

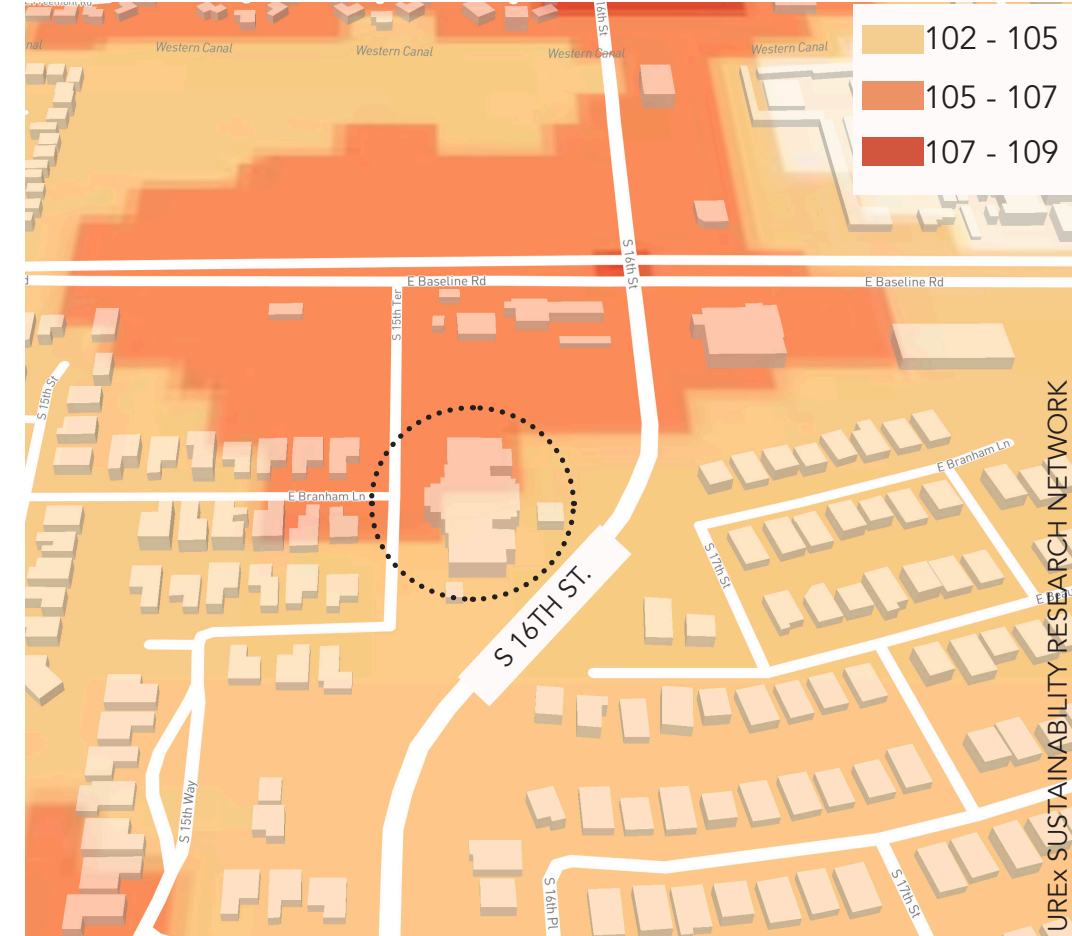
READY! SET! ACTIVATE!

D3 - ARIZONA STATE UNIVERSITY ELIZABETH FERGUSON KEVIN SCHOLFIELD AMANDA TRAKAS

USING GREEN INFRASTRUCTURE TO PROMOTE HEALTH EQUITY IN SOUTH PHOENIX

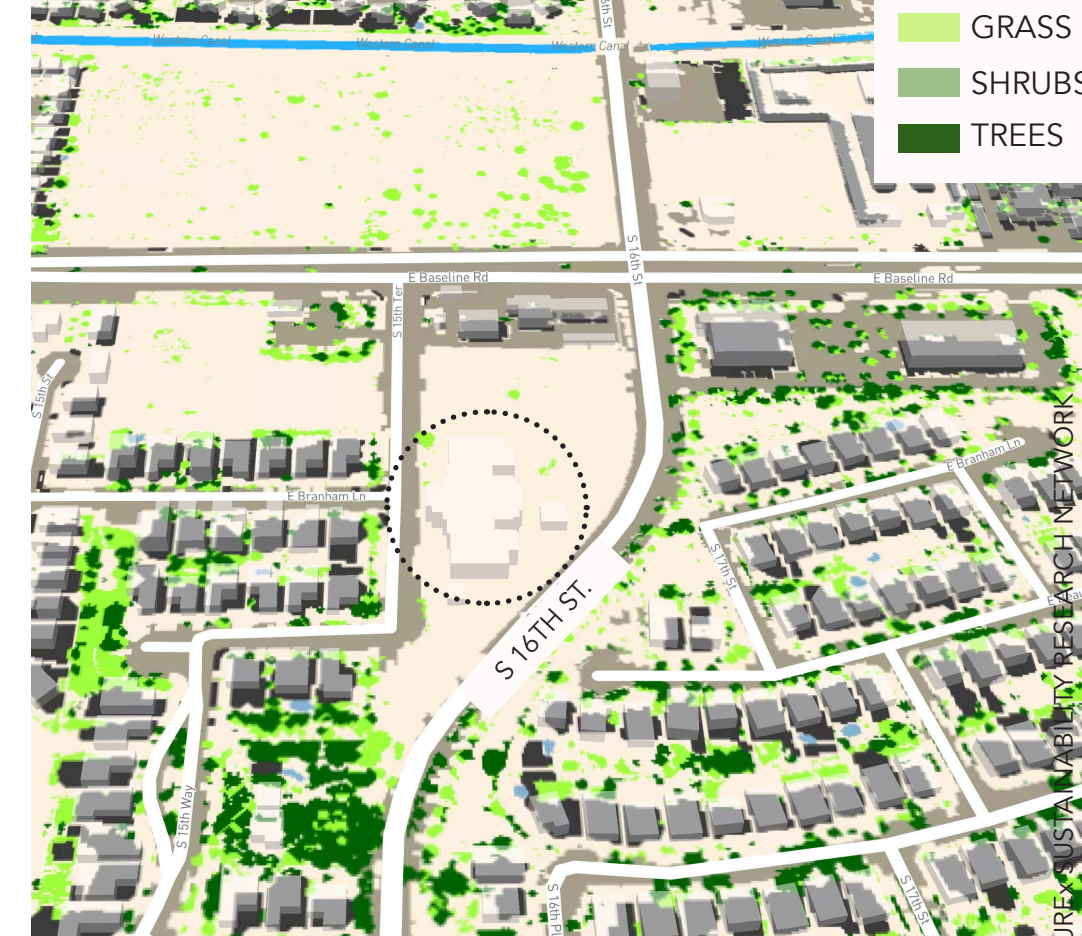
READY! SET! ACTIVATE! is a research-based schoolyard redesign proposal part of an ongoing collaboration between Arizona State University and Paideia Academy, a K-8 public charter school located in South Phoenix, Arizona. This a five-acre school property experiences persistent environmental justice issues endemic to the greater South Phoenix area, including flooding, excessive urban heat, and poor air quality. The vision of this redesign is to use green infrastructure at Paideia to create resilient natural learning and play landscapes that promote health equity by improving the quality and access of green space for the student community. Green infrastructure interventions, including the creation of bioswales and bioretention for stormwater along with the use of native vegetation, are critical in the mitigation of seasonal flooding and the improvement of environmental site conditions. Using Paideia's whole-person education paradigm to guide the goals of the project, the intent is to begin the conversation on how school landscapes can address the immediate health equity challenges of the site while creating a welcoming and healthful green space amenity for the community.

SURFACE TEMPERATURE



The schoolyard is exposed to elevated surface temperatures because of its urban location, near major roadways.

LAND COVER



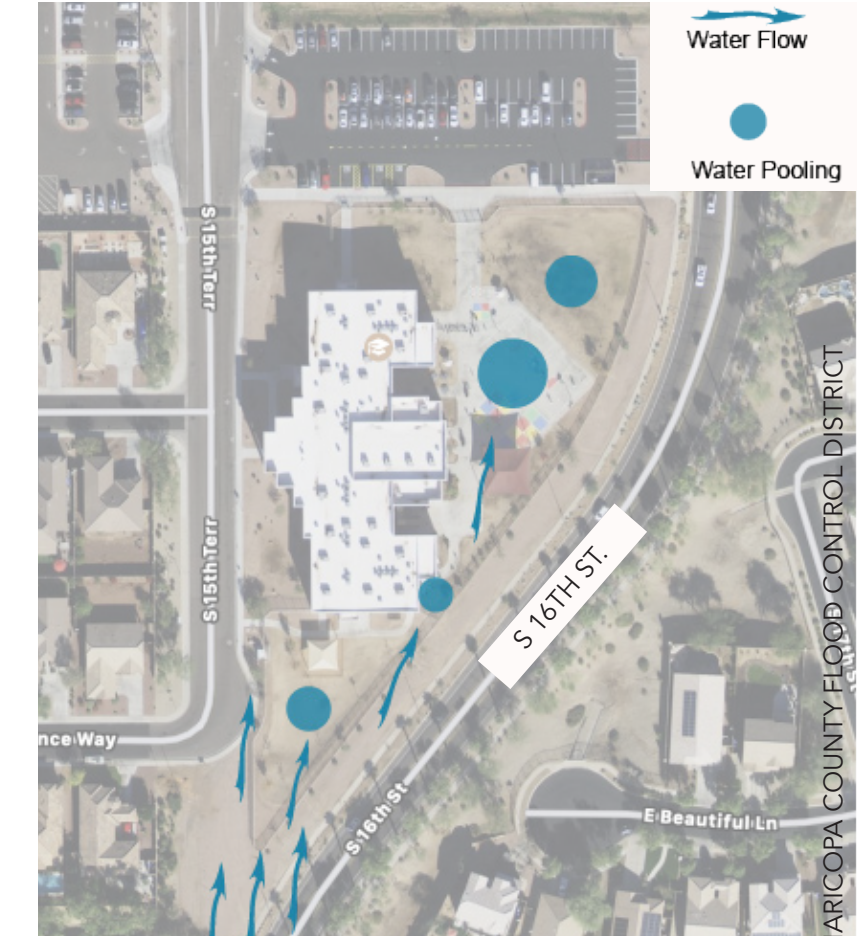
The schoolyard exhibits limited areas of vegetation and tree canopy.

REGIONAL FLOODING



Heavy seasonal monsoon rains flows directly from South Mountain, north on 16th street, straight toward the schoolyard.

CAMPUS FLOODING



The monsoon stormwater runoff exceeds the capacity of roadside drainage and floods the schoolyard.

PAIDEIA'S WHOLE PERSON EDUCATIONAL PARADIGM

- MIND
- BODY
- HEART
- SPIRIT

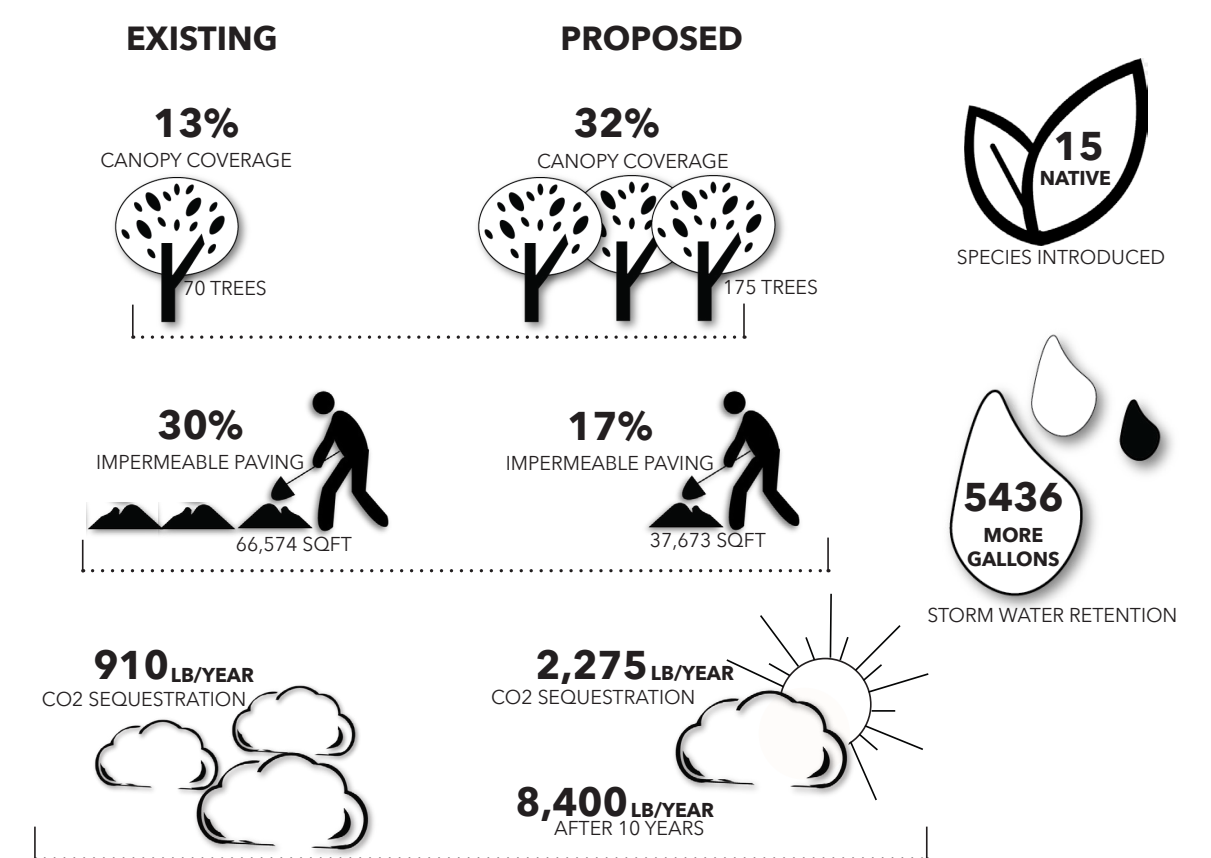
READY! SET! ACTIVATE! GOALS + OBJECTIVES

- PROVIDE OPPORTUNITIES FOR LEARNING
Creation of outdoor learning environments.
Study + exposure to native ecology.
Gardening education.
- REDUCE URBAN HEAT
Reduction of impervious paving.
Increase tree + vegetation coverage.
- ENHANCE HEALTH + WELLBEING
Mitigate air + noise pollution.
Spaces for community gathering + education.
Natural play environment.
- CREATE A RESILIENT NATIVE LANDSCAPE
Manage on-site storm water.
Support native vegetation + schoolyard landscape.
Conserve water resources.

DESIGN BENEFITS

- LOCALIZED LEARNING
- COMMUNITY EDUCATION
- REDUCE AMBIENT TEMPERATURE
- INCREASE COMFORT
- IMPROVED AIR QUALITY
- IMPROVED MENTAL HEALTH
- IMPROVE WATER QUALITY
- REDUCE IRRIGATION NEEDS
- FOOD PRODUCTION
- IMPROVE ACHIEVEMENT
- ENERGY EFFICIENCY
- REDUCE HEALTH IMPACTS
- IMPROVED PHYSICAL HEALTH
- COMMUNITY ENGAGEMENT
- MODEL SUSTAINABILITY
- SUPPORT BIODIVERSITY

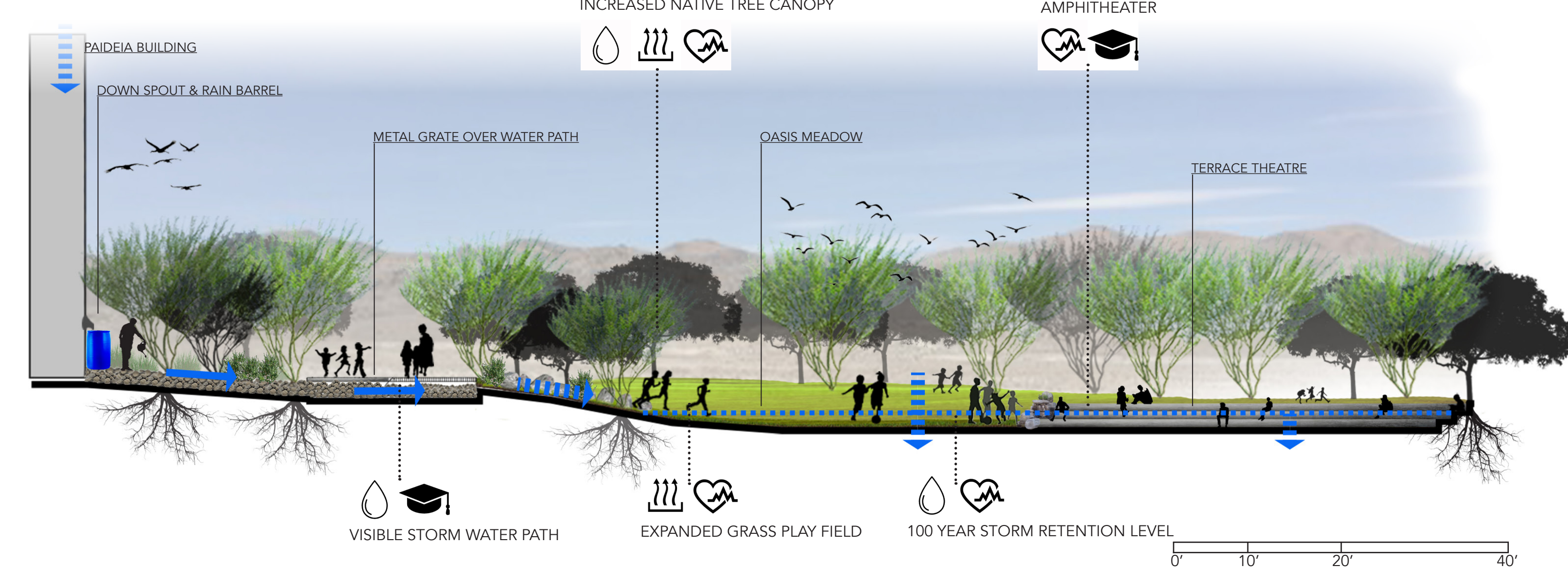
PERFORMANCE



PAIDEIA ACADEMY MASTER PLAN



SECTION A



SECTION B

