



# BRISTOL COUNTY AGRICULTURAL HIGH SCHOOL



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# Beyond the Image: Graphics as a Resource for Teaching and Learning



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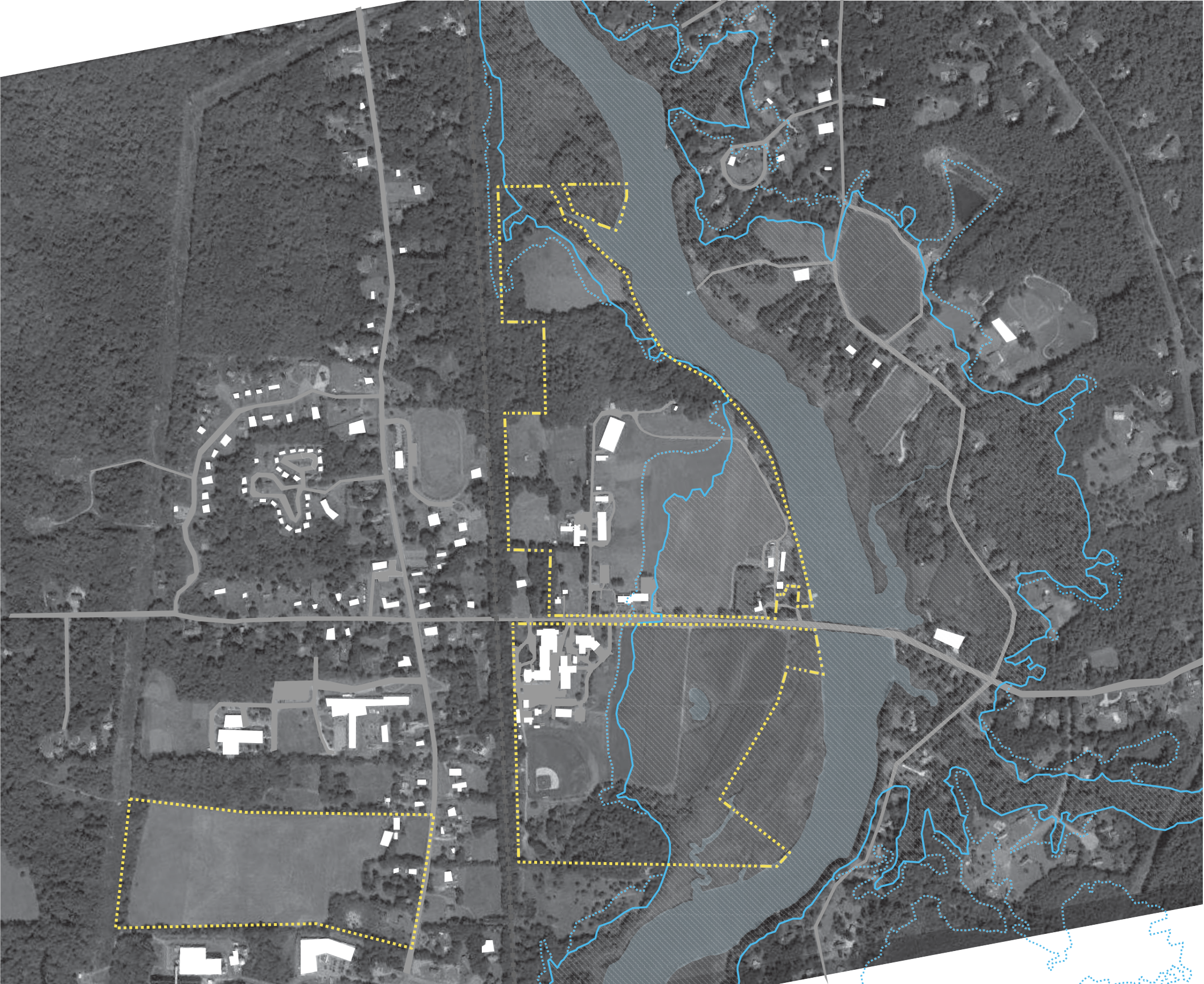
# SESSION OVERVIEW – Learning Objectives

1. Understand how to incorporate visioning goals into strategies that make school facilities integral as a tool for teaching.
2. Learn how to integrate vocational academics into traditional core academics.
3. Explore how graphics can serve as hands-on instructional tools for students and model caretaking of infrastructure.
4. Explore how graphics can support academic curriculum.



**Vision**

**Fostering Long-Term Success**



# EXISTING CAMPUS

220 acre working farm along  
the Taunton River

Agricultural and science-  
based curriculum

34 sending communities

**CTE programs:**  
Animal Science  
Natural Resource Management  
Agricultural Mechanics  
Horticulture



# EXISTING SITE PLAN

Bristol County Agricultural High School



Dairy Barn (DB)

Ag Mech (AG)

Floriculture

Gilbert Hall (GH)

Landscape/Arbor (LA)



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# VISIONING - Education + Sustainability

Administration, Teachers, Staff, Students, and the Community



# VISIONING - Student Center

Students



# BRISTOL COUNTY AGRICULTURAL HIGH SCHOOL

## Educational Design Goals

- Modern facilities and technology to support academic success
- Strengthen and build upon the existing school culture
- Create a campus hub to strengthen connections among students
- Break down silos between departments
- Integrate nature into learning
- Integrate sustainability and energy efficiency into campus and learning
- Reinforce the historic nature of campus, strengthen physical identity
- Strengthen connections with the surrounding community



# BRISTOL COUNTY AGRICULTURAL HIGH SCHOOL

## Sustainability Goals

- Achieve 10% better than code
- Make each building /structure a champion for specific sustainability measures
- The Center for Science and the Environment will be a 'living lab' for the students and the community
- Design the Dairy Barn to be net-zero energy
- No impact on the Taunton River watershed



# Integrated Campus Design

## Physical and Social Connections



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# NEW SITE PLAN

Bristol County Agricultural High School

Center for Science and the Environment (CSE)

Gilbert Hall (GH)

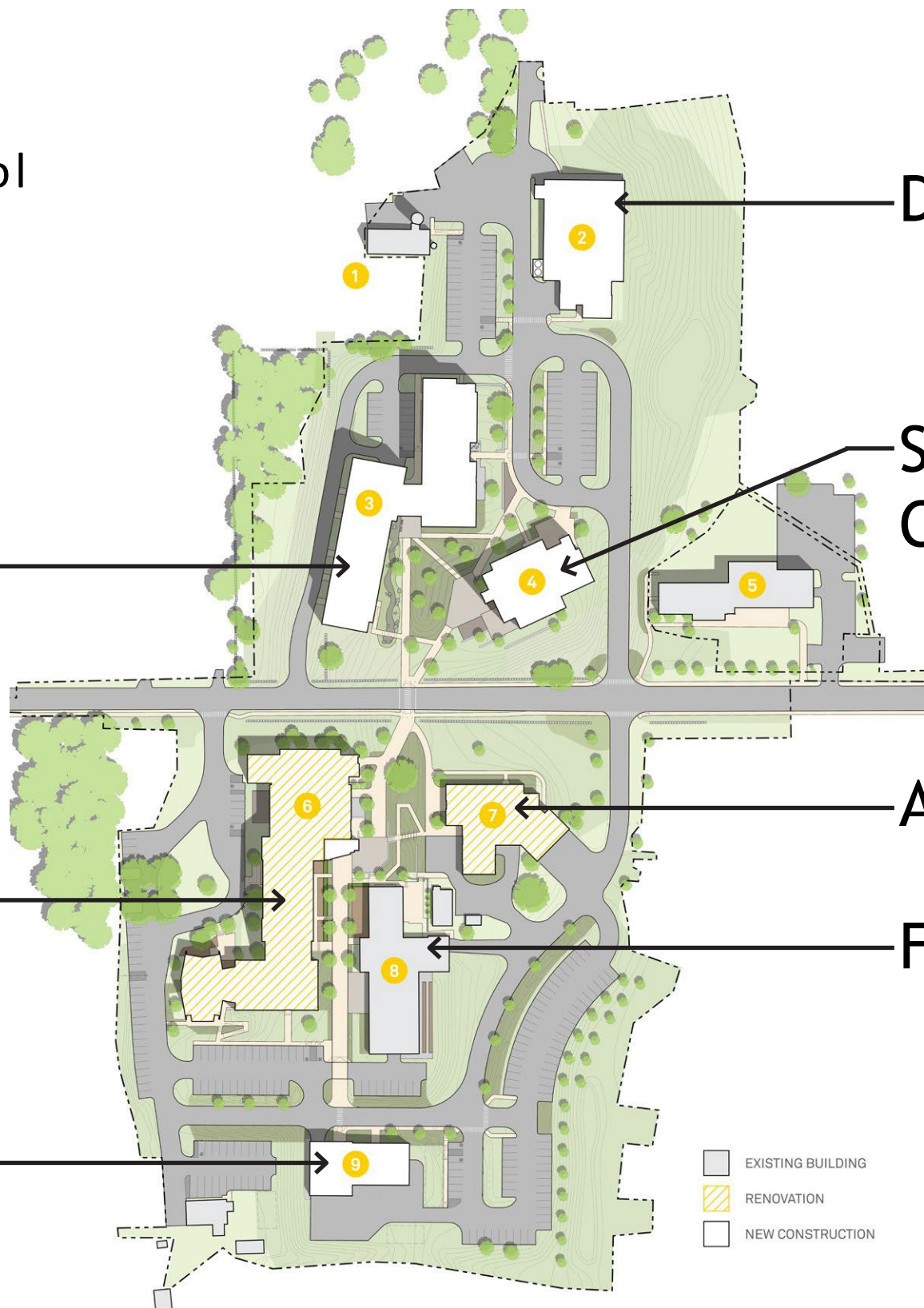
Landscape/Arbor (LA)

Dairy Barn (DB)

Student Commons (SC)

Ag Mech (AG)

Floriculture



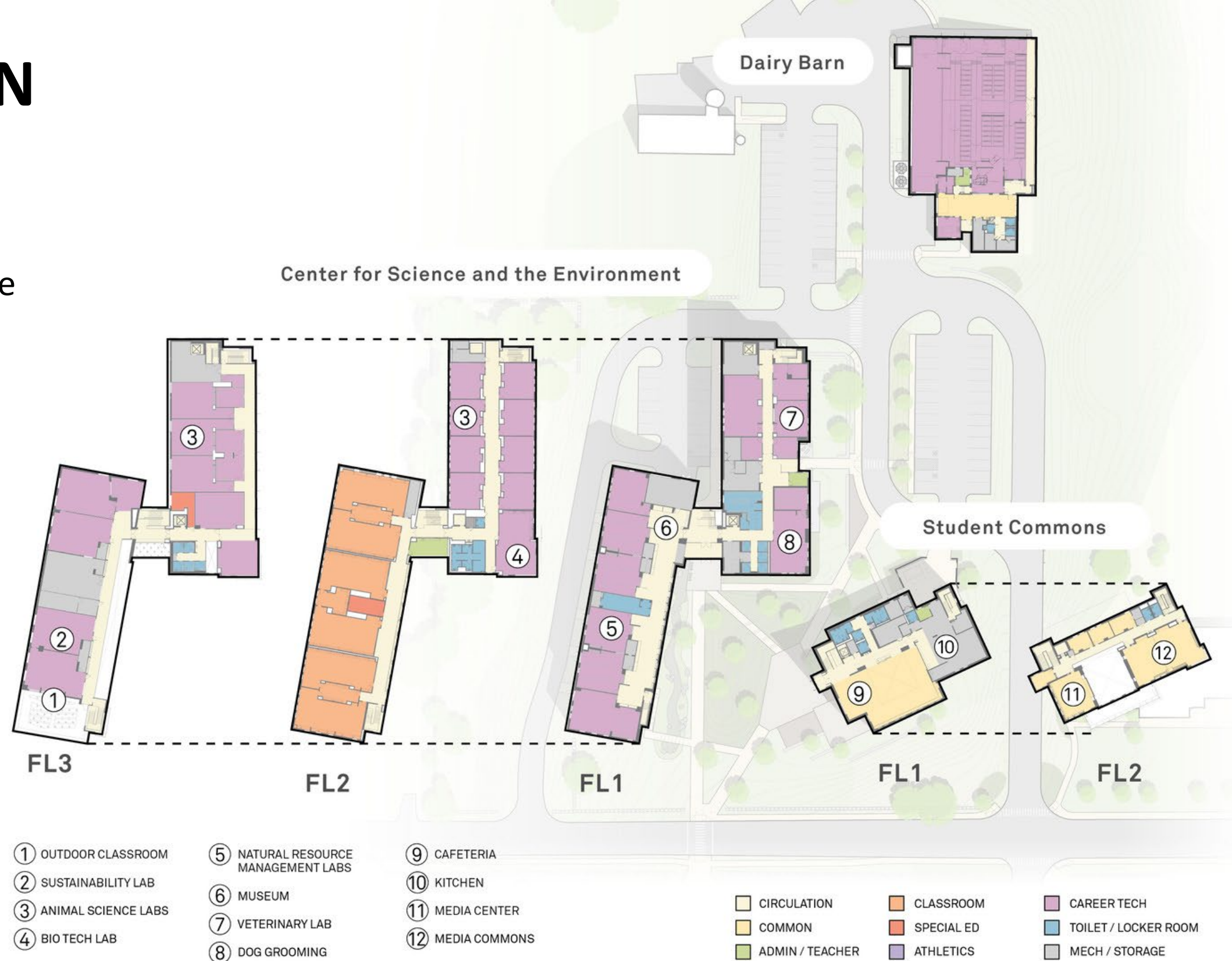
- EXISTING BUILDING
- RENOVATION
- NEW CONSTRUCTION



# INTEGRATION

## North Campus

- Animal Science
- Environmental Science
- Science
- Commons



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# INTEGRATION

## South Campus

- Horticulture
- Agricultural Mechanics
- Core Academics
- Athletics

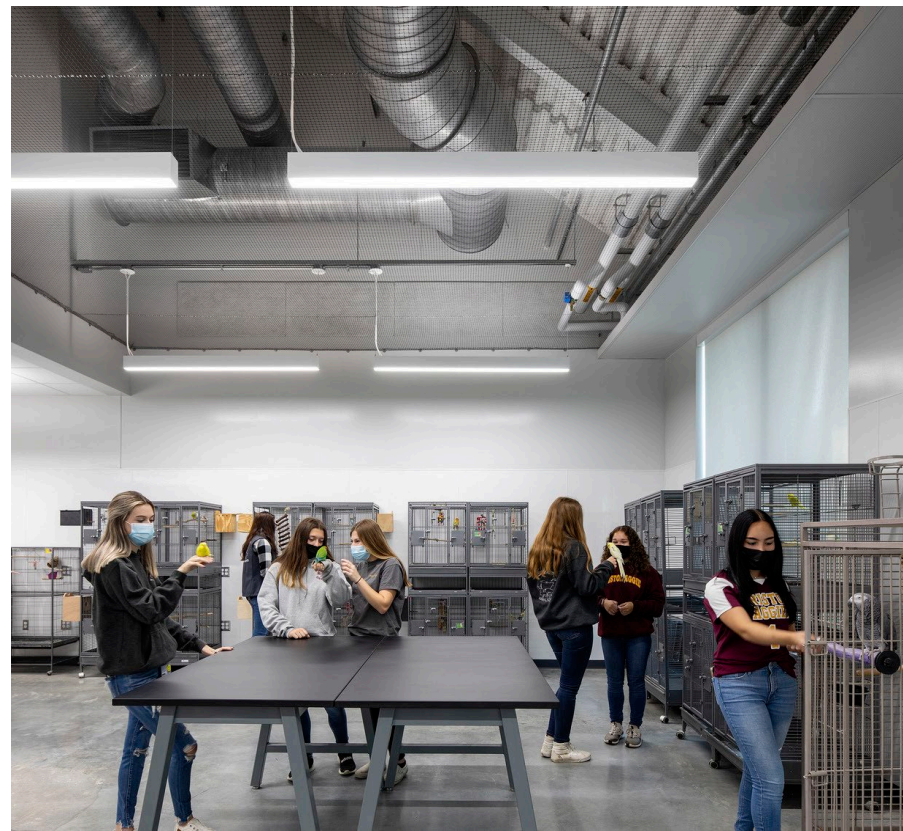


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# IMPACTFUL CHANGES

## Facilities and Education

- Educational model
- Innovation
- Agricultural and community hub
- Facilities utilization



# PARTNERSHIPS: DESIGN THROUGH CONSTRUCTION

HMFH + Bristol Aggie

## A Genuine Collaborative Vision

- HMFH deeply engaged with Bristol Aggie's mission, valuing both its agricultural roots and its academic goals.
- The design approach emphasized **student experience, practical learning,** and the harmonious merging of nature with education.

## Comprehensive Integration for Education

- The campus was designed not only to operate but also to **educate**. Each facility, from barns to laboratories, was crafted to promote **interdisciplinary cooperation**.
- Outdoor areas were **intentionally designed to serve as classrooms**, merging land, laboratory, and lectures.
- Building systems were coordinated for **operational effectiveness**, while ensuring accessibility for **student involvement and curriculum integration**.



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# Campus Culture

## Branding and Identity



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# DOCUMENTING HISTORY

## Graphic Timeline



ter in Massachusetts to

**September, 1931**  
With the help of Director Gilbert, the Massachusetts Young Farmers Association when the National FFA Organization granted Charter

**May, 1930**  
The Massachusetts Young Farmers Association was formed.

**1914**  
Main building (Gilbert Hall) constructed

**February, 1913**  
George H. Gilbert was selected as the first Director

**May 6, 1912**  
Governor Eugene Foss signs a law establishing "a school for t



**February, 1917**  
First graduating class and the school has been in continuous operation to the present

**1939**

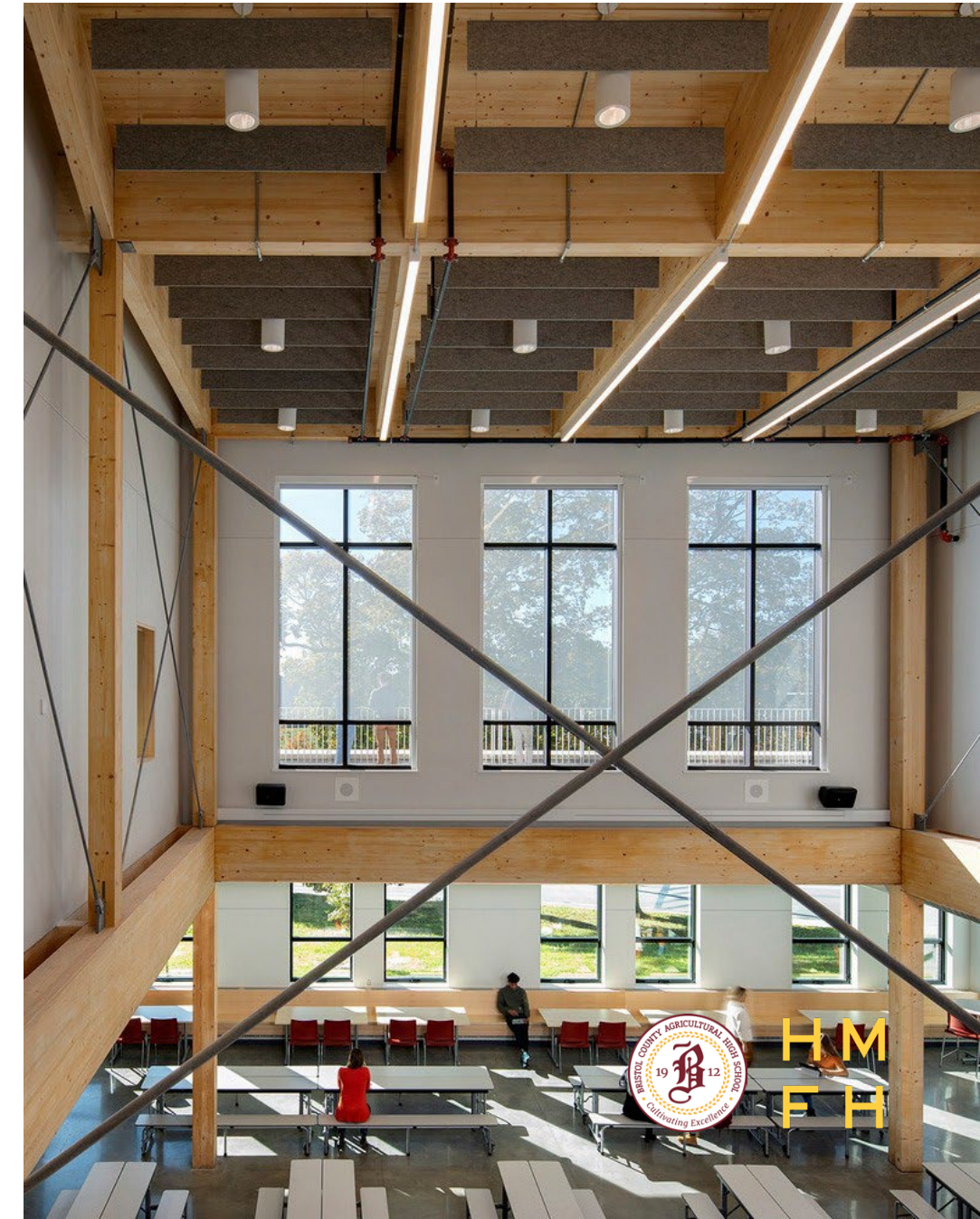
**May 19, 1936**  
The first woman to attend Bristol Aggie, Elizabeth "Betty" Bowen (Florindo). Betty attended Bristol Aggie after graduating from her local high school. She took a two year study for poultry. Betty remained active in the school and alumni association through the 90's.

**November 1931**  
Bristol FFA becomes the 3rd to receive their association ch



# PHYSICAL BUILDING MATERIALS

Reinforcing the Historic Nature of the Existing Campus



# PROGRAM IDENTITY

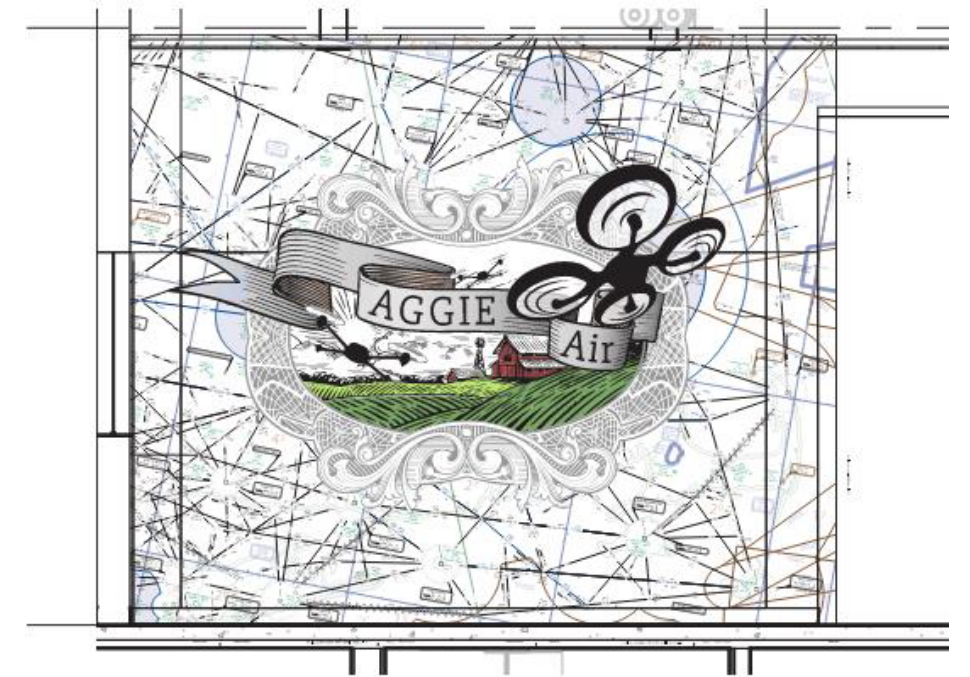
Highlighting each program as a vital contributor to the campus culture

- Sense of belonging
- Display
- Identity / Representation
- Showcase



# PROGRAM IDENTITY

Aggie Air



# PROGRAM IDENTITY

Animal Science



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# PROGRAM IDENTITY

Dog Grooming



# PROGRAM IDENTITY

Science (Animal + Environmental)



# Hands-On Learning Innovative Opportunities



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# HANDS-ON LEARNING

## Outdoor Learning

- Students work with green roof systems, mechanical systems, building management systems
- Outdoor learning enhances interdisciplinary work with our Environmental Conservation, Horticulture, and Science Departments



# OUTDOOR CLASSROOMS

Green Roofs – Exposing systems through graphics



# BEYOND THE CLASSROOMS

Corridors – Building visibility and providing data



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# REAL WORLD LEARNING

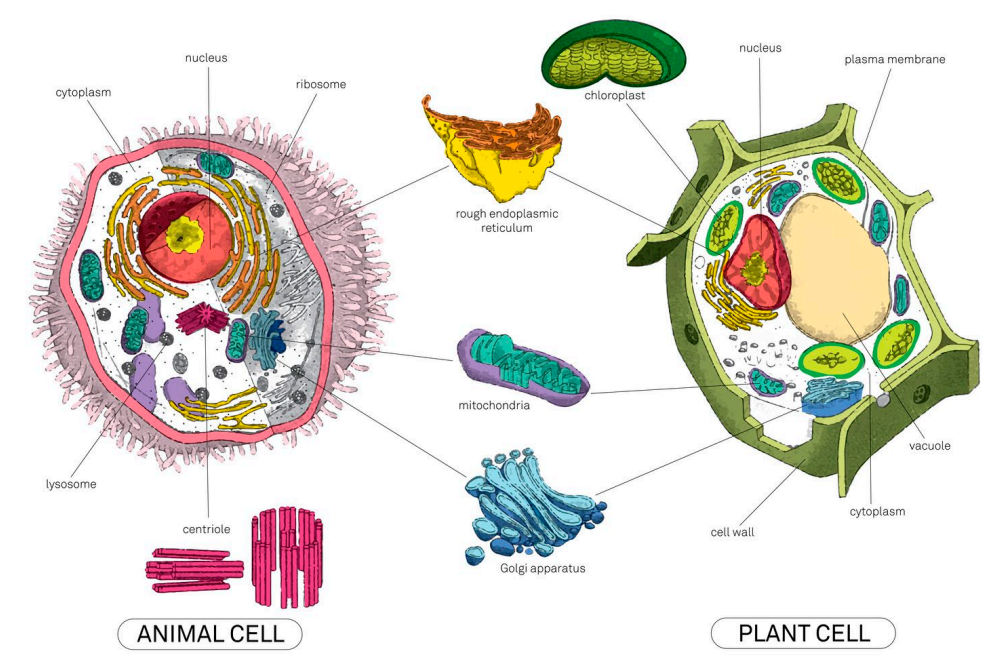
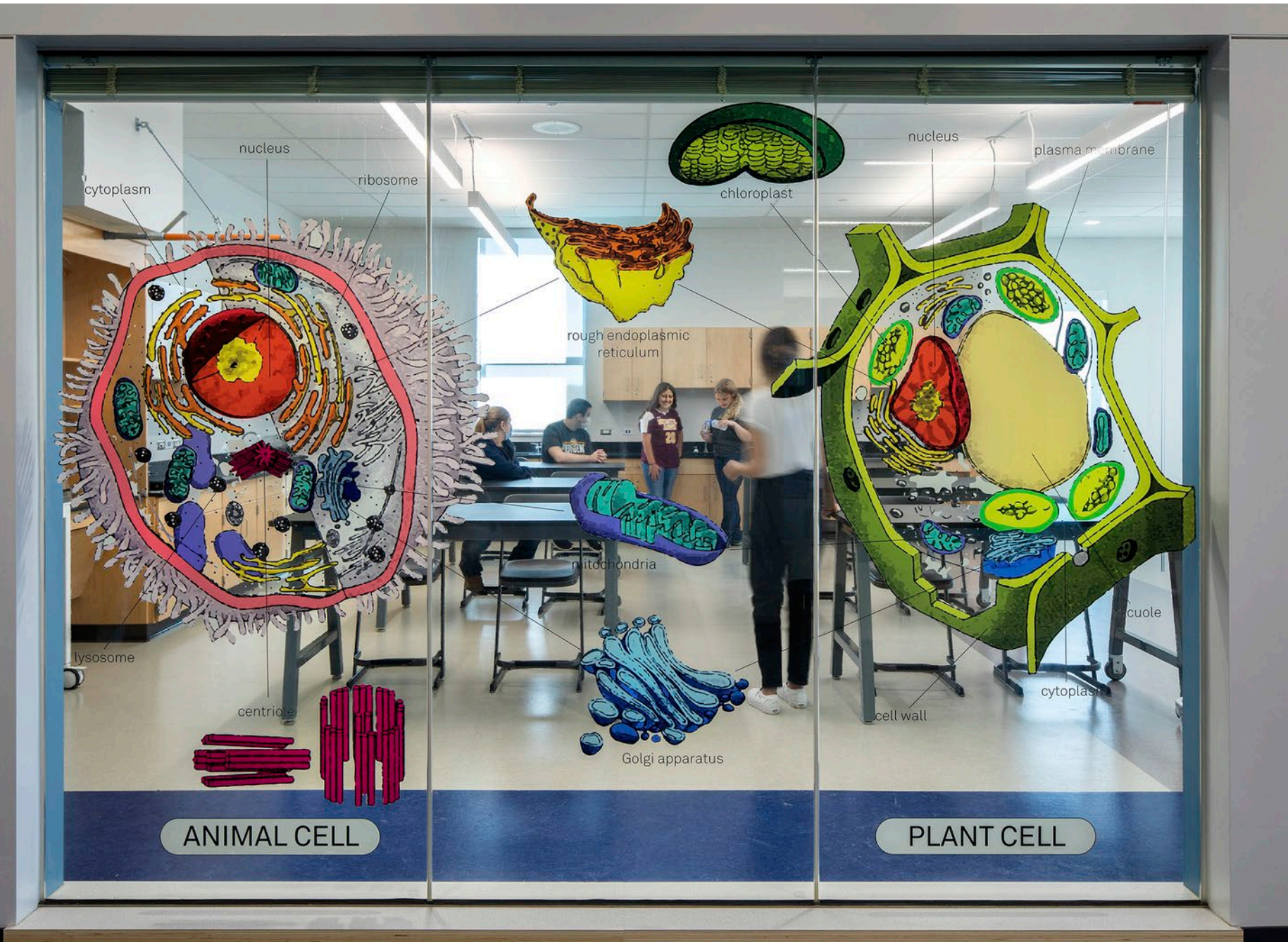
## Animal Science

- New Vet Clinic offers real world learning opportunities from a licensed veterinarian.
- Building supports animal care including surgery suite, x-rays, dental work, vaccinations.



# ANIMAL SCIENCE

Testing knowledge



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# REAL WORLD LEARNING

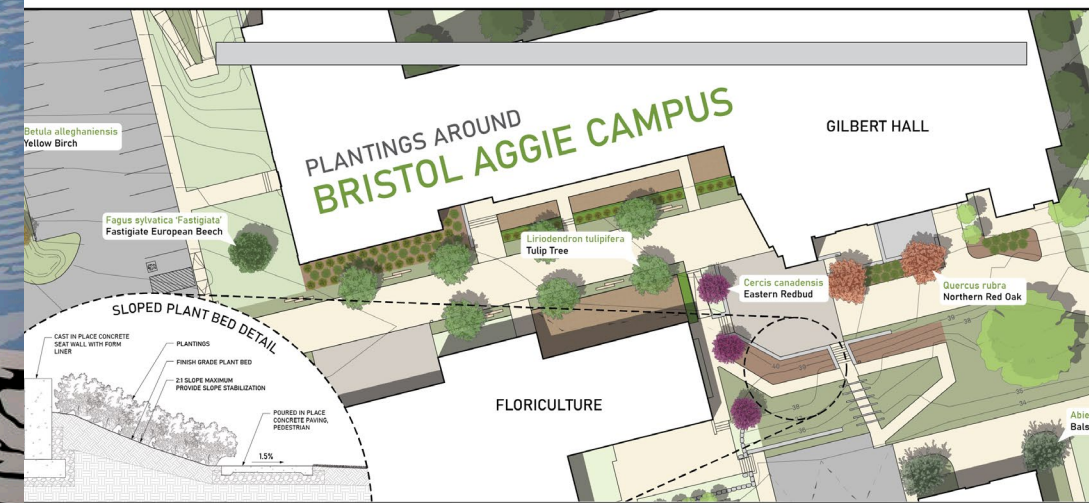
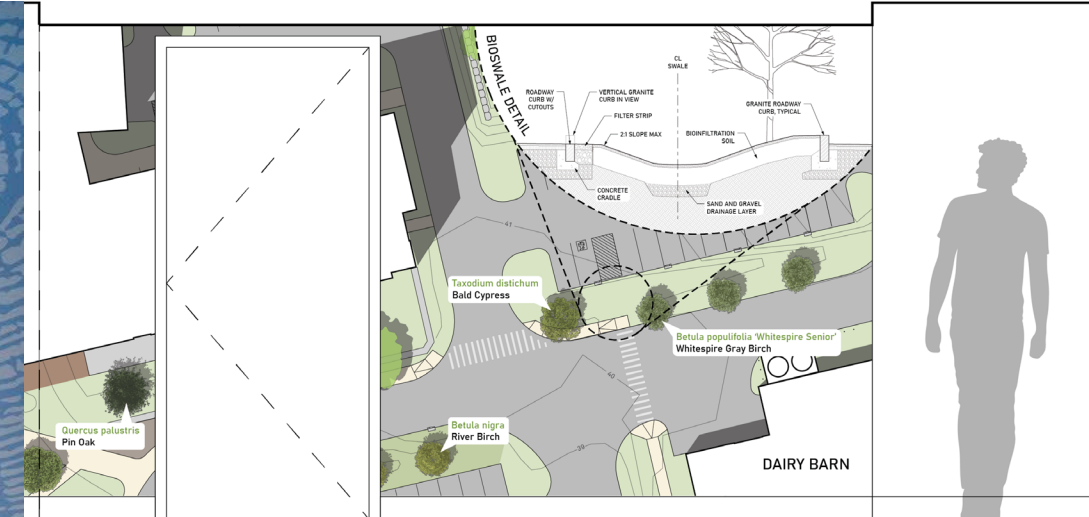
Horticulture: Arbor, Landscape, Floriculture

- The entire campus is a classroom and arboretum
- Landscape department supports and maintains the entire campus grounds



# HORTICULTURE

Identity and learning



# HORTICULTURE / NRM

Outdoor Learning – Curriculum Integration



# AGRICULTURAL ARTS

## Project Display

- Creativity is at the heart of every program
- Project promotes and supports display of student driven design



# AGRICULTURAL ARTS

## Curriculum Display

- NRM maintains and curates its own museum
- Ag Mech restores and sells tractors



# NATURAL RESOURCE MANAGEMENT

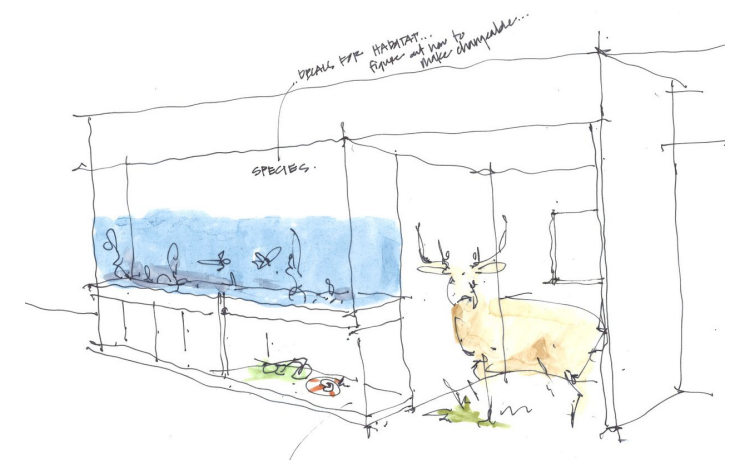
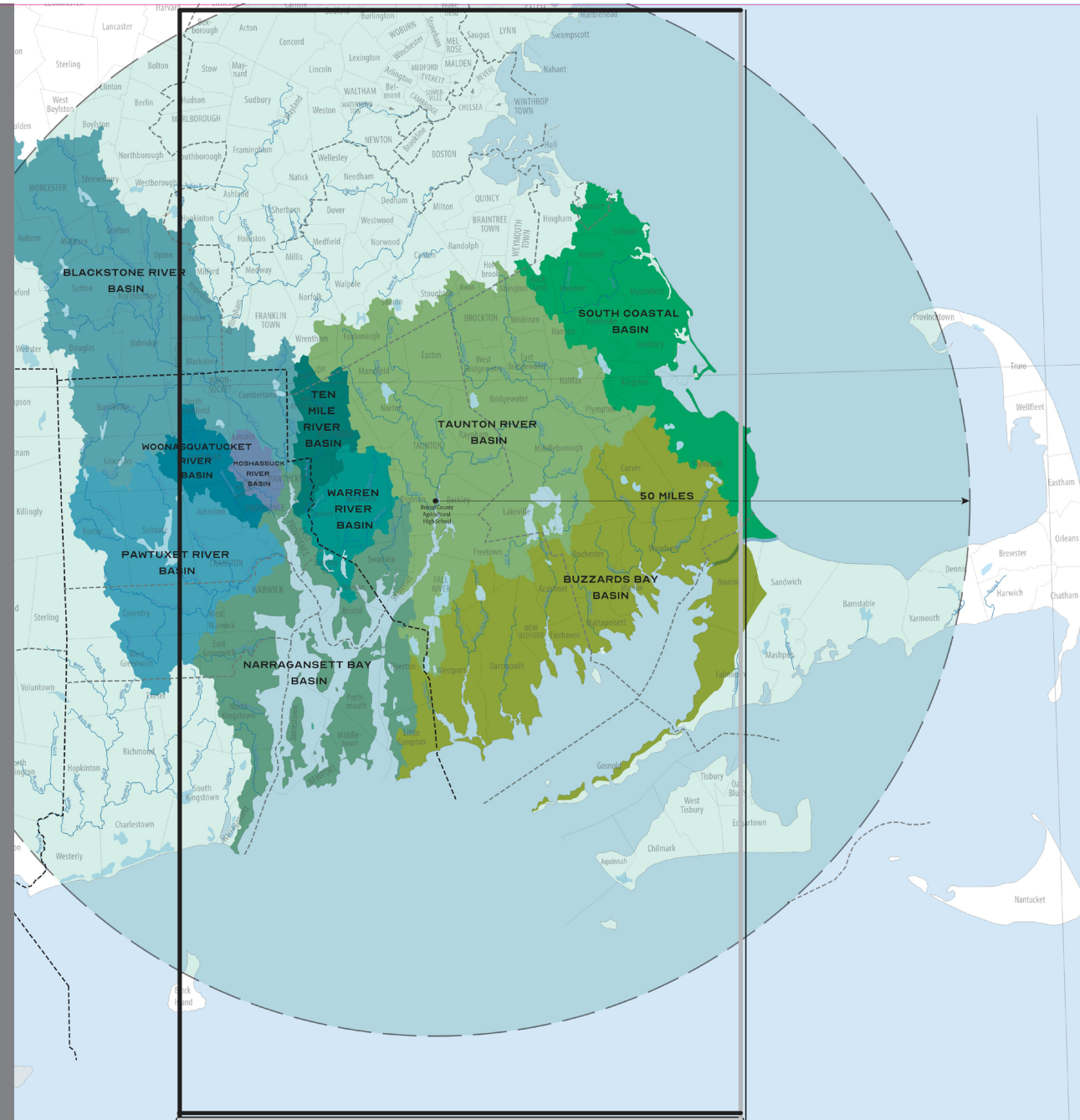
## Museum Design

### Welcome to the Bristol County Museum of Natural History

The Bristol County Museum of Natural History was established in 1992 with the creation of the Natural Resources Management Department vocational program. Originally housed in a 19th-century barn, the museum first opened with only four exhibits featuring mounted specimens of local birds bequeathed to the school in the early 1920s by eminent ornithologist, and Taunton resident, Arthur Cleveland Bent (1866-1954). Bristol Aggie students have played a central role in designing, building, and maintaining all of the exhibits. Over the years the museum and its collection have since grown beyond the barn and the Bent Collection to include exhibits featuring the range of regional biodiversity and the history of man's interactions with it, including dozens of live animals.

From the Blue Hills to Buzzards Bay, the Worcester Plateau, Race Point, Horseneck Beach, Taunton River, Wachusett Reservoir, and Nomans Island the landscape of Southern New England is extremely diverse. Dunes, swamps, woodlands, streams, pine barrens, salt marshes, lakes, meadows, bogs, family farms, bays, and rocky hills can all be found within fifty miles of this campus. Each provides an important and unique habitat for wildlife. The Bristol County Natural History Museum provides opportunities to learn about our shared natural heritage so that we may better enjoy, appreciate, and take care of it.

*"Dull indeed would be the man that did not feel the thrill awakened by the first glimpse of brilliant color in the orchard, and the cheery warbling notes borne to our ears on the first gentle breath of spring!"—Arthur Cleveland Bent*



# BA PROGRAM COLLABORATION

Ag Mech – 3D Graphics Post Construction Project



# REAL WORLD LEARNING

Outside Organization Collaboration



# Campus Stewardship

## Strategies and Implementation



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# VISUAL AWARENESS

## Resources - Waste Reduction

*Feeding food scraps to animals reduces waste and avoids methane generation from landfills.*

*Using food waste for animal feed preserves resources, such as fresh water and arable land, since less feed needs to be produced.*

### ACCEPTABLE FOOD

VEGETABLE & FRUIT SCRAPS  
DAIRY PRODUCTS  
EGGSHELLS & NUTSHELLS  
BREADS, CEREALS & PASTA  
COOKIES  
COFFEE GROUNDS  
SPOILED FOOD

NO OTHER ITEMS ARE ACCEPTABLE

ANIMAL FEED



*Composting diverts another 50% of trash from landfills for a variety of potential uses.*

### ACCEPTABLE FOOD

ALL VEGETABLE & FRUIT SCRAPS  
MEAT SCRAPS & BONES  
DAIRY PRODUCTS  
SEAFOOD & SHELLS  
EGGSHELLS & NUTSHELLS  
BREADS, CEREALS & PASTA  
COOKIES & CANDY  
COFFEE GROUNDS  
SPOILED FOOD

### ACCEPTABLE PAPER PRODUCTS

NAPKINS, PAPER TOWELS & TISSUES  
PAPER PLATES & PAPER BAGS  
PAPER COFFEE CUPS & FILTERS  
TEA BAGS  
PAPER SUGAR PACKETS  
WAXED PAPER  
PAPER SANDWICH WRAPPERS  
PAPER TAKEOUT CONTAINERS  
PAPER MILK CONTAINERS  
PAPER JUICE & ICE CREAM CONTAINERS  
GREASY PIZZA BOXES

### OTHER ACCEPTABLE PRODUCTS

COMPOSTABLE PLASTIC BAGS & PRODUCTS  
CERTIFIED BY US COMPOSTING COUNCIL  
HOUSEPLANTS, FLOWERS & POTTING SOIL  
WOODEN COFFEE STIRRERS  
PET FUR & FEATHERS  
PET FOOD  
SHREDDED PAPER (SHOULD BE RECYCLED)

COMPOST



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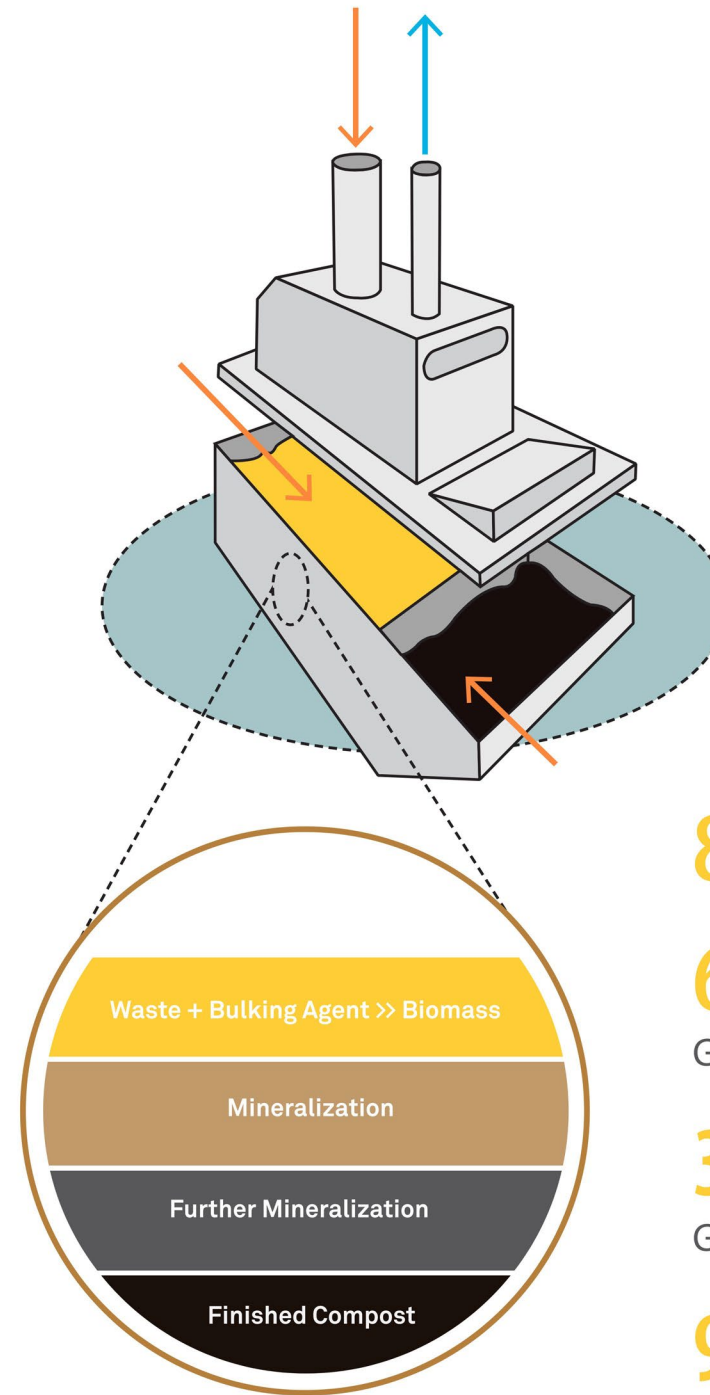
# VISUAL AWARENESS

Combined Systems – Water Reduction



# WASTE Composting Toilets

Composting toilets allow for the distribution of essential plant nutrients into the soil. Nutrients from conventional toilets that would typically be sent to the sewer system will now remain on-site to be used as compost. Soil is one of the largest carbon *sinks* our planet uses to regulate the natural carbon cycle. Healthy soils contribute to healthy flora and fauna.



**8** composting toilets in the CSE

**68%** reduction from approx. 235,000 GPY in water consumption from flush fixtures

**32%** reduction from approx. 235,000 GPY in water consumption from flow fixtures

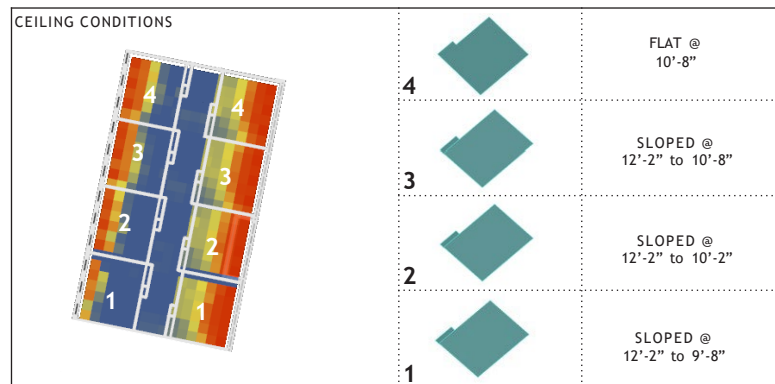
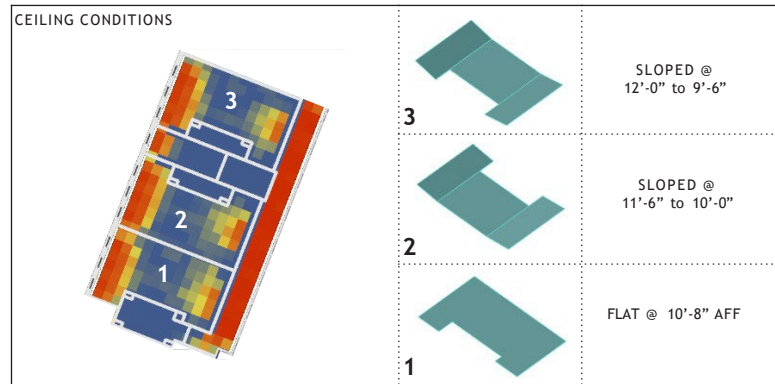
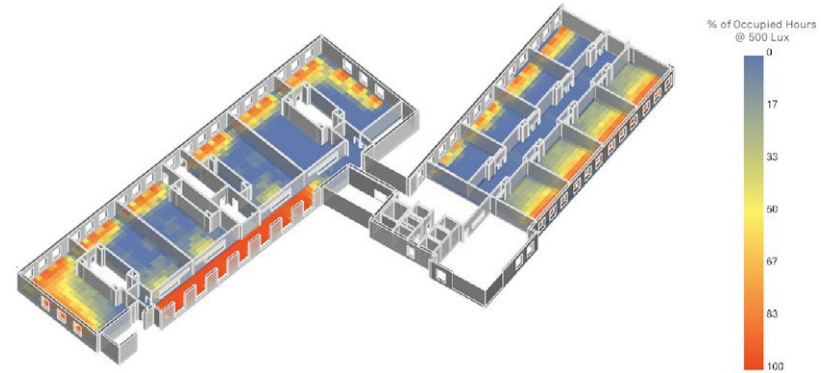
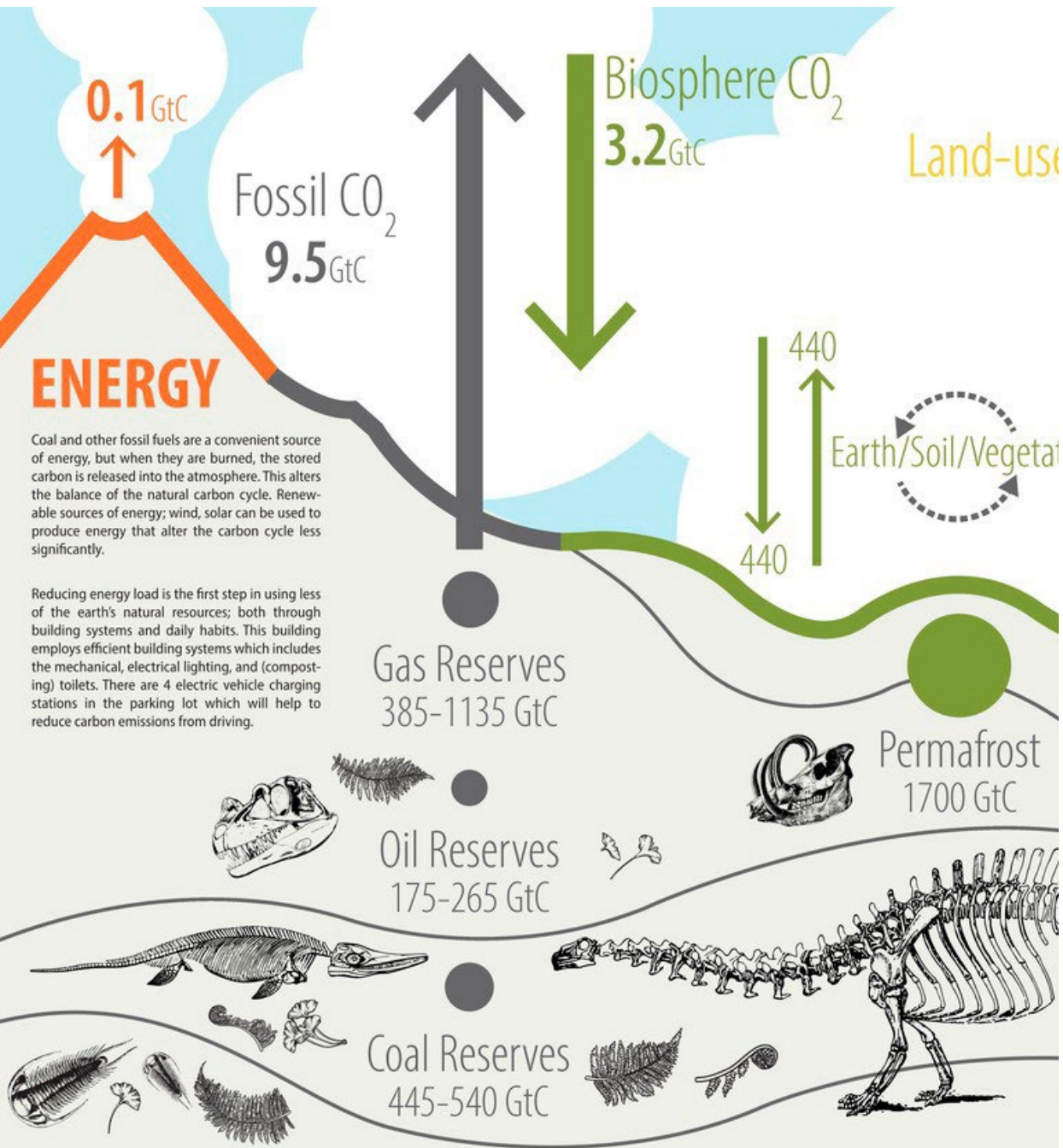
**95%** reduction in solid waste netted from decomposition cycle



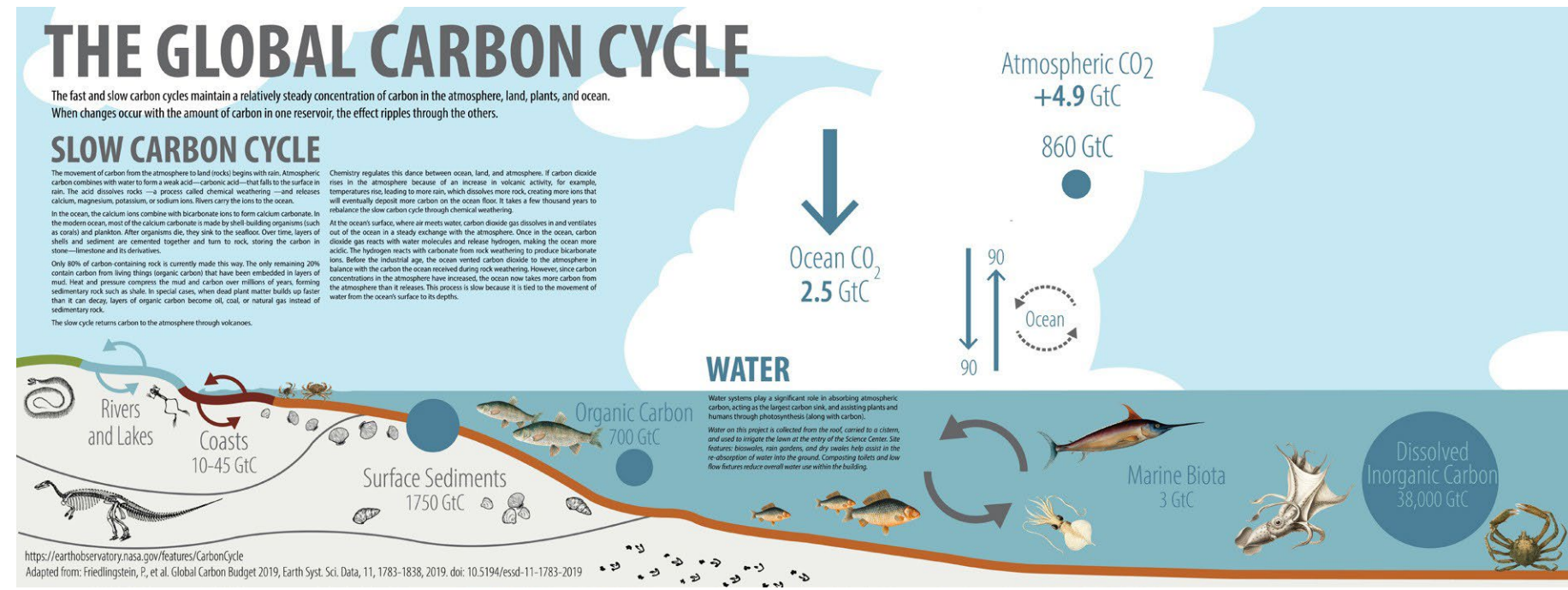
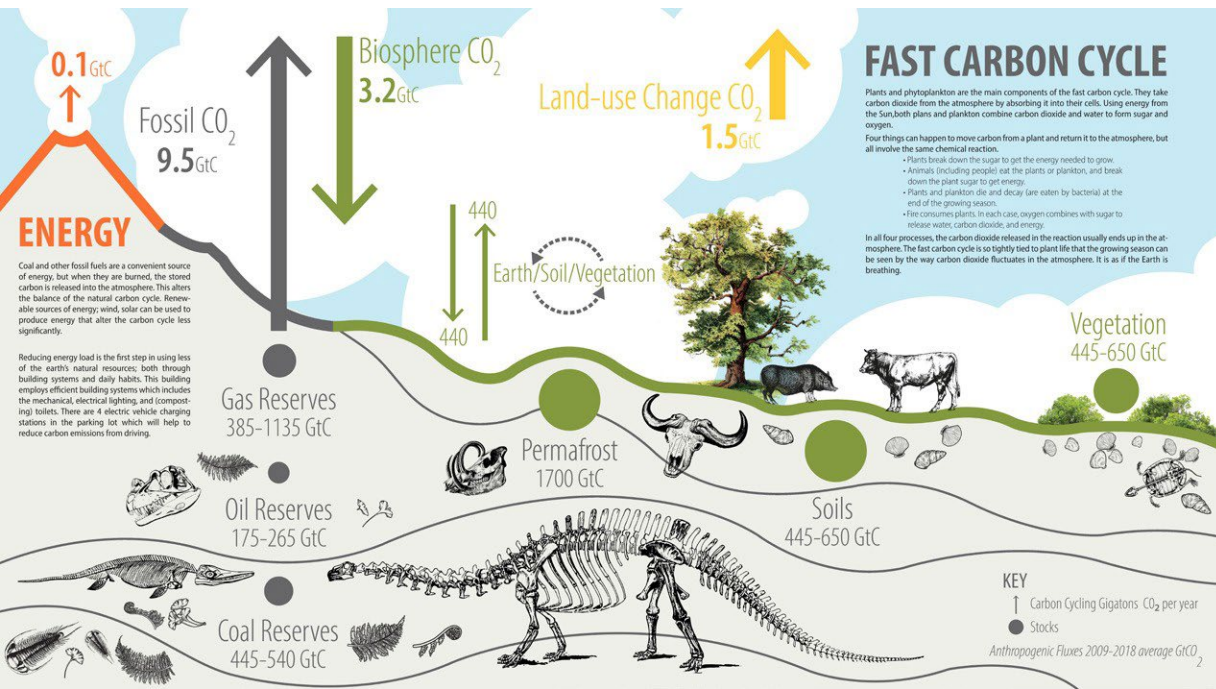
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# BUILDINGS AS TEACHING TOOLS

## Energy and Carbon



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<https://earthobservatory.nasa.gov/features/CarbonCycle>  
 Adapted from: Friedlingstein, P., et al. Global Carbon Budget 2019, Earth Syst. Sci. Data, 11, 1783-1838, 2019. doi: 10.5194/essd-11-1783-2019



**THANK YOU**

