

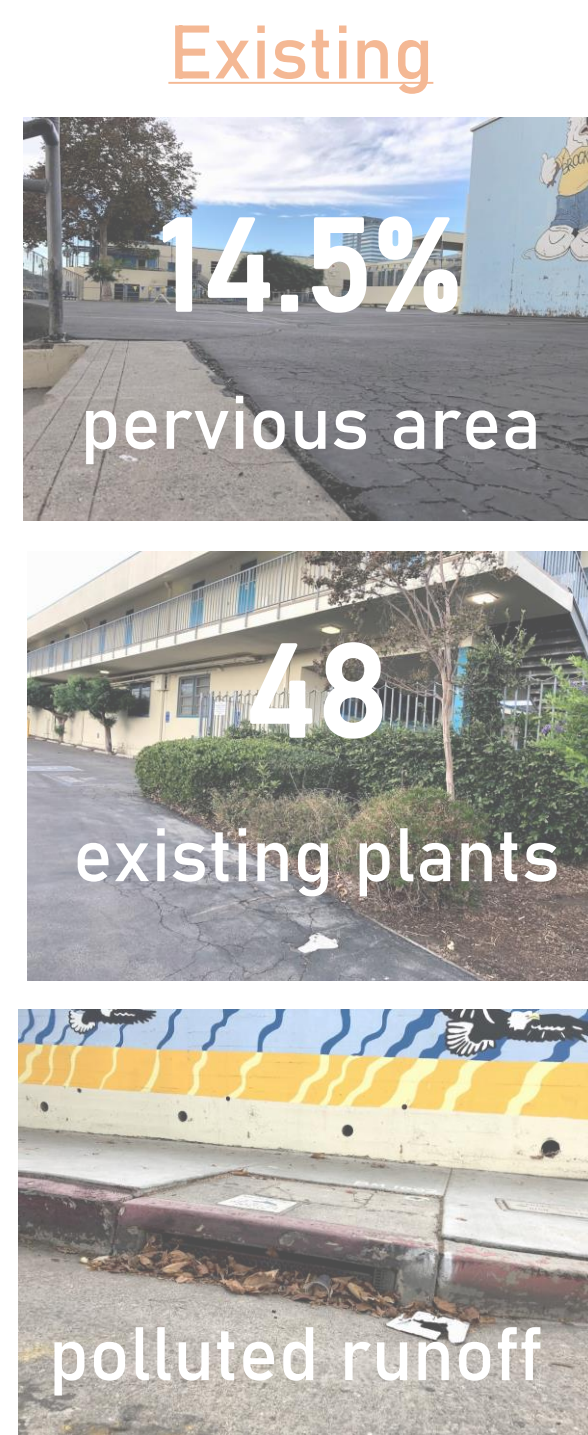
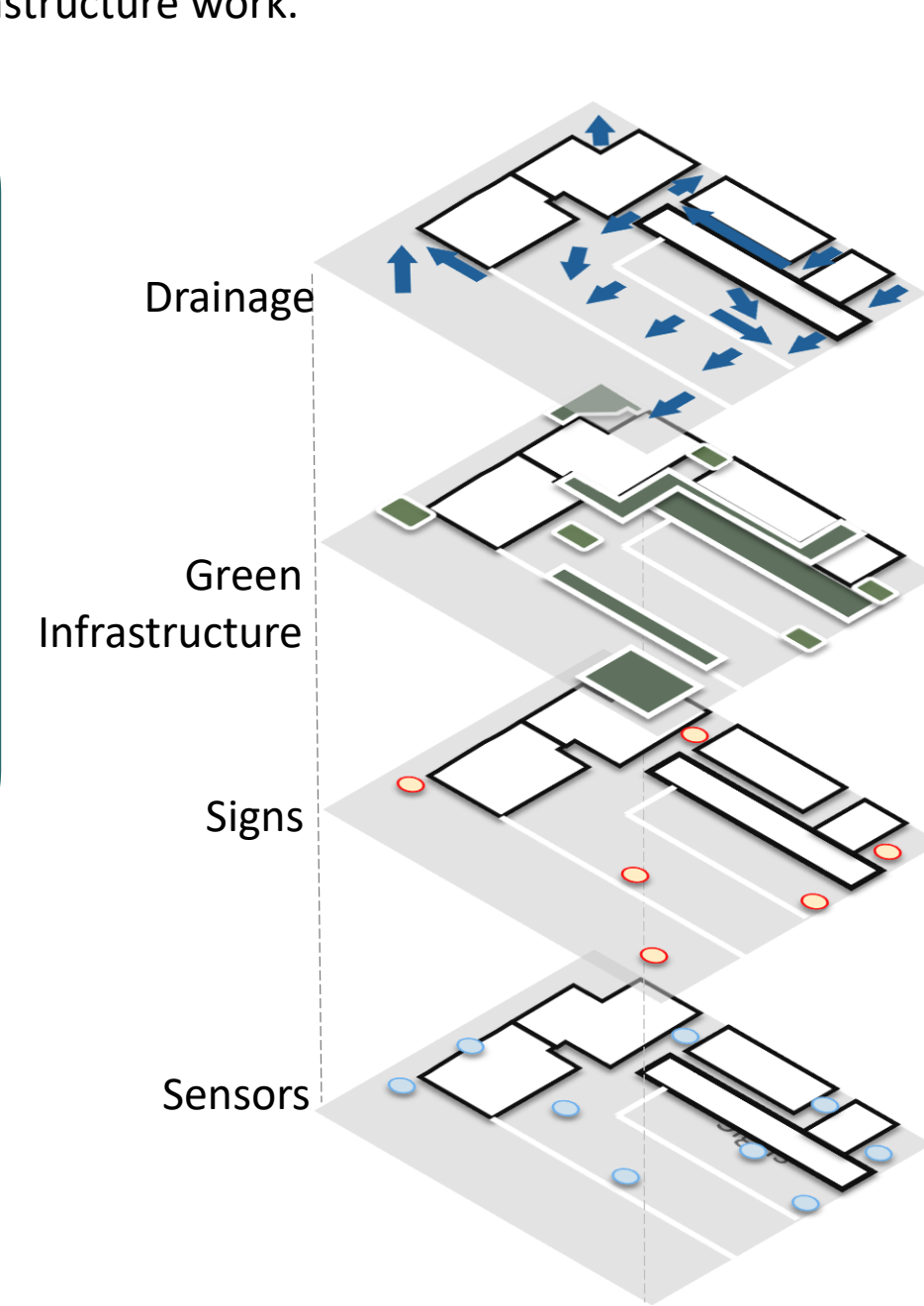
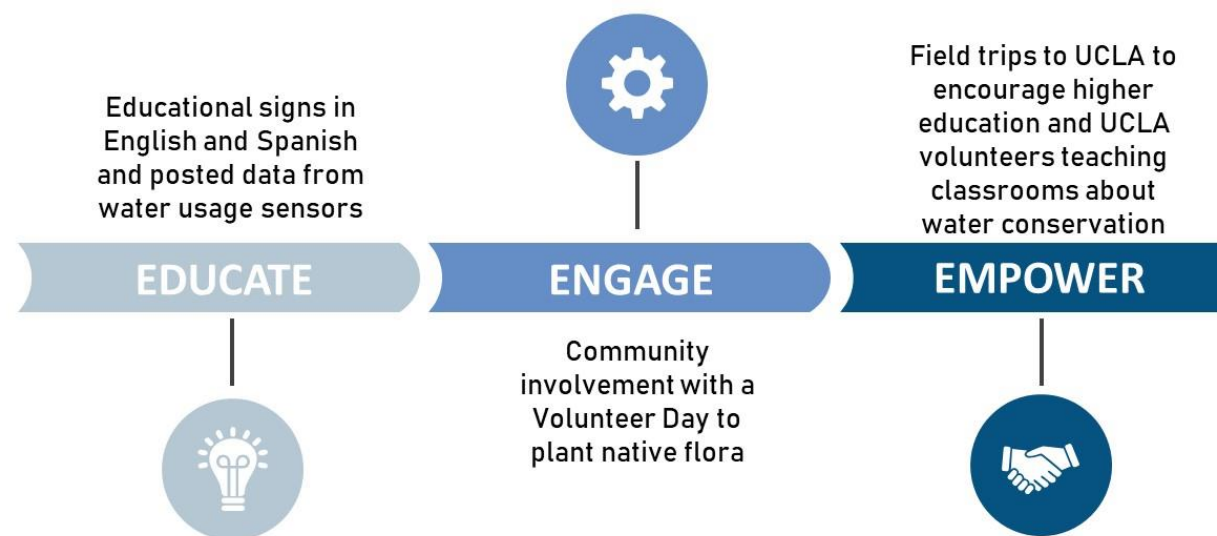
LITTLE STEPS TO A SUSTAINABLE FUTURE

educating those who will grow to shape our world

The Brockton Avenue Elementary School campus spans 112,400 square feet and is home to 247 elementary school students. As a Title I school, 73 percent of its students qualify for free or reduced lunches, and 41 percent of its students are English-Language Learners. Currently, 62,400 square feet of the campus is paved with asphalt to accommodate parking, walking, and recreational spaces. The area allotted for recreational activity has minimal to no shade, which often leads to dehydration and exhaustion during play. "Little Steps to a Sustainable Future" envisions the **education, engagement, and empowerment** of the students at Brockton Avenue Elementary School with a green infrastructure site redesign proposal that manages and treats stormwater runoff on-site while inviting students in learning the purpose and process of green infrastructure work.

Goals

1. Capture and treat the complete runoff volume of the 85th percentile, 24-hour storm
2. Educate students and staff on water sustainability through school activities
3. Encourage community involvement and space activation
4. Improve air quality and reduce surface temperatures
5. Revitalize campus aesthetics with green spaces to improve mental health
6. Demonstrate awareness of precipitation seasonality

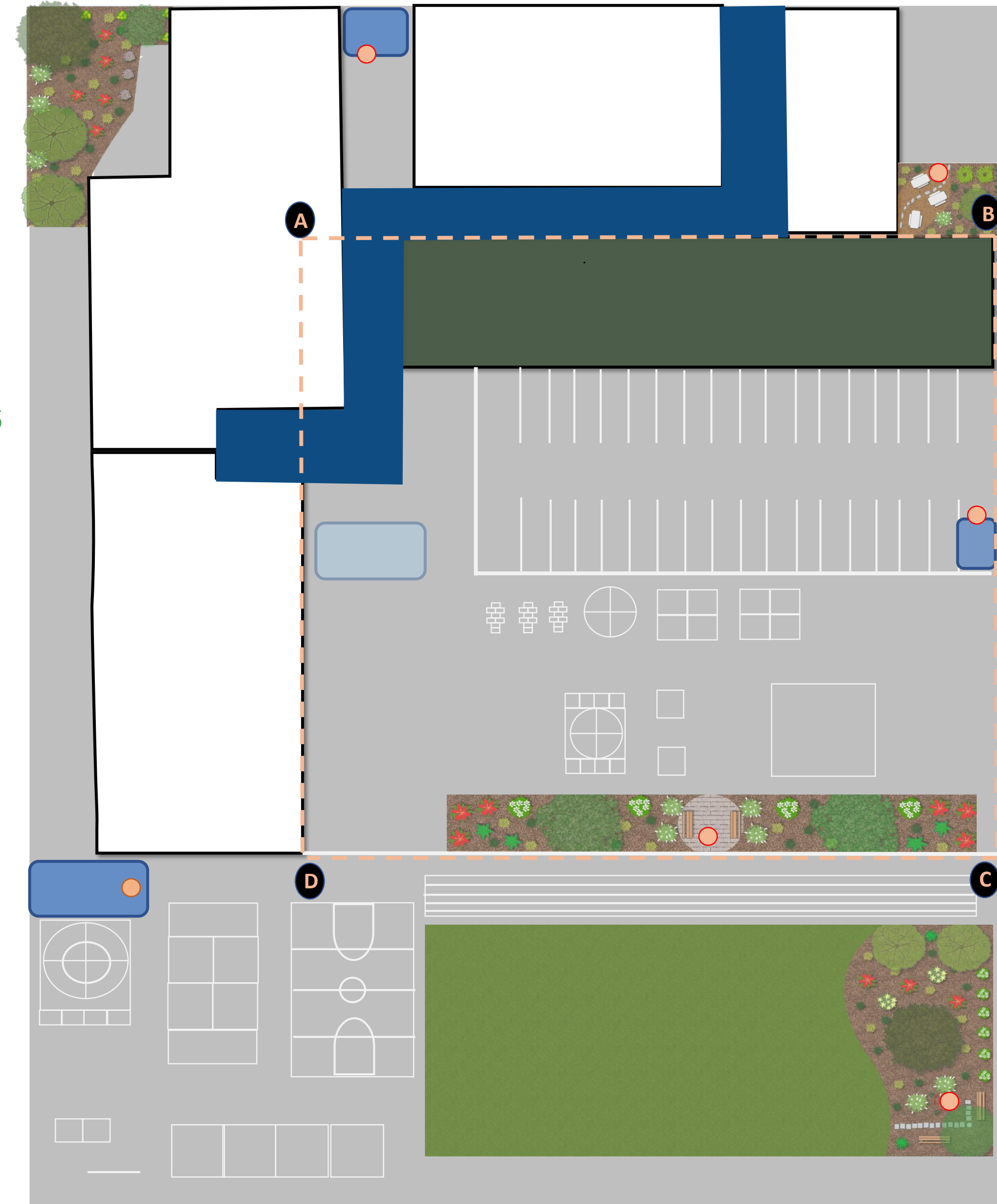


Proposed

26% pervious area

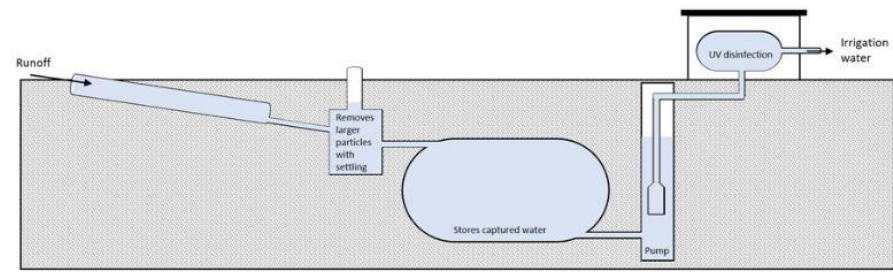
111 plants added
14 native species introduced

10,020 ft³ runoff captured
80% TSS removal
43% bacterial removal
16% metals removal



Underground Cistern

An underground cistern will be added to store and treat runoff from the permeable pavement to use for surface irrigation.



Green Roof

Dune Sedge, a drought tolerant grass, covers this 7,600 sq ft area to reduce urban heat, air pollution, and water pollution.

Signs

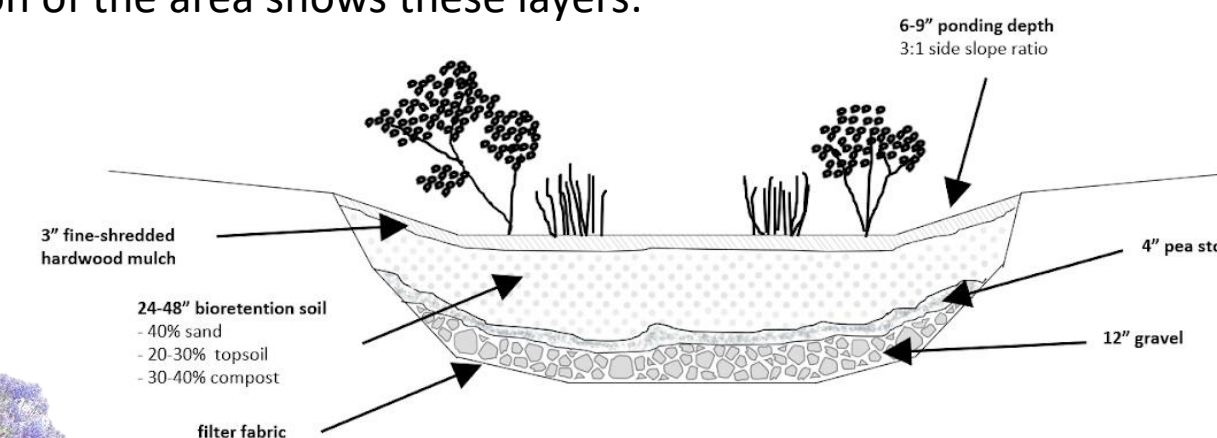
Signs with English and Spanish text are placed to educate readers about the significance of each green infrastructure.

Green Design - Bioretention Area
This dirt removes pollutants (unwanted particles) from rainwater as the rainwater infiltrates (trickles) into the ground. This area removes pollutants with different layers. This can be seen in the picture. Even though you cannot see the layers, they are very important. **COUNT** the different types of plants and check the answer below!

Área de bioretención
La tierra quita los contaminantes (partículas no deseadas) del agua de lluvia mientras el agua de lluvia se infiltra (gotea) en la tierra. Esta área quita contaminantes con estratos diferentes. Esto se puede ver en el dibujo. Aunque no se puede ver los giratos, son importantes. **CUENTE** los diferentes tipos de plantas y verifique la respuesta a continuación.

Bioretention Area

This area removes silt and pollutants from surface runoff. This is done by layers of mulch, bioretention soil, pea stone and gravel. A cross section of the area shows these layers:



Drought Tolerant Rain Garden

Drought tolerant rain gardens are placed around the school to match the arid environment. A list of the drought tolerant vegetation is below:

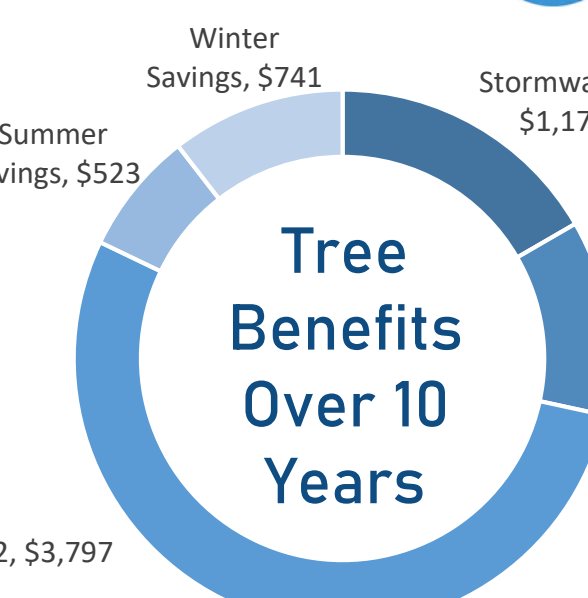
- Coast Live Oak
- Tipuana Tipu
- Chitalpa
- California Buttercup
- Scarlet Monkeyflower
- Common Rush
- Blue Wildrye
- California Tree Poppy
- Virgin's Bower

14 trees added

CO₂ 16,323 lb/yr CO₂ sequestered

18% canopy cover

Winter Savings, \$741
Summer Savings, \$523
Stormwater, \$1,177
Air Quality, \$830



Map Legend

- Green Roof
- Permeable Pavement
- Bioretention Area
- Native Vegetation
- Underground Cistern
- Educational Sign

Area ABCD This area demonstrates the proposed utilization of green infrastructure on the Brockton Avenue Elementary School campus.