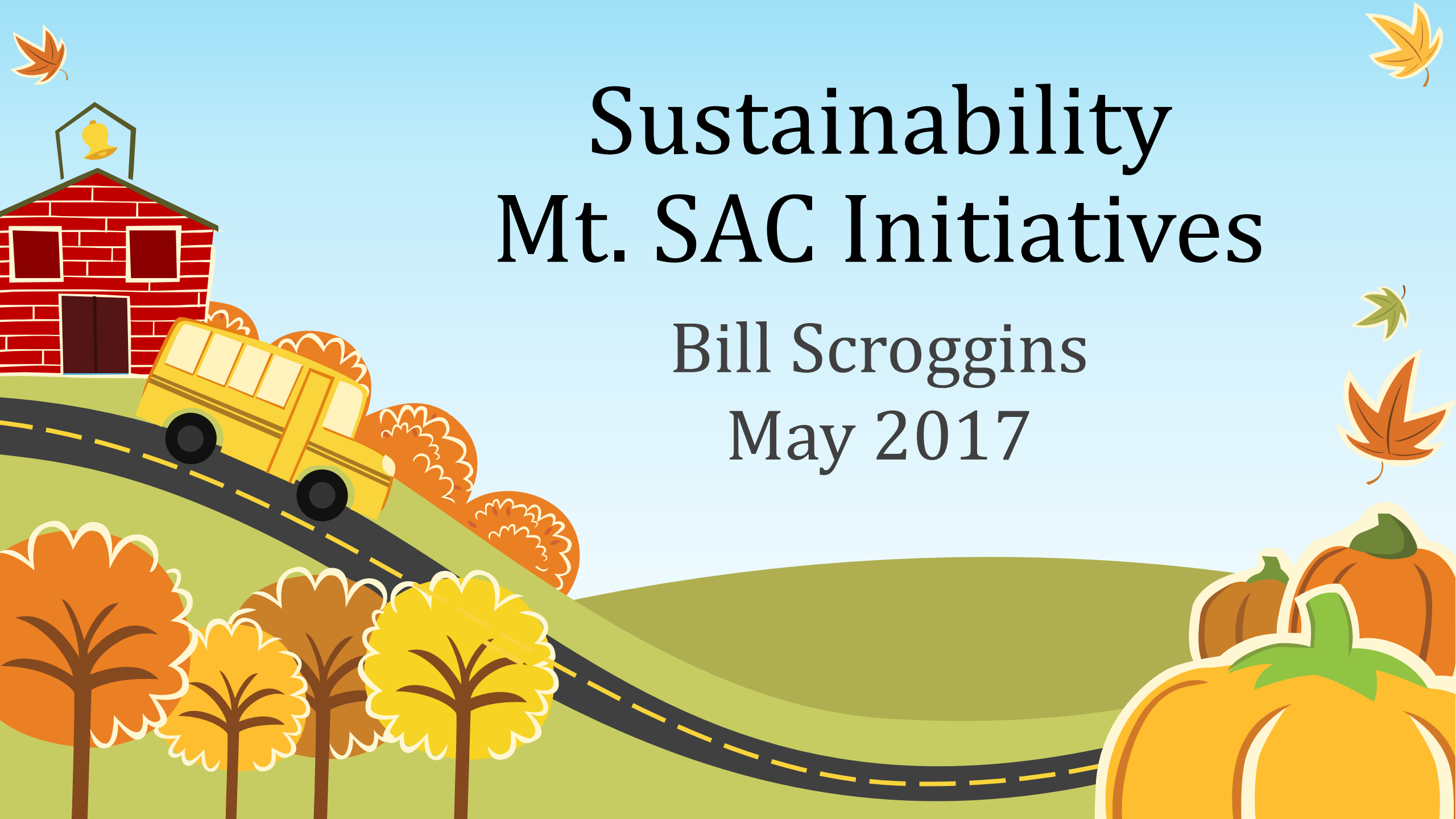


Sustainability
Mt. SAC Initiatives

Bill Scroggins

May 2017

Sustainability Tour

1 LEED Buildings 2 Sustainable Sourcing 3 Transportation Center
4 Cogeneration Plant 5 Drought Tolerant Plants Water Bottle Station

Energy and Water Efficiency

- Campus Interior Walkway Lighting
- EV Charging
- Expand Solar Capacity to 4 MW
- Integrated Energy Management

LED Campus Walkway Lighting

LED Advantages

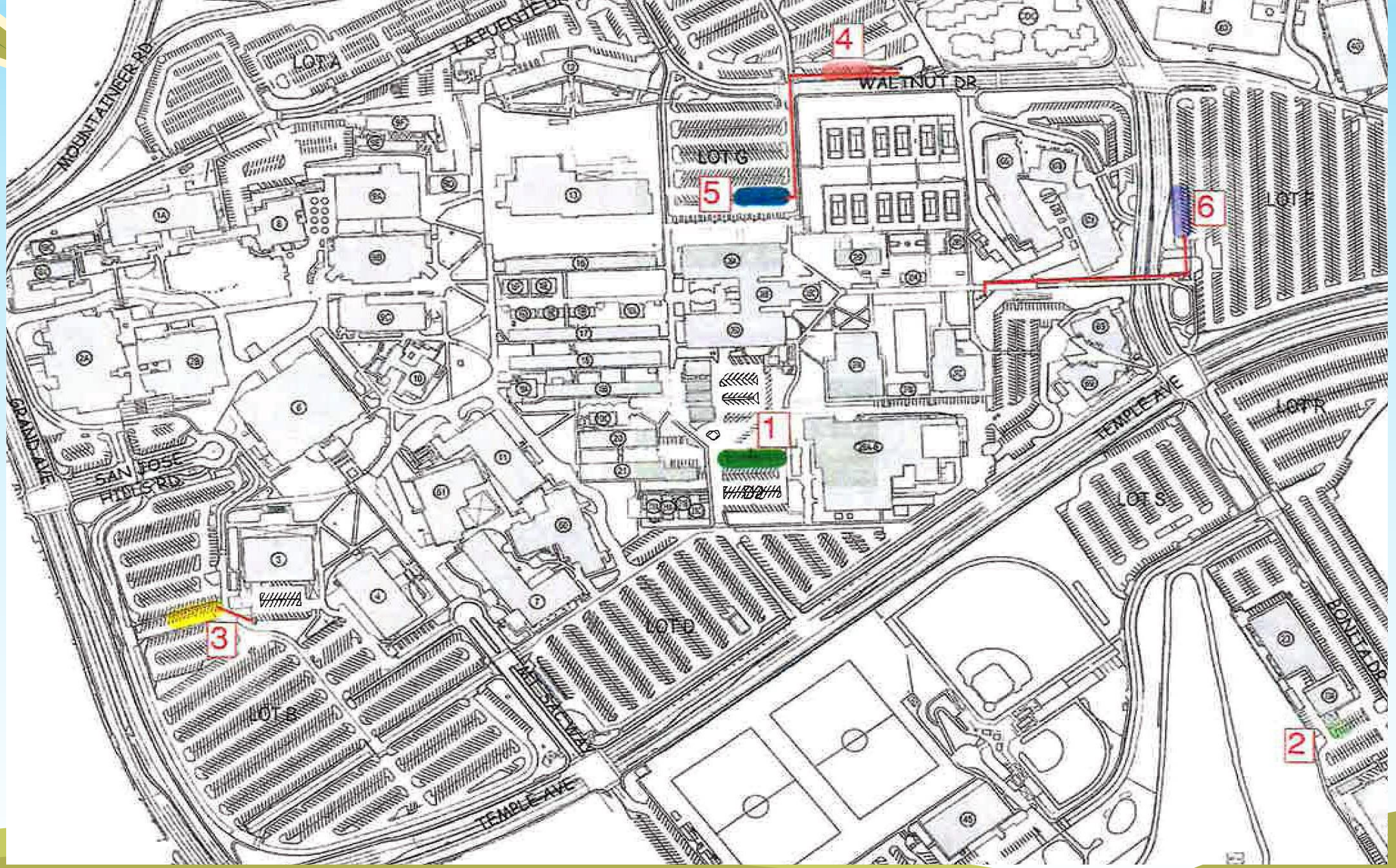
- High efficacy and durability
- Superior life over other lamp sources
- Required maintenance greatly reduced
- Greater optical control: controllable source, dimming, instant on/off
- Reduced rate of lumen depreciation for long application life

Water Efficiency

CAMPUS WATER USE ZONE	% of Total	2002 – 2006 Avg. 598 AF per Year	% of Total	2007 – 2013 Avg. 412 AF per Year	Water Savings 187 AF per Year
Athletic Fields	22%	132 AF per year	23%	94 AF per year	38 AF per year
Wildlife Sanctuary	10%	59 AF per year	3%	14 AF per year	45 AF per year
Range and Pasture	18%	108 AF per year	18%	73 AF per year	35 AF per year
Campus Irrigation and Domestic Use	50%	299 AF per year	56%	231 AF per year	68 AF per year

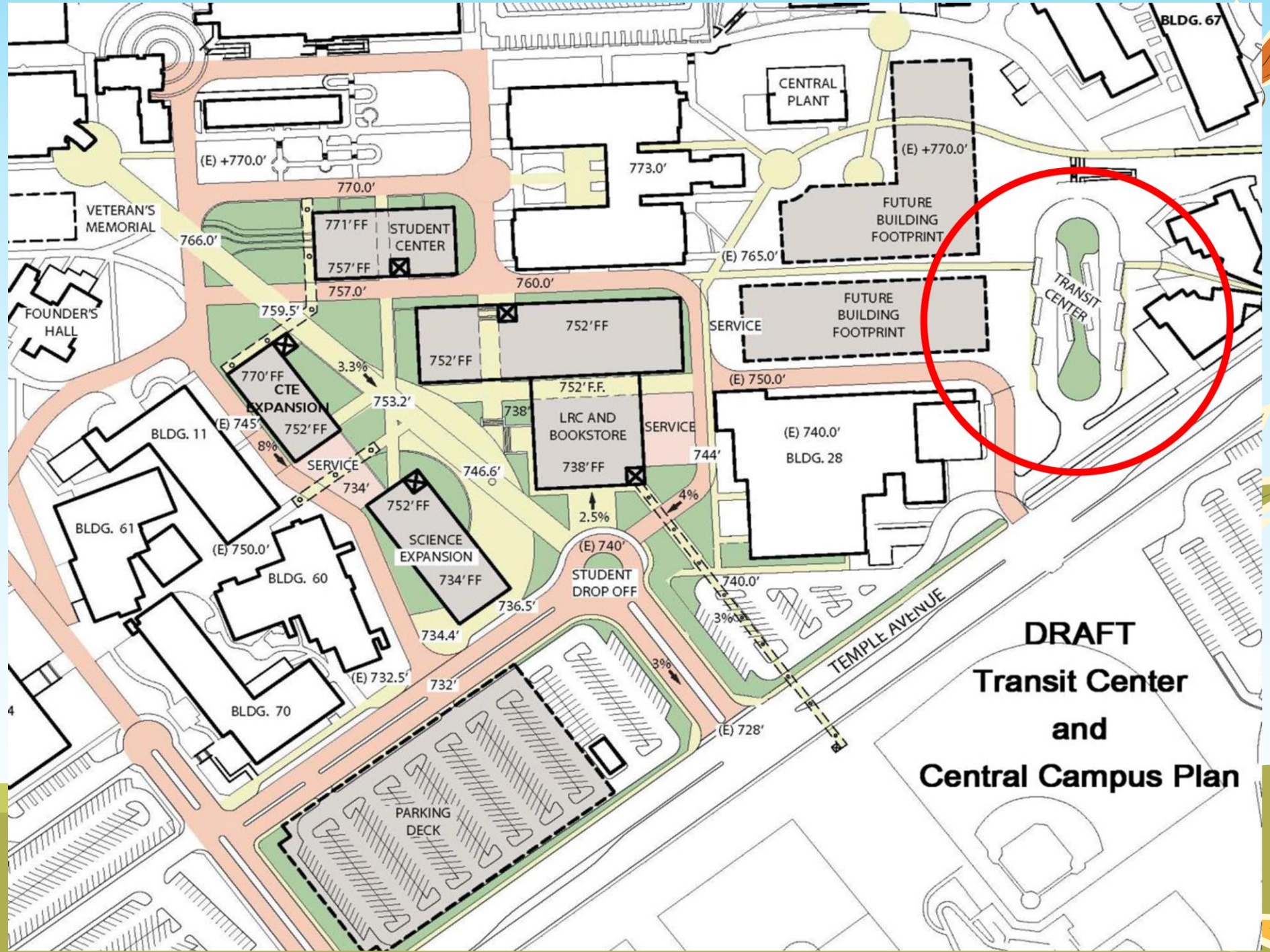
Electric Vehicle Charging Stations

EV CHARGING LOCATIONS
10 stalls – Lot D
4 stalls – Bldg 23
10 stalls – Lot B
10 stalls – Lot G
10 stalls – Lot H



EV Charging Stations: 10 Lot D; 4 Bldg 23; 10 Lot B; 10 Lot G; 10 Lot H

Foothill Transit Center

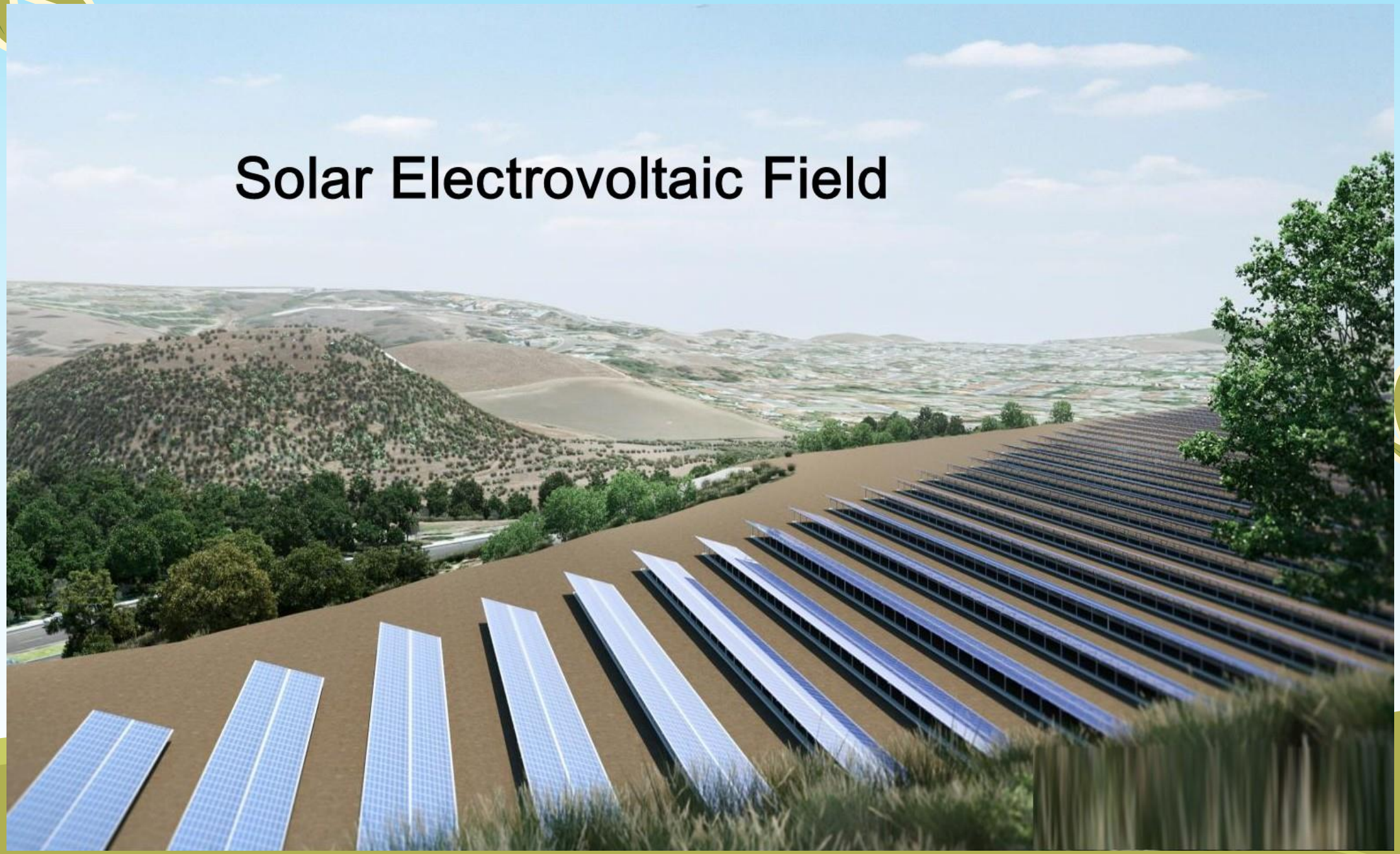


Foothill Transit
Mt. SAC Ridership

- 865,095 Mt. SAC student boardings using the Class Pass
- Year to date FY16 boardings data indicates 203,475 Mt. SAC student boardings

What is a Transit Center?

- A hub of transit options co-located in a single facility
- Transfer point to other routes or modes of transportation
- A Transit center simplifies route connectivity and enhances level of service
- Bus stop amenities like benches and shelters help protect passengers from weather


Solar Electrovoltaic Field


MSAC

MT. SAN ANTONIO COLLEGE
2018 Educational and Facilities Master Plan
Sustainability Update

MAY 22, 2017 // COMMUNITY FACILITIES PLAN ADVISORY COMMITTEE MEETING

Agenda

/ SUSTAINABILITY OBJECTIVES REVIEW

/ MARCH ECO CHARRETTE REVIEW

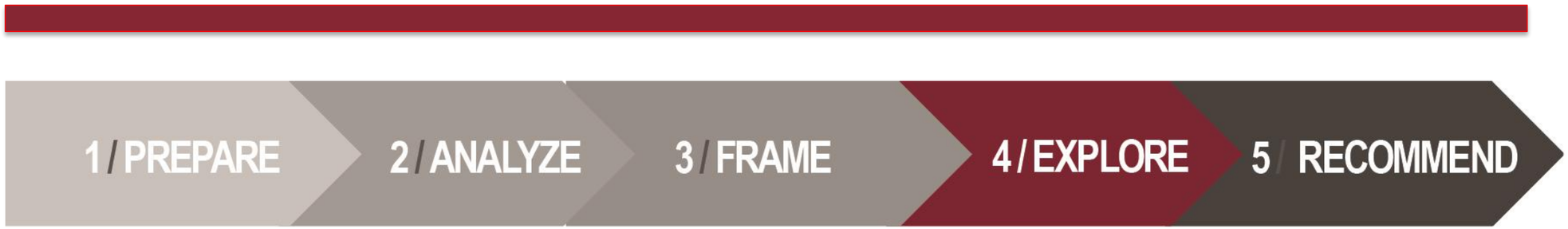
/ MAY SUSTAINABILITY CONFERENCE UPDATE

/ NEXT STEPS OF CLIMATE ACTION PLAN (CAP)

Updates

SEPTEMBER
2016

DECEMBER
2017



MAY
2017

Review: Sustainability Objectives

MT. SAC EFMP – SUSTAINABILITY OBJECTIVES

/ Minimize negative impacts to the environment, including, but not limited to, water pollution, air pollution, waste, energy use, water use, and the heat island effect.

/ Reduce hardscape areas that contribute to the heat island effect and stormwater pollution.

/ Promote sustainability awareness and education through interpretive design, programming, and research facilities.

/ Support opportunities for on-campus waste management strategies.

/ Provide alternatives to single-occupant vehicle travel.

MT. SAC
Mt. San Antonio College

Review:

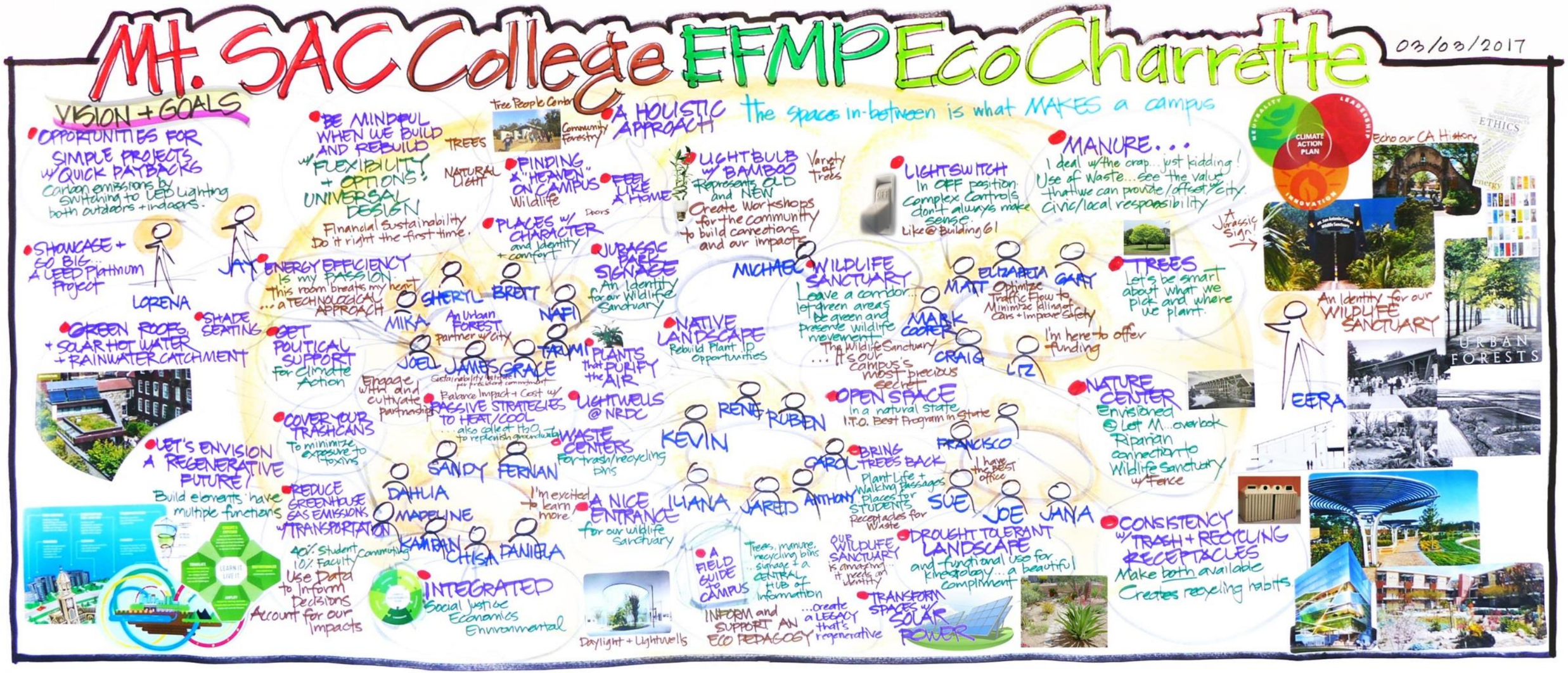
Eco Charrette

EFMP ECO CHARRETTE REPORT

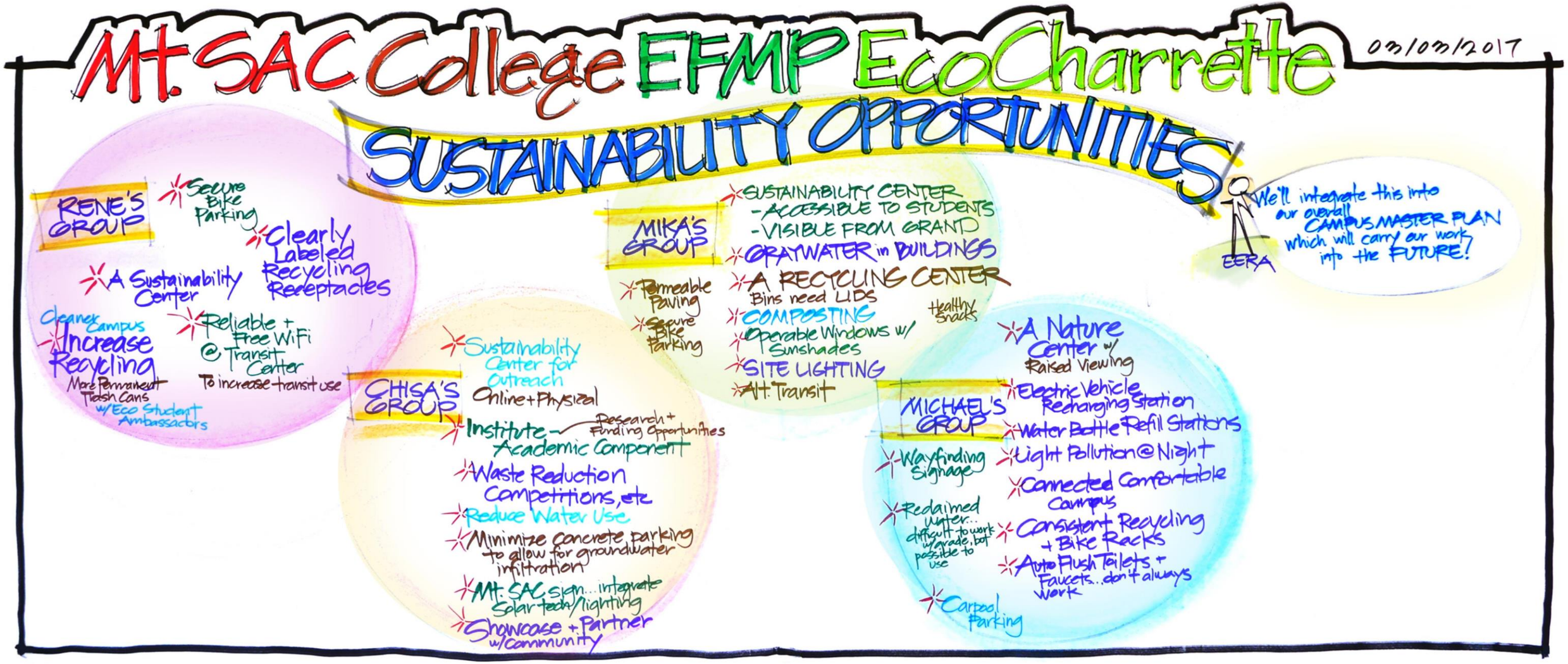
/ The Report identifies areas of interest for sustainable practices at Mt. SAC and opportunities identified by workshop participants

/ Draft Eco Charrette Workshop Report under review by workshop participants

EFMP ECO CHARRETTE - GRAPHIC NOTES

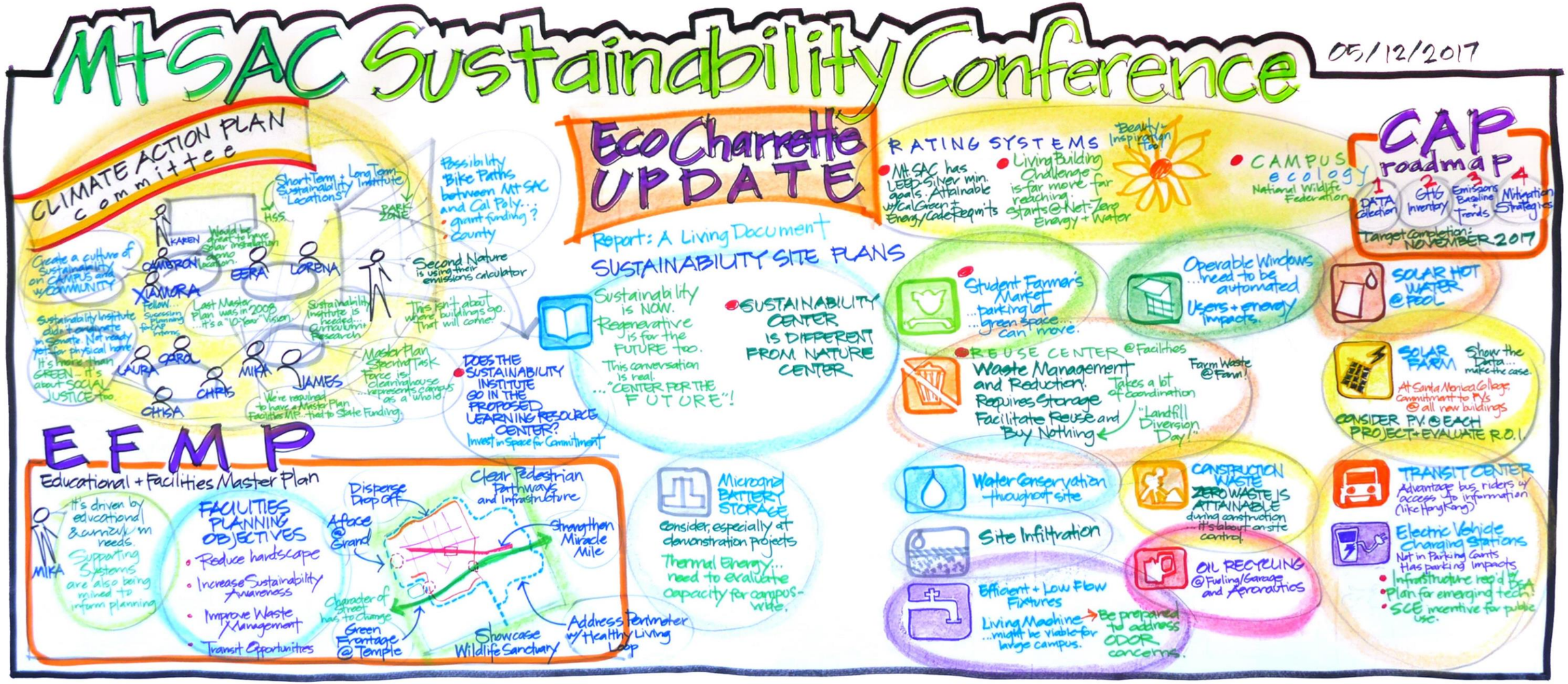


EFMP ECO CHARRETTE - SUSTAINABILITY OPPORTUNITIES



Update: Sustainability Conference

SUSTAINABILITY CONFERENCE – GRAPHIC NOTES

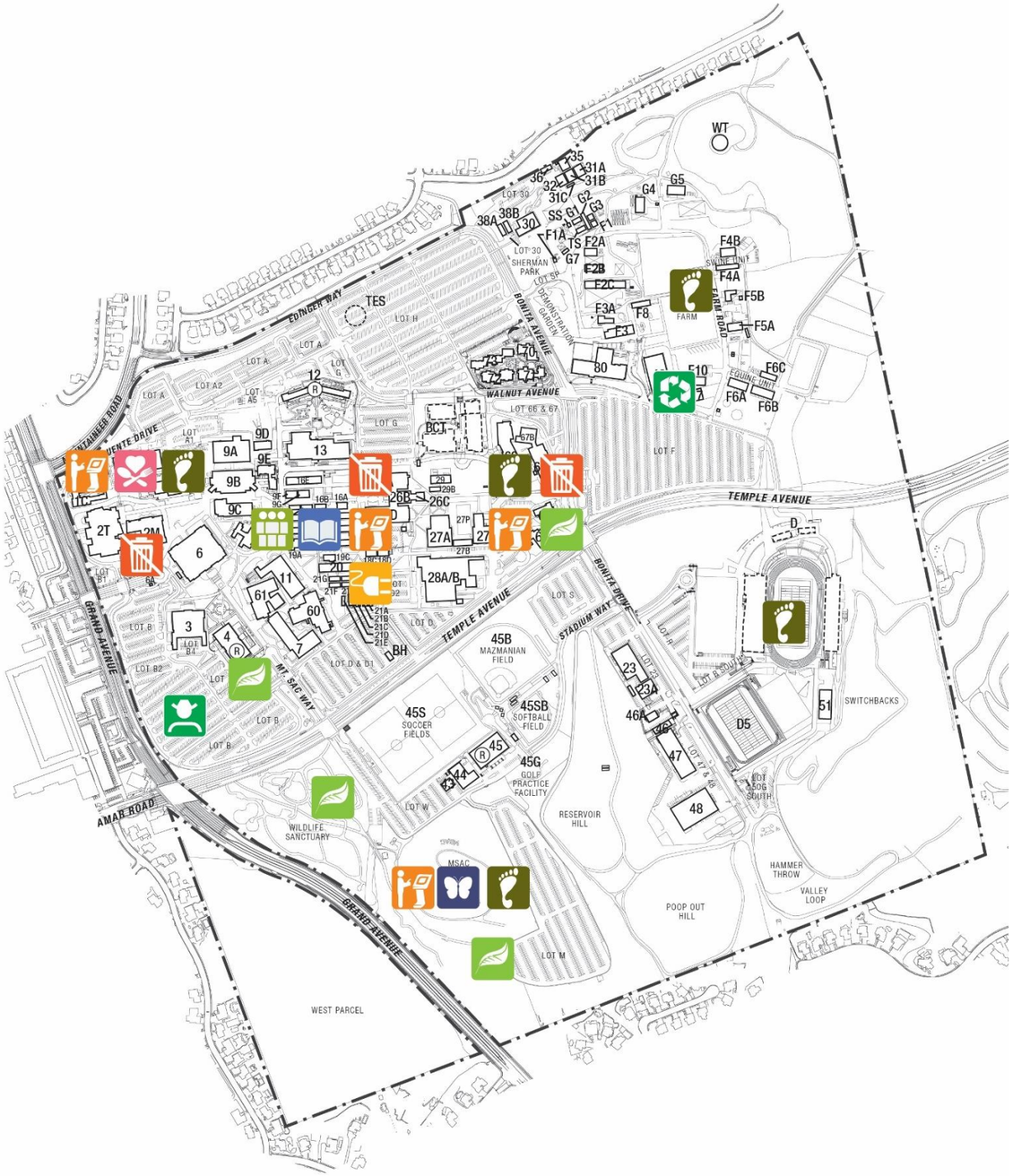


Update: Sustainability Site Plans

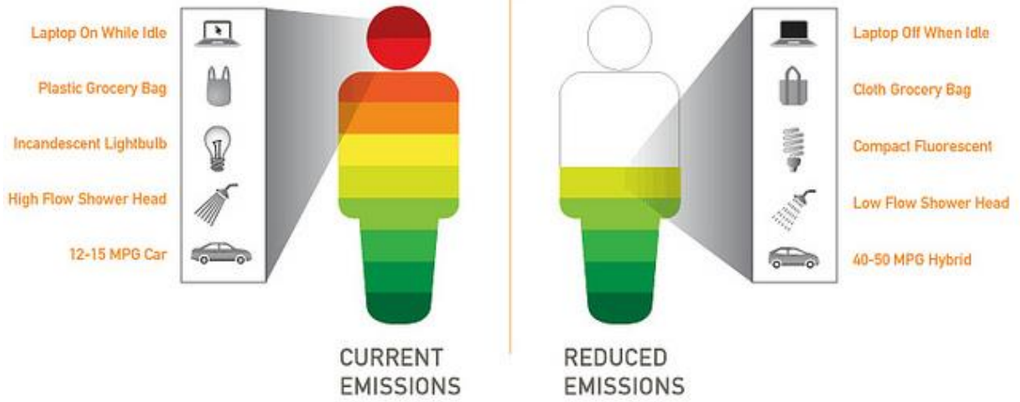
CULTURE

Culture

- Eco Station (recycling center)
- Sustainability Center
- Sustainable Signage
- Sustainability Institute
- Nature Center
- Healthy snacks
- Walkability map
- Campus power save
- Waste reduction competition
- Student farmer's market
- Eco team



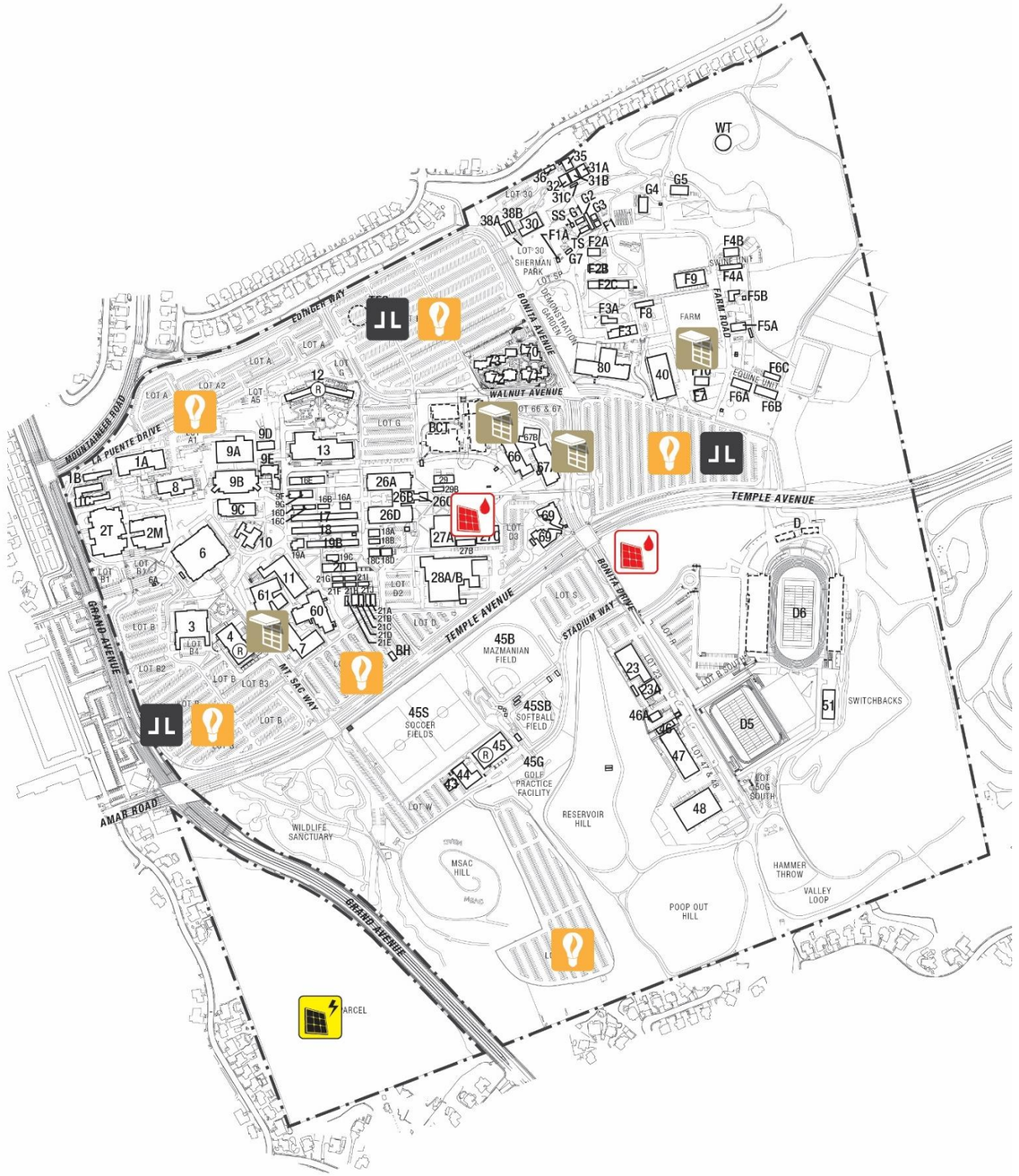
CONSERVATION OUTREACH: TEACHING THE CAMPUS TO SAVE ENERGY

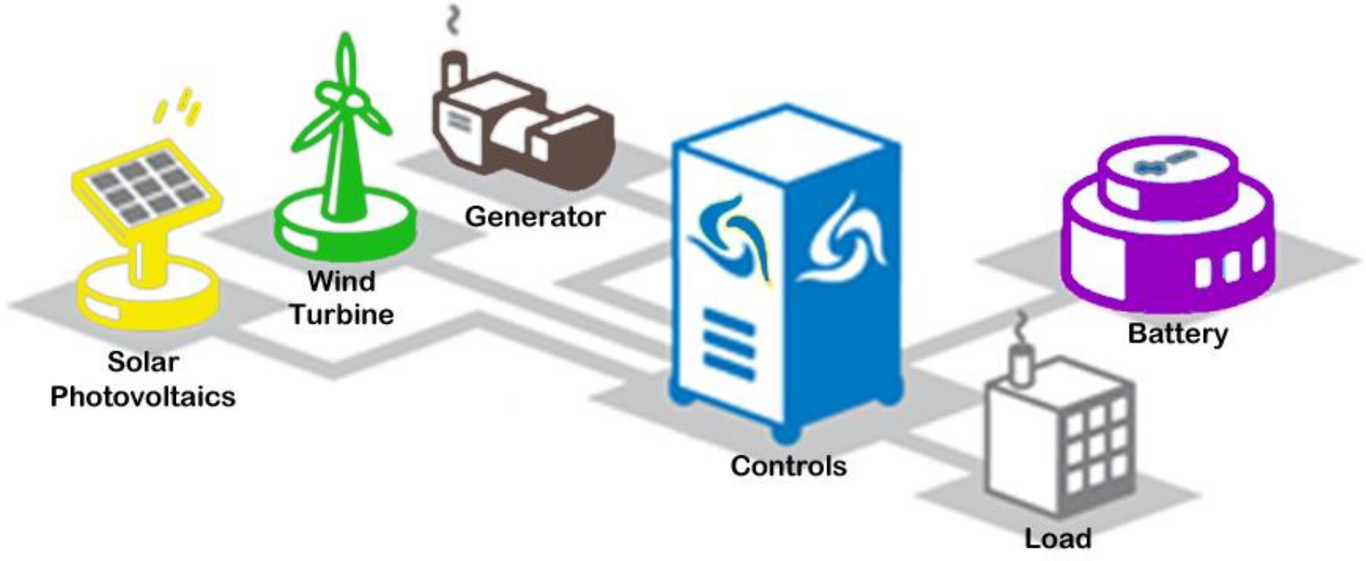


ENERGY

Energy

- Solar Hot Water
- Operable indows with solar shading
- Efficient Site Lighting
- Microgrid + battery storage
- Renewable Energy--Solar Farm




Solar
Photovoltaics
Wind
Turbine
Generator
Controls
Battery
Load

WATER

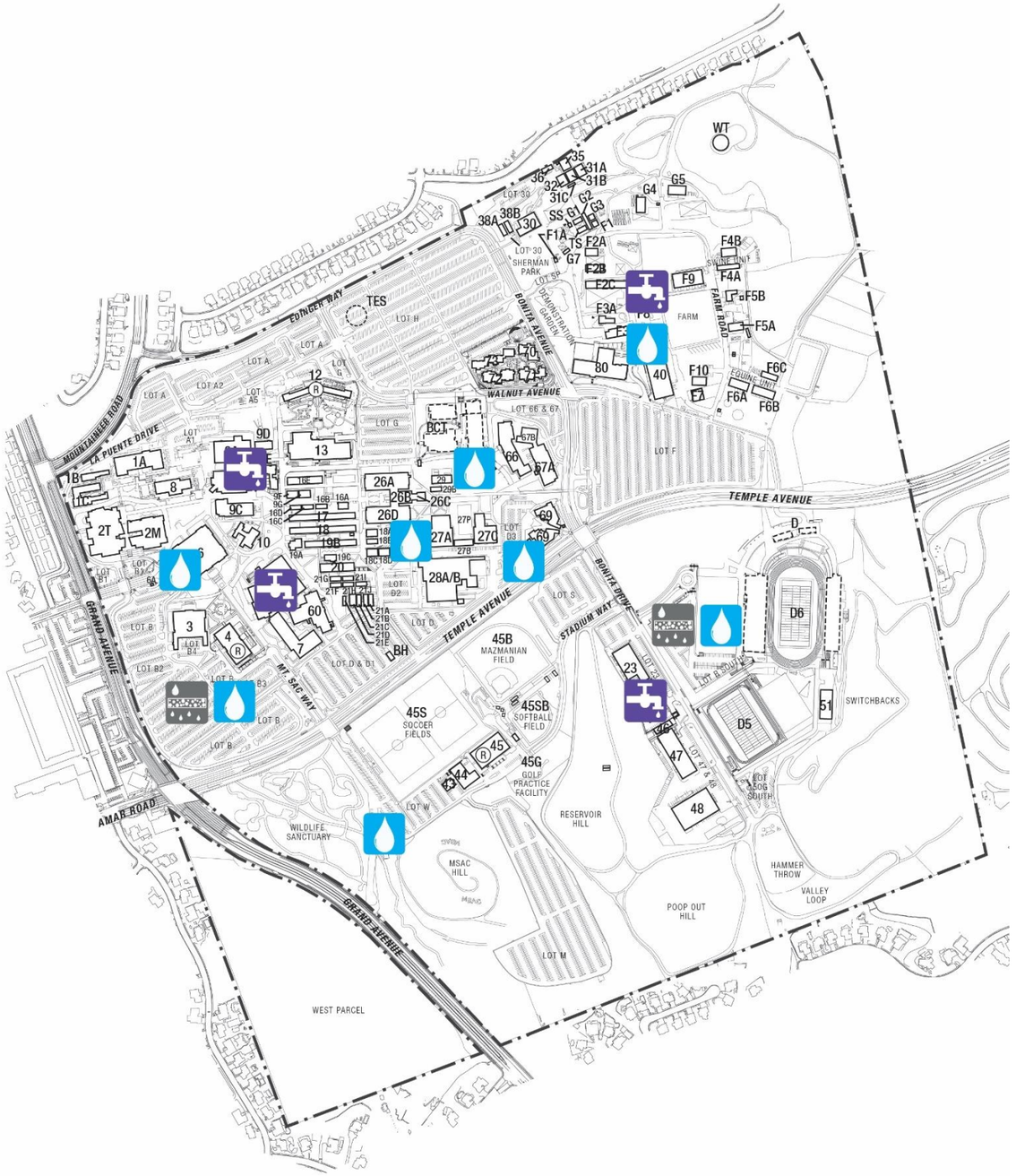
Water

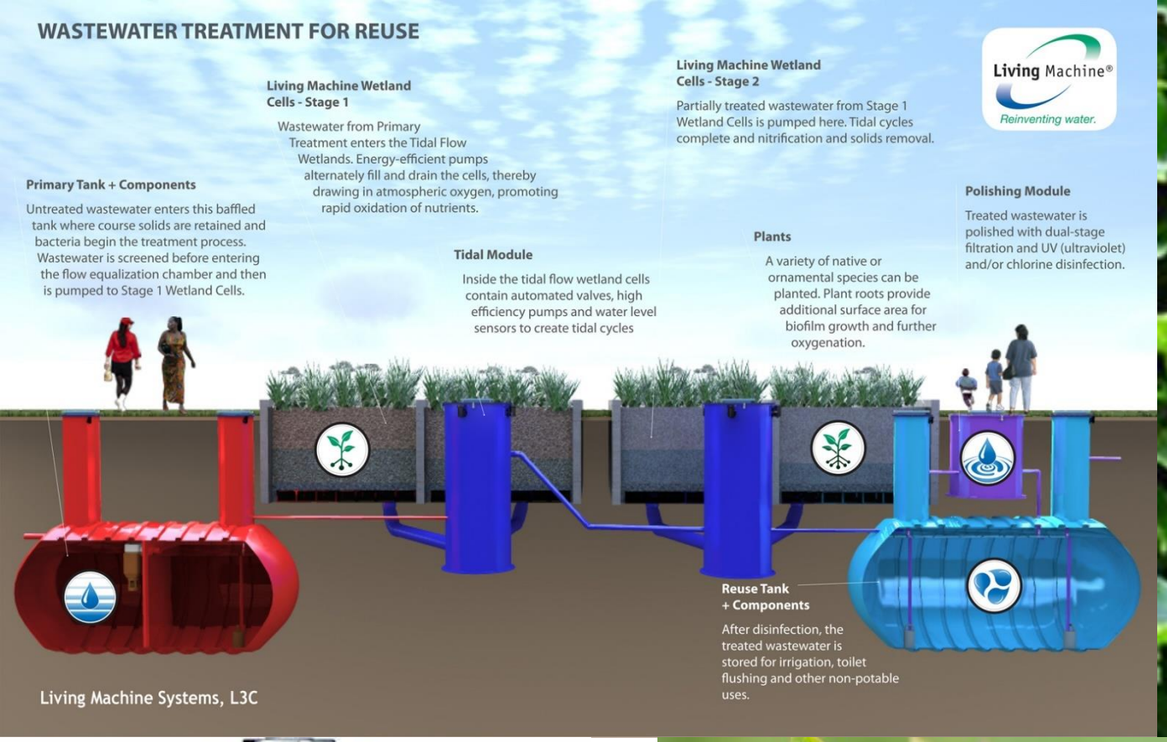
Outdoor water conservation

Water capture and treatment

- Bioswales, rain gardens, permeable paving, Living machine

Indoor Water Strategies
- Efficient, durable fixtures

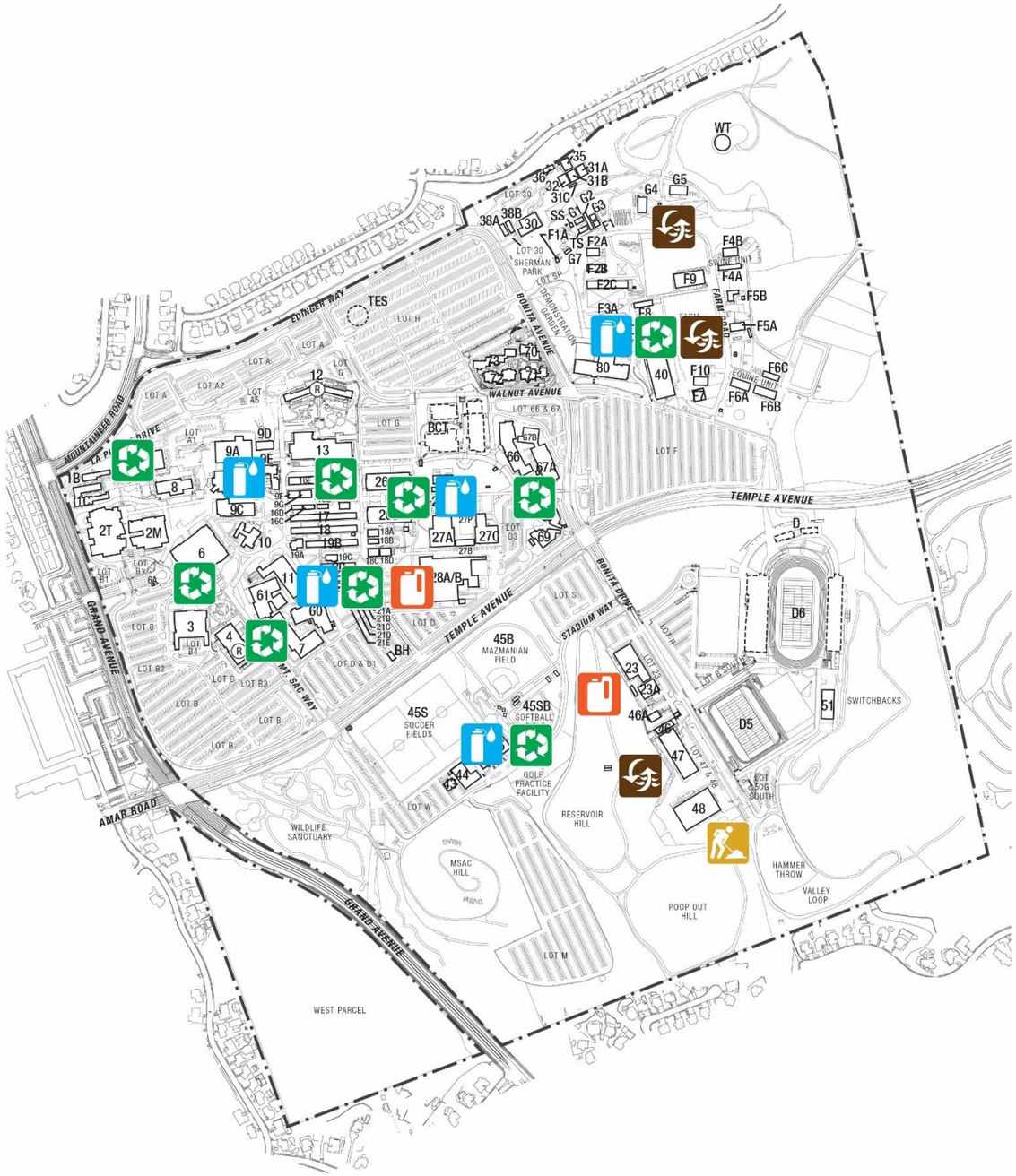



WASTEWATER TREATMENT FOR REUSE
Living Machine®
Reinventing water.
Primary Tank + Components
Untreated wastewater enters this baffled tank where course solids are retained and bacteria begin the treatment process. Wastewater is screened before entering the flow equalization chamber and then is pumped to Stage 1 Wetland Cells.
Living Machine Wetland Cells - Stage 1
Wastewater from Primary Treatment enters the Tidal Flow Wetlands. Energy-efficient pumps alternately fill and drain the cells, thereby drawing in atmospheric oxygen, promoting rapid oxidation of nutrients.
Tidal Module
Inside the tidal flow wetland cells contain automated valves, high efficiency pumps and water level sensors to create tidal cycles
Living Machine Wetland Cells - Stage 2
Partially treated wastewater from Stage 1 Wetland Cells is pumped here. Tidal cycles complete and nitrification and solids removal.
Plants
A variety of native or ornamental species can be planted. Plant roots provide additional surface area for biofilm growth and further oxygenation.
Polishing Module
Treated wastewater is polished with dual-stage filtration and UV (ultraviolet) and/or chlorine disinfection.
Reuse Tank + Components
After disinfection, the treated wastewater is stored for irrigation, toilet flushing and other non-potable uses.
Living Machine Systems, L3C

WASTE

Waste

- Permanent waste management/recycling receptacles
- Water refilling stations
- Construction waste management
- Oil recycling
- Mulch/yard waste/Composting



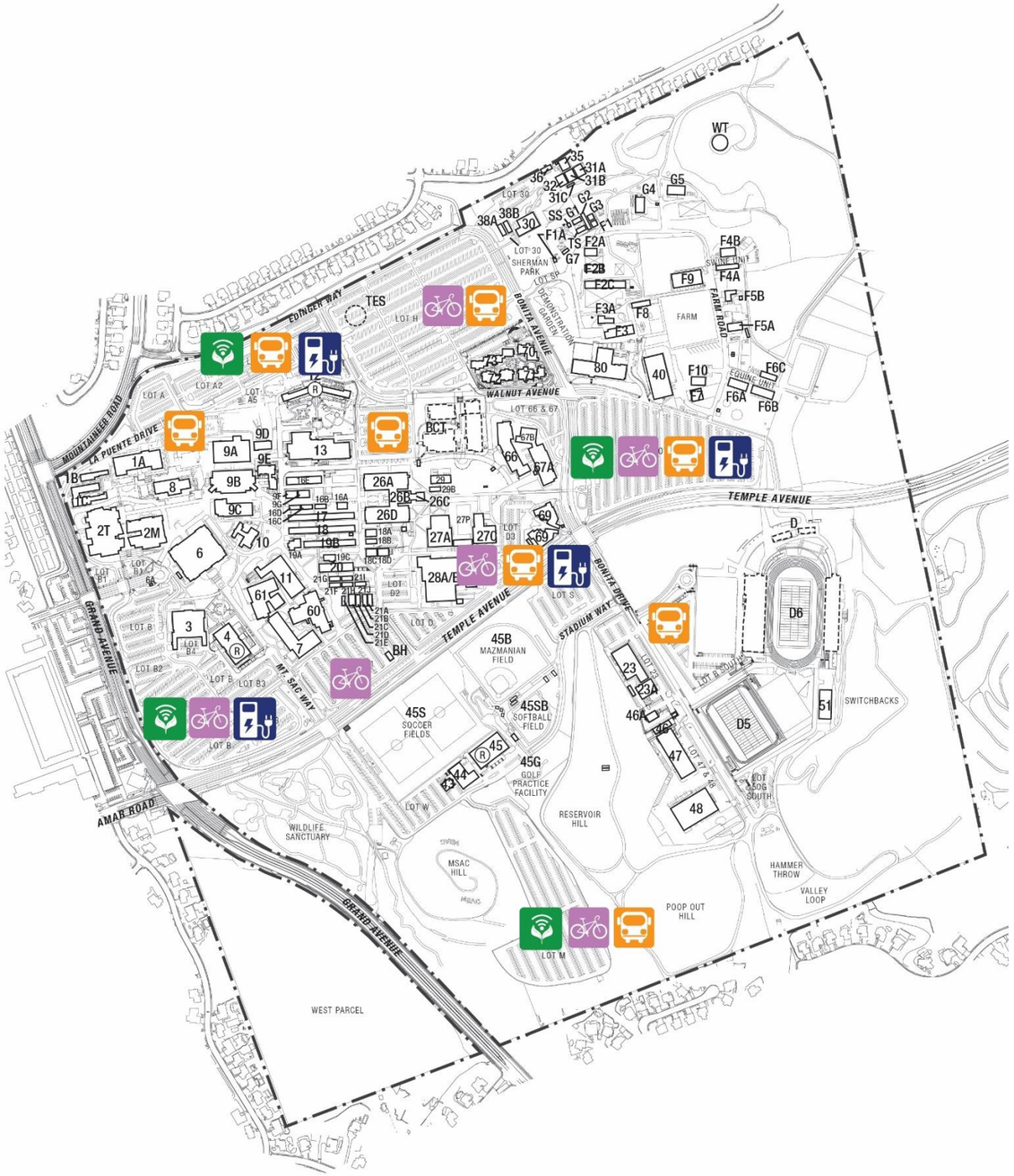

WASTE OIL
TLAS
WASTE COOKING OIL ONLY
THANK YOU
SUPPORT YOUR LOCAL CHARITY


SERVICE VEHICLES ONLY
ALL OTHER VEHICLES WILL BE CITED C.V.C. 21113
TRASH
RECYCLE HERE
MT. SAC
MT. SAC
05 16 2015 14:09

TRANSPORTATION

Transportation

- Alternative Transportation (buses, free Shuttle Service)
- Charging Stations/carpool parking
- Secured bike parking
- Reliable free Wifi (for AT)

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EV CHARGING STATION


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CLASS PASS
MT. SAC

Next Steps: Climate Action Plan (CAP) Process

PRESIDENTS' CLIMATE LEADERSHIP COMMITMENTS

WHO: The Climate Leadership Network comprises more than 600 colleges and universities, including Mt. SAC, in every state and the District of Columbia who have committed to take action on climate and prepare students through research and education to solve the challenges of the 21st century.

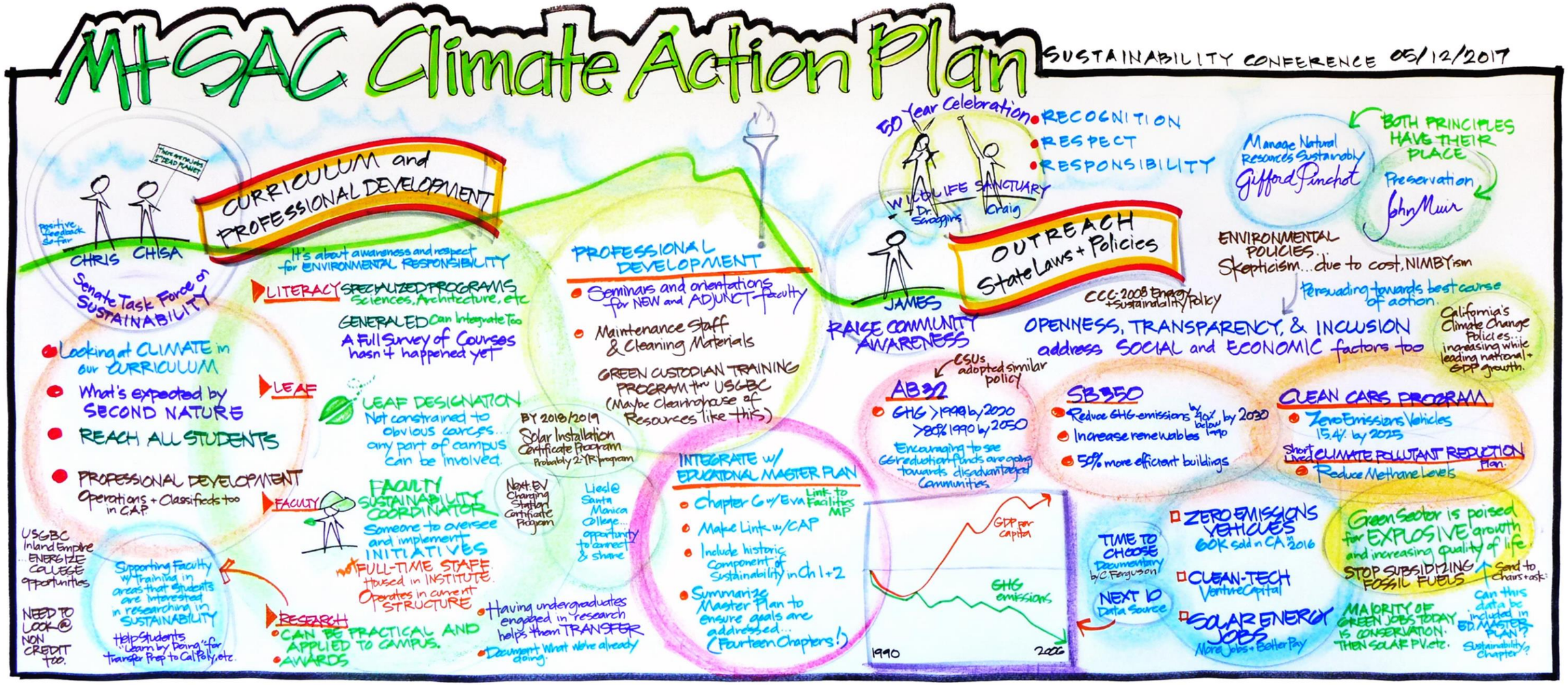
These signatory institutions report on their yearly progress publicly sharing their climate action plans, greenhouse gas inventories and more.

WHAT: The Presidents' Climate Leadership Commitments include:

/ a Carbon Commitment (reducing greenhouse gas emissions).
/ a Resilience Commitment (climate adaptation and building community capacity).
/ a Climate Commitment that integrates both.

WHY: The mission is to proactively build a sustainable and positive global future through initiating bold commitments, scaling successful actions, and accelerating innovative solutions among leadership networks in higher education.

SUSTAINABILITY CONFERENCE – CLIMATE ACTION PLAN

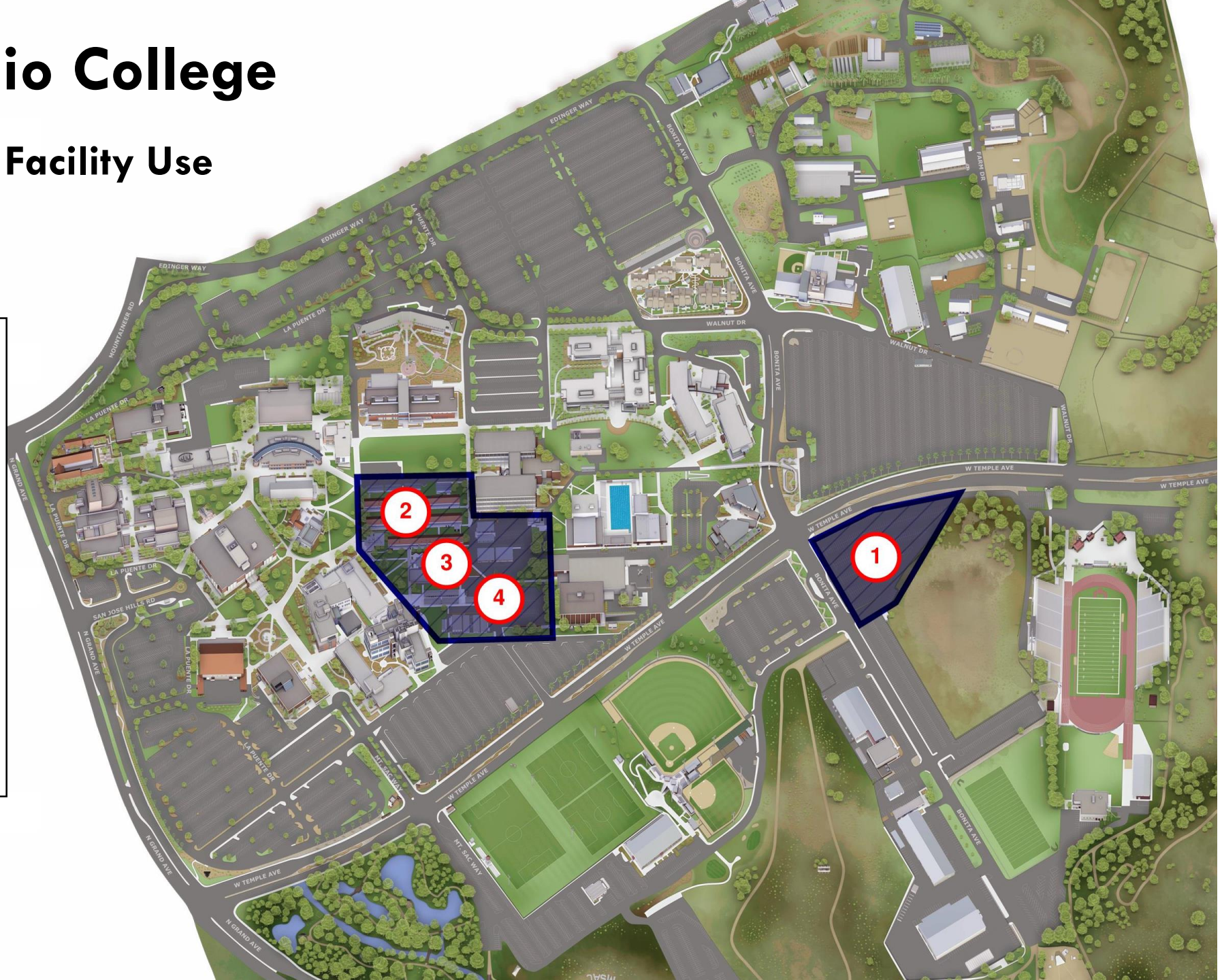


Mt. San Antonio College

Potential Community Facility Use

Building Projects
Phase 1

1. **Kinesiology and Wellness Gymnasium**
2. **Student Center**
3. **Library**
4. Science Laboratories



Mt. San Antonio College

Potential Community Facility Use

Building Projects
Phase 2

1. Adult Basic Education
2. Continuing Education
3. Vocational Technology
4. **Assembly Hall**