architect.

Budget:

- ▶ \$600,000



ACTIVE PROP 39 PROJECT LED LIGHTING UPGRADE

Project Summary:

Replace fluorescent and incandescent lights with LED retrofit kits for all applicable interior lights and replace exterior parking lights with new LED fixtures.

- ❖ Project Cost - \$1,516,730
- ❖ Source of Funding
 - ▶ Prop 39 - \$783,505
 - ▶ Projected Energy Saving Rebates - \$154,472
 - ▶ District - \$578,753

Current Status:

- ▶ Out to bid.
- ▶ Target start May 2014 and completion by end of June 2014





RANCHO SANTIAGO
Community College District

QUESTIONS



SANTA ANA
COLLEGE



Facilities and Maintenance meeting
 HEPSS Task Force
 Health, Emergency Preparedness, Safety and Security
AGENDA MARCH 6, 2014, ROOM F-126

The mission of Santa Ana College is to be a leader and partner in meeting the intellectual, cultural, technological, workforce and economic development needs of our diverse community. Santa Ana College prepares students for transfer, employment, careers and lifelong intellectual pursuit in a dynamic learning environment.

MEMBERSHIP				
Monica Collins, Co-Chair	Rebecca Barnard	Michael Collins	Gary Dominguez	
Andy Gonis	Don Mahany, Co-Chair	Don Maus		
Mark Wheeler	Alistair Winter	Jim Wooley		Guests

		Meeting called to order - 1:00 p.m.
Review of meeting notes and reports on follow up items responsibilities.		ACTIONS/OUTCOME/FOLLOW UPS
Alert-U Test and Training	Considering/Researching options to replace current AlertU with a single platform system. When/If this happens the information gathered by Alert-U will be transferred.	Alistair was absent at this meeting. Email sent re. training for Alert U and Berbee on 3/27 and 4/3..
Spring Drill	<ul style="list-style-type: none"> <u>Wednesday, February 26th is target date.</u> Desire to move the ICS location to the first floor of A building for access to power generation capacity with specific circuit panels that will provide access to electricity, computer, phones, etc. New Location A-214 Conduct a drill just for M&O people and involve Health Center and Psychological Services staff. 	Dr. Collins - Lead Contact Person Electrical quotes for install in A214 received and scheduled for next week.
Inventory ER supplies	<ul style="list-style-type: none"> Need to inventory ER supplies – suggestion was that next 	Completed HEPSS personnel went through the supplies trailer.

<p>Eyes and Ears- threat assessment training- Dr. Sara Lundquist requested this training</p> <p>Disaster Survival Skills training</p> <p>CERT Training</p> <p><u>Employee</u> Emergency Notification</p>	<p>meeting we meet at the trailer and inventory supplies.</p> <p>The Eyes and Ears- threat assessment training with OCDE. Report on completed training.</p> <ul style="list-style-type: none"> • Disaster Survival Skills training scheduled for February 7th 8:30 – 11:30 AM by Wayne Bennet. • Don Mahany and Gary Dominguez could provide the FEMA sponsored training. <ul style="list-style-type: none"> ○ Requires 24 hours of training. ○ Difficulty to schedule, get commitment/make-up sessions?? ○ Fridays are good days? • Don Mahany is working on a document that empowers employees to respond to threats on campus 	<p><u>Completed</u> Dr. Michael Collins A 2nd training took place February 28th.</p> <p><u>Completed</u> Capt Wayne Bennett conducted the training on Friday Feb 7th for our Maintenance and Operations employees. He spoke about triage of buildings, quick medical treatment and structure stabilization</p> <p><u>Project in development stage</u></p> <p><u>Completed</u> (see handout)</p>
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STANDING REPORTS	DISCUSSION/COMMENTS	ACTIONS/OUTCOME/FOLLOW UPS
SAC - Jim Wooley	<ul style="list-style-type: none"> • Significant incident report; Report provided by James in a hand-out 	J. Wooley
Risk Management- Don Maus	<ul style="list-style-type: none"> • Injury report provided. 	Don Maus
District Assessment Task Force Update	<ul style="list-style-type: none"> • A new task force has been created at the district level to assess our readiness. See 	Dr. Collins
OLD BUSINESS	DISCUSSION/COMMENTS	ACTIONS/OUTCOME/FOLLOW UPS
SAPD request for videos of SAC campus, buildings and grounds for training.	<ul style="list-style-type: none"> • Pictures done and sent to SAPD for their review and consideration. • Paul Walters – retired police chief is assisting with a 	Alistair Winter

Partnership with Santa Ana Police and SAC	<p>readiness assessment and will be making recommendations to the District task force.</p> <ul style="list-style-type: none"> • Hopes for future training and SAC as a SAPD training site. • SAC needs to establish protocols for reaction to various situations. • Safety and Security of our students, staff and faculty is our number one concern and our responsibility. • Recent campus wide accreditation survey showed that overwhelmingly people feel safe and secure at SAC. 	<p>Dr. Collins</p> <p>Mahany and Dominguez would like to enter into this project. A model for tabletop exercise / presentation should be used prepared for this exercise.</p>
Employee Emergency Notification letter	<ul style="list-style-type: none"> • After the Eyes and Ears training Don Mahany proposes that the STUDENT ER NOTIFICATIONS form be modified for dissemination to faculty and staff. • A draft was proposed and members are to review and make recommendations to chairs for edits. 	<p>Don Mahany</p>
Smoking Policy	<ul style="list-style-type: none"> • Dr. Collins provided members with a copy of the draft revised policy of TOBACCO FREE CAMPUS DECLARATION. • Policy now includes reference to ban on e-cigarettes. • District is updating its regulation on smoking as well to create a common voice across the district for all sites. 	<p>Dr. Collins</p> <p>Rebecca provided a “Tobacco Free Position” paper created by the CYAN. Suggestion to research for further information,</p>
Hazard Communications training	<ul style="list-style-type: none"> • Don discussed the new Hazard Communications training. The M&O staff still needs to schedule their training along with several other departments. • We are moving toward an on-line system for Material Safety Data Sheet management. In order to do this we need a current chemical inventory from each department. Biology, Chemistry, Auto, Diesel, Manufacturing and Welding are complete. • Still need inventory from M&O, the Theater, and the Art department. Once the inventory is uploaded we can proceed with training on how to use the site. 	<p>Completed:</p> <p>Don Maus – Mark Wheeler all MDS’s filed and ready to be utilized.</p>
Next Meeting	<p>Thursday February 6th</p>	<p>Agenda Items for Feb Meeting:</p> <p>1. Have meeting near the ER trailer so we can do the inventory. Completed</p>

		2. Review Draft of the ALL employee ER notification.
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Facilities update
3/18/2014

- We have received 181 work orders and have 29 open work orders on the books.
- The pool heater was replaced and we are submitting the necessary paperwork to the AQMD for compliance, and the gas company for a \$2500 rebate.
- The main elevator in U building has been repaired and is in good working order.
- W106 electrical installation has been completed along with the removal of mirrors and the patch and paint of the walls.
- We are in the process of devising a way to eliminate the fumes created by the machines in the machine shop from being entrained back into the building. This will mean removing a large window and installing a louver. It will also entail balancing the system.
- The Russell Hall guardrail installation project is currently underway. The replacement panels are scheduled to be installed on April 7th, 2014. It appears the project is on schedule and going well.
- We have started the 3 pack project; lot 11/swing space, retention basin and the planetarium. McCarthy is on site and pressing forward. There has been a significant amount of fencing installed and traffic, both foot and vehicular are being affected. We are doing all we can to minimize the overall impact. The scheduled completion date in September 30th, 2014. The fences will be coming down in some areas prior to that date.
- The job walk for the H building renovation has been scheduled for March 27th with bids due back on April 4th.

Update for 3-18-14

1. The Environmental Task Force studied the payback time for traditional and Solar Assisted Natural Ventilation with the following results:

Outcomes for Solar Assisted Natural Ventilation Design

The environmental and economic outcomes could lower costs for energy to cool, for a savings of 70% to 100% of energy formerly used for cooling, and reduce the costs to heat the building. Overall energy cost of the building is estimated to be reduced by 10 - 30% *for the natural ventilation alone* (Walker), *but it will be higher with the addition of fans and controls, perhaps 60% or more* (Graham). In addition, adding all fresh air to the building should reduce exposure to routine pathogens that are trapped and re-circulated by mechanical HVAC type systems currently in place. *Since long term costs are up to 75% of the life cost (Sieglar) for a building of this type, it is even better that the project will result in perhaps only 10% (Maisey) as much cost for maintenance and repairs as a mechanical HVAC system would.*

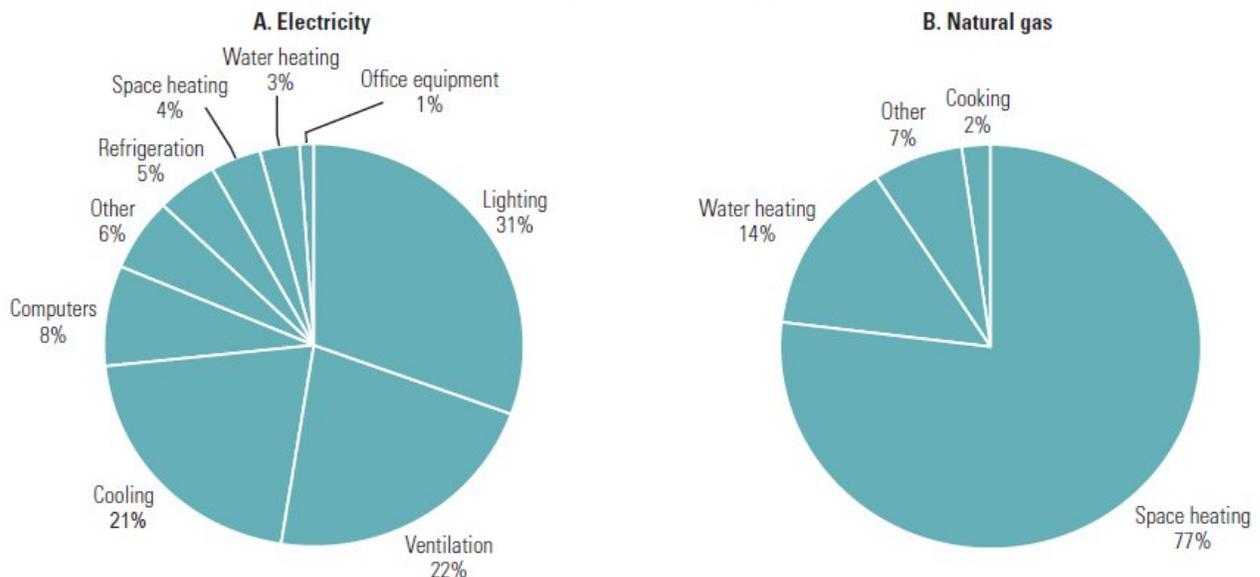
Santa Ana College Electrical Savings with Solar Assisted Natural Ventilation Design

Annual electric cost at Santa Ana College is approximately \$1.8 million USD (data provided by Don Maus). From data in the chart below, we can see the cost for HVAC is about 43% of the electric, or \$774,000.

Colleges and universities spend around \$1.95 per ft² on electricity and \$0.15/ft² on natural gas annually (assuming energy use of 18.94 kilowatt-hours [kWh]/ft² and 0.17 hundred

cubic feet of natural gas per ft² per year). The difference, but remember that every 1,000,000 kWh saving turning things off takes \$100,000 off your institution's bill annually (assuming electricity costs of \$0.10/kWh).

FIGURE 1: Energy consumption in U.S. educational facilities by end use
Data from the U.S. Energy Information Administration show that lighting, ventilation, and cooling account for 74 percent of electric use (A) and space heating dominates natural gas use at 77 percent (B).



Note: Sum may not total 100% due to rounding.

© E Source; data from the U.S. Energy Information Administration

EPA estimates \$1.95/sq. foot for higher education campus electric cost. SAC Campus square footage is approximately 823,700 sq. feet. SAC cost/square foot = \$1.8 million/823,700 sq. feet = \$2.185/sq. foot. SAC

operates with an apparently higher than average electric cost for a higher education facility, so the savings will be greater than average.

The opening statements in the document with the above image, by E-Source Company Direct, (2010) says " By implementing economical energy efficiency measures, many colleges and universities have the potential to cut their energy bills by 30 percent or more." Santa Ana College has already implemented some of their recommended strategies such as schedule changes, but if we can do much better.

Typical scheduling changes and updating to traditional energy efficient HVAC equipment on the campus might net 30% of electric bill savings, where $30\% \times \$774,000 = \$232,000$ annually.

Updating to Solar Assisted Natural Ventilation would result in savings of 60% of electric bill savings, where $60\% * \$774,000 = \$464,400$ annually, or more in years when less to no AC is needed, plus the reduced long term maintenance cost savings of 90% of the life cost of the system, for a total savings of perhaps 70% of electric or more, annually.

Better yet, Solar Assisted Natural Ventilation upgrades don't require tearing up the campus and buildings as much, and the new equipment needed costs less, possibly less than a quarter of the cost of an \$8 million dollar central plant since adding solar assisted natural ventilation is probably between \$55,000 and \$100,00 per building on campus per information provided by a vendor of solar roof vent fans. For example, the installed cost of four such solar roof vent fans was quoted as only \$42,000 in 2012.

Sources:

Graham, Carl Ian, PE. High-Performance HVAC. Whole Building Design Guide. 12-07-2009. Web

Maisey & Milestone. Optimizing HVAC Life-Cycle Performance. 08-31-2010. <http://www.wbdg.org/resources/tqc.php>. Web. Accessed 12-8-2011.

Maisey, Grahame E. PE. The death of HVAC. 08/09/2010. <http://www.plantengineering.com/industry-news/mechanical-news/single-article/the-death-of-hvac/2954b71fec.html>. Accessed 12-8-2011.

Milne, Murray, & Gomez, Carlos, & LaRoche, Pablo, & Morton, Jessica. Why Design Matters: Comparing Three Passive Cooling Strategies In Sixteen Different Climate Zones. UCLA, Department of Architecture and Urban Planning. <http://www.energy-design-tools.aud.ucla.edu/papers/ASES05-Milne.pdf>. Web. Accessed 11-27-11.

Walker, Andy. Natural Ventilation. Whole Building Design Guide sponsored by National Renewable Energy Laboratory. 06-15-2010. Web. Accessed 12-8-2011.

- 2. The Environmental Task force found some free General Services Administration tools that can be used for Design and Analysis.**

Design and Analysis Tools

<http://eponline.com/articles/2011/02/11/free-gsa-sustainable-facilities-tool-available-now.aspx>

The use of computer programs can considerably reduce the time and effort spent on formulating the LCCA, performing the computations, and documenting the study. Listed below are several LCCA-related software programs:

- [Building Life-Cycle Cost \(BLCC\) Program](#)-Economic analysis tool developed by the National Institute of Standards and Technology for the U.S. Department of Energy [Federal Energy Management Program \(FEMP\)](#).

- [ECONPACK](#) for Windows-An economic analysis tool developed by the U.S. Army Corps of Engineers in support of DOD funding requests.
 - [Energy-10](#)-Cost estimating program available from the [Sustainable Buildings Industry Council \(SBIC\)](#).
 - [SuccessEstimator Estimating and Cost Management System](#)-Cost estimating tool available from [U.S. Cost](#).
3. The Environmental Task Force researched software, for Life-Cycle Cost Analysis and found there is some free and some not free software as follows.

Life-Cycle Cost Analysis Software

Free Software

Building for Environmental and Economic Sustainability (BEES)

(<http://www.bfrl.nist.gov/oae/software/bees/>) is a tool that helps select cost-effective building products from more than 200 environmentally preferred items. BEES is based on consensus standards and measures the environmental performance of building products by using the life-cycle assessment approach specified in the International Organization for Standardization (ISO) 14040 series of standards (<http://www.iso.org/iso/home.htm>). BEES has been adapted for application to biobased products—see BEES for USDA (http://www.bfrl.nist.gov/oae/software/bees/bees_USDA.html). BEES has been supported in part by the U.S. Environmental Protection Agency's Environmentally Preferable Purchasing program (<http://www.epa.gov/epp/>).

The Chilled Water System Analysis Tool

(<http://www1.eere.energy.gov/industry/bestpractices/software.html>) is used to determine the energy requirements of chilled water cooling systems and to evaluate opportunities for energy and cost savings by applying improvement measures. The program, developed by the U.S. Department of Energy (DOE), allows you to calculate the current energy consumption of an existing system, then select proposed equipment or operational changes for comparison.

The Combined Heat and Power Application Tool

(<http://www1.eere.energy.gov/industry/bestpractices/software.html>) is used to evaluate the feasibility of combined heat and power. This tool, developed by the DOE, will estimate system costs and payback period. It also performs "what if" analyses for various utility costs. It includes performance data and preliminary cost information for many commercially available gas turbines and default values that can be adapted to meet specific application requirements.

The Construction Waste Calculator

(<http://www.metrokc.gov/dnrp/swd/greenbuilding/construction-recycling/cost-effectiveness.asp>) from King County Solid Waste Division, WA, explains how to determine the cost effectiveness of recycling versus disposal by using the Recycling Economics Worksheet (http://www.metrokc.gov/dnrp/swd/greenbuilding/documents/economics_worksheet.xls). The worksheet contains separate calculation sheets for commercial-hauling and self-hauling options, as well as samples of completed worksheets.

The **Cool Roof Calculator** estimates cooling and heating savings for flat and low-slope roofs with surfaces that are not black. It includes DOE Web-based software programs for managers of small and medium-sized facilities that purchase electricity without a demand charge (<http://www.ornl.gov/sci/roofs+walls/facts/CoolCalcEnergy.htm>) and for large facilities that purchase electricity with a demand charge based on peak monthly load (<http://www.ornl.gov/sci/roofs+walls/facts/CoolCalcPeak.htm>).

DOE-2 (<http://www.doe2.com/>) is a frequently updated **FORTTRAN** program developed by James J. Hirsch & Associates in collaboration with Lawrence Berkeley National Laboratory. It calculates the hourly energy use and energy cost of a commercial or residential building based on user-supplied information about the building's climate, construction, operation, utility rate schedule, and heating, ventilating, and air-conditioning (HVAC) equipment. It can be used in its basic form or accessed through a friendlier interface such as eQUEST, EnergyPlus, Green Building Studio, or PowerDOE, all of which are described in this section.

Energy Cost

Calculators (http://www.fedcenter.gov/_kd/go.cfm?destination=ShowItem&Item_ID=8336) from the Federal Energy Management Program allow users to enter their own utility rates, hours of use, and so forth, to estimate the energy cost savings from buying a more efficient product. Calculators are available for compact fluorescent lamps, commercial unitary air conditioners, air-cooled chillers, water-cooled chillers, commercial heat pumps, boilers, refrigerators, freezers, beverage vending machines, computers, monitors, faxes, printers, copiers, faucets/showerheads, toilets/urinals, central air conditioners, gas furnaces, electric/gas water heaters, clothes washers, and dishwashers.

Energy-10 (<http://www.nrel.gov/buildings/energy10.html>) from the National Renewable Energy Laboratory helps architects and building designers quickly identify the most cost-effective energy-saving measures for small commercial and residential buildings. It integrates daylighting, passive solar heating, and low-energy cooling strategies with energy efficient shell design and mechanical equipment. It enables designers to make good decisions about energy efficiency early in the design process.

EnergyPlus (<http://www.eere.energy.gov/buildings/energyplus/>) is a DOE building energy simulation program for modeling a building's heating, cooling, lighting, ventilating, and other energy flows. It is based on the most popular features and capabilities of DOE-2, but it includes simulation capabilities such as time steps of less than an hour, modular systems, HVAC zone simulation, multizone air flow, thermal comfort, and photovoltaic systems.

eQUEST (<http://www.energydesignresources.com/resource/130>) was developed by Energy Design Resources to perform a detailed analysis of state-of-the-art building design technologies without requiring extensive experience in the "art" of building performance modeling. It combines a building creation wizard, an energy efficiency measure wizard, and a graphical results display module with a DOE-2 building energy-use simulation program. Results are displayed in tables and graphs. eQUEST appears to be one of the most popular energy-use simulation programs, probably because of its

ability to display energy consumption over time using colorful, easy to-read graphs and tables.

The **Financing Alternatives Comparison Tool**

(<http://epa.gov/owm/cwfinance/cwsrf/fact.htm>) is a U.S. Environmental Protection Agency (EPA) financial analysis tool that helps identify the most cost-effective method to fund a wastewater or drinking water management project. This tool produces a comprehensive analysis that compares various financing options for these projects by incorporating financing, regulatory, and other important costs.

The **Life-Cycle Cost Analysis Model** (<http://www.green.ca.gov/LCCA/default.htm>) was developed by the State of California to determine the cost effectiveness of implementing energy conservation measures using the results of energy audits or energy feasibility studies. This Excel spreadsheet has information specific to California (details about energy costs, California energy tariffs, peak/part-peak/off-peak rates, etc.) already filled in, although the information can be modified. The model provides detailed analysis of energy cost savings and implementation costs.

Radiance (Windows version at <http://radsite.lbl.gov/deskrad/> and Unix version at <http://radsite.lbl.gov/radiance/>) is a tool for lighting design and rendering, developed by the DOE and the Swiss Federal Government through the Lawrence Berkeley National Laboratory. It quantitatively renders daylight in building models to provide graphic displays and luminance numbers that can be used to determine how much artificial lighting is needed in a room or how room configuration could be changed to eliminate the need for artificial light.

The **Target Finder**

(http://www.energystar.gov/index.cfm?c=new_bldg_design.bus_target_finder) is an EPA energy modeling tool that helps architects and building owners set aggressive, realistic energy targets and rate a commercial building's estimated energy use, based on the EPA's survey of existing buildings and climate by ZIP code. Site and source energy calculations are provided for both energy use intensity and total annual energy.

The **Unitary Air Conditioner Cost Estimator**

(http://www1.eere.energy.gov/femp/procurement/eep_unitary_ac_calc.html) compares high-efficiency rooftop air conditioners to standard equipment in terms of life-cycle cost. This estimator, developed by the DOE, accounts for local climate and partial load as well as full load efficiencies. The Web-based, menu-driven format is easy to learn and use. It quickly estimates life-cycle cost, simple payback, return on investment, and the savings-to-investment ratio based on user-specified air conditioning requirements and building use patterns. Results are easily downloaded as graphic files for further analysis or for presentations.

Commercial Software

Ecotect (<http://squ1.com/>) is a whole-building simulator from Square One Research that "combines an interactive building design interface and 3D modeler with a wide range of environmental analysis tools for a detailed assessment of solar, thermal,

lighting, shadows and shading design, energy and building regulations, acoustics, air flow, cost, and resource performance of buildings at any scale." It works with Square One's CAD engine, or you can import building information from AutoCAD.

Green Building Studio

(<http://usa.autodesk.com/adsk/servlet/index?siteID=123112&id=11179531>) is one of the many interfaces to DOE-2. It also is compatible with other energy-analysis software. Green Building Studio has tools that help evaluate building designs for energy consumption and carbon footprints.

PowerDOE (<http://www.doe2.com/Download/Docs/D22PDSum.pdf>) is a commercial interface to DOE-2 (see the "[Free Software](#)" section) that uses graphics, building images, and models to both organize data input and display building energy use for heating, cooling, lighting, ventilating, and so forth.

The Virtual Environment

(http://www.iesve.com/content/default.asp?page=home_Our%20Software) can act as a plugin to AutoCAD's Revit, calculating heating and cooling loads. Developed by Integrated Environmental Solutions, Ltd. This plugin can also be used to model several other systems from within Revit.

Life-Cycle Assessment Software

Free Software

Building for Environmental and Economic Sustainability (BEES)

(<http://www.bfrl.nist.gov/oe/software/bees/>) is a tool that helps select cost-effective building products from more than 200 environmentally preferred items. BEES is based on consensus standards and measures the environmental performance of building products by using the life-cycle assessment approach specified in the International Organization for Standardization (ISO) 14040 series of standards (<http://www.iso.org/iso/home.htm>). BEES has been adapted for application to biobased products—see BEES for USDA (http://www.bfrl.nist.gov/oe/software/bees/bees_USDA.html). BEES has been supported in part by the U.S. Environmental Protection Agency's Environmentally Preferable Purchasing program (<http://www.epa.gov/epp/>).

Building Materials Reuse Calculator

(<http://www.wastematch.org/calculator/calculator.htm>) from New York City's NY Wa\$teMatch Materials Exchange estimates the environmental benefits of salvaging and reusing building materials, rather than buying and installing new ones. The calculator measures the environmental benefits of reusing building materials.

Pharos (<http://www.pharoslens.net/about/>) is a labeling system that is sponsored by the Healthy Building Network and its partners. The labeling system, still being developed, is intended to be a consumer-friendly display of the evaluation of materials across impact categories, including energy/ water usage, air quality impacts, toxicity, occupational safety, social justice, and habitat impacts. The PharosWiki

(http://www.pharosproject.net/wiki/index.php?title=Main_Page) is available, although the labeling system was not yet available when this report was prepared.

Comparison and Evaluation:

The **Sustainability Tracking, Assessment & Rating System™** (STARS) is a transparent, self-reporting framework **for colleges** and universities to measure their sustainability performance.

<https://stars.aashe.org/pages/register/register-stars.html>

4. Environmental Task Force Next Steps

We recommend further investigation of the tools available. We will review them in greater depth as much as we can if it pleases the Facilities Committee.

Respectfully Submitted,

Susan M. Sherod