



# VIVA CENTER

11445 COMPAQ CENTER W DR,  
HOUSTON, TX, 77070

## AGRICULTURE



Gensler



## NARRATIVE

**Providing state-of-the-arts agricultural facilities throughout the campus will encourage innovation and foster education and sustainability for the community.**

An agriculture portion of the campus provides a space for sustainable farming practices, promoting food security, education about agriculture, and community engagement. It cultivates fresh produce, supports local farmers' markets, and encourages sustainable practices, fostering resilience and a stronger connection to the land.

# CAMPUS AGRICULTURE

## AGRICULTURE

CEA (Controlled Environment Agriculture) is an all-encompassing term that includes any type of indoor agriculture, like greenhouses, hydroponic systems, and vertical farm. Having a controlled environment naturally protects plants from pests, allowing indoor farmers to use fewer or even no pesticides.

## CROPS

Herbs + greens (parsley, basil)

Microgreens (mushrooms, bamboo, ginseng, garlic)

Root vegetables (beets, carrots, potatoes)

Leafy vegetables (chard, spinach, salad greens)

## BENEFITS

- Herbs + greens are most appropriate crops for indoor farming and are some of the most profitable plants to grow hydroponically
- Reduces amount of fossil fuels needed for farming equipment
- Less evaporation
- Vertical + indoor farming significantly reduce labor needs by using robots to handle harvesting, planting, and logistics
- Greenhouses for low light production work well for tolerant vegetables that grow in shade
- Use wastewater from fisheries for fertilizer
- Use captured water from current roof drains in large tanks above or below the crop areas
- Use byproduct + waste from other crop harvests



# CAMPUS AQUACULTURE

## AQUACULTURE

The breeding, rearing, and harvesting of fish, shellfish, algae, and other organisms in all types of water environments. Aquaculture, if done responsibly—as it is in the United States—is increasingly recognized as one of the most environmentally sustainable ways to produce food and protein.

## TYPES

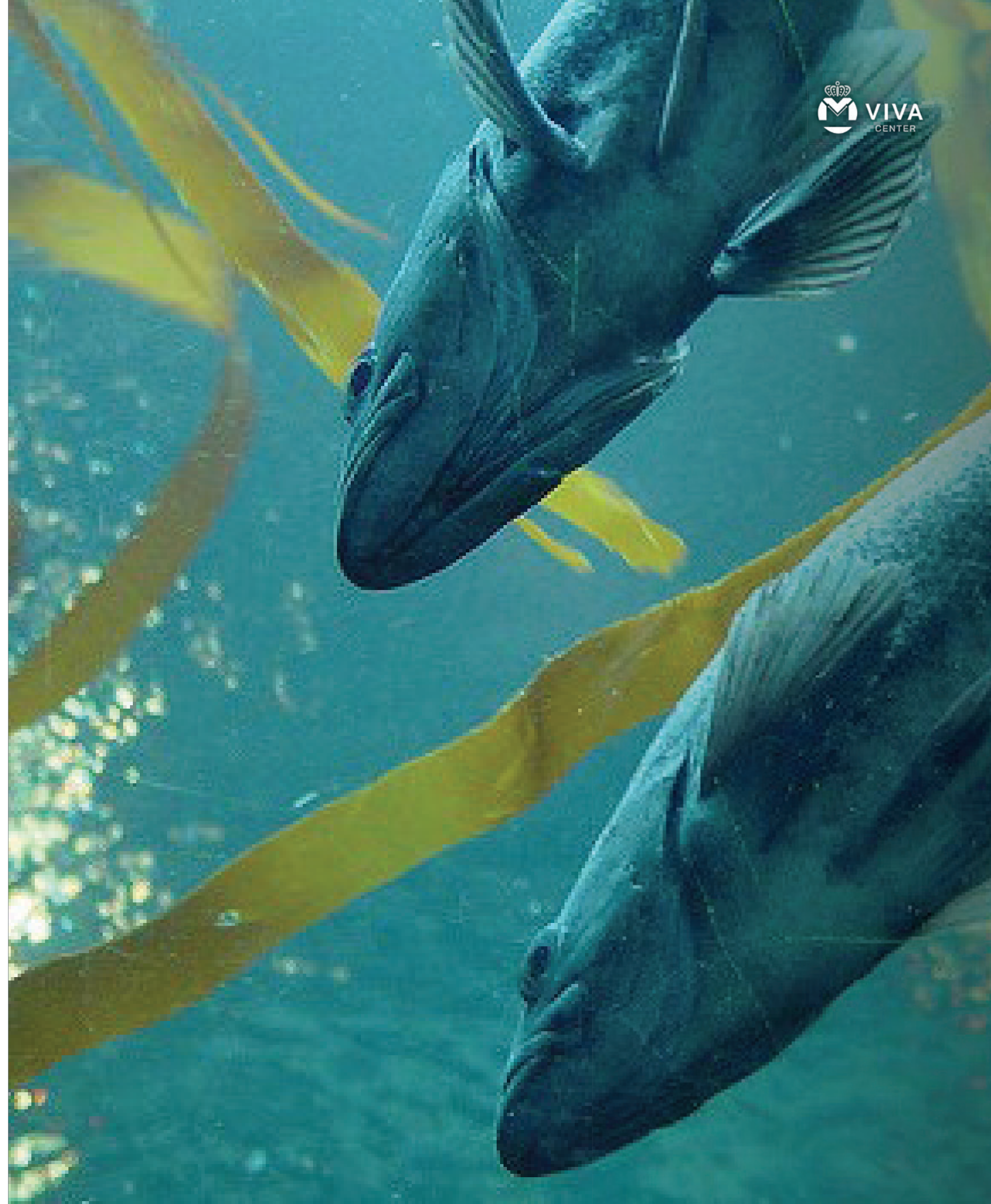
Catfish  
Shrimp / Prawns  
Salmon  
Tilapia  
Trout

## METHODS

- Ultra violet sterilization, ozonation, oxygen injection (maintain optimal water quality)
- Hydroponics (growing crops without soil with water-based mineral nutrient solutions)
- Aquaponics (incorporation of hydroponically grown plants and denitrification)
- Integrated recycling systems
- Extended water purification

## BENEFITS

- Use of aquaponics can reduce rate of water exchange
- Flow out wastewater for watering agricultural farms, reducing water affliction



# CAMPUS INSECT FARMING

## INSECT FARMING

The practice of raising and breeding insects as livestock, also referred to as minilivestock or micro stock. Insects may be farmed for the commodities they produce (like silk, honey, lac or insect tea), or for them themselves; to be used as food, as feed, as a dye, and otherwise.

## CROPS

Silkworms	Honeybees	Crickets
Mealworms	Lac insects	Waxworms
Buffaloworms	Cochineal	Cockroaches

## BENEFITS

- Significantly lower amounts of resource and space use
- Lower amounts of waste produced, and emissions of very trace amounts of greenhouse gases.
- Include many vitamins and essential minerals + contain dietary fiber (which is not present in meat)
- Lower costs + land usage are required to care for and produce insects
- Faster growth and reproduction rates
- Rarely transmit diseases such as H1N1, mad cow disease, or salmonella
- Reduced feed
- Nutrient efficiency



# POTENTIAL PARTNERSHIPS [BRANDS + COMPANIES]

## AGRITECH STARTUPS

Solugen  
Dream Harvest  
Iwi  
Moonflower Farms  
Harvext  
Sigma Agriscience  
Eden Grow Systems  
Syngenta

## AQUACULTURE

Aquabounty  
Aquaculture of Texas, Inc.  
[Natural Shrimp](#)  
[Trans American Aquaculture](#)

## INSECT FARMING

[Ynsect](#)  
Jimini's

## TEXAS RAINWATER SOLUTIONS

Rainwater Harvesting Houston  
[Harvest Rain](#)  
Rainwater Solutions

## TEXAS HYDROPONIC/AQUAPONIC FARMS

Bar None Farms of Blessing  
Freshwater Farms  
Sustainable Harvesters  
Trinity Ranch  
Breedon Fresh Farm

## MANUFACTURERS

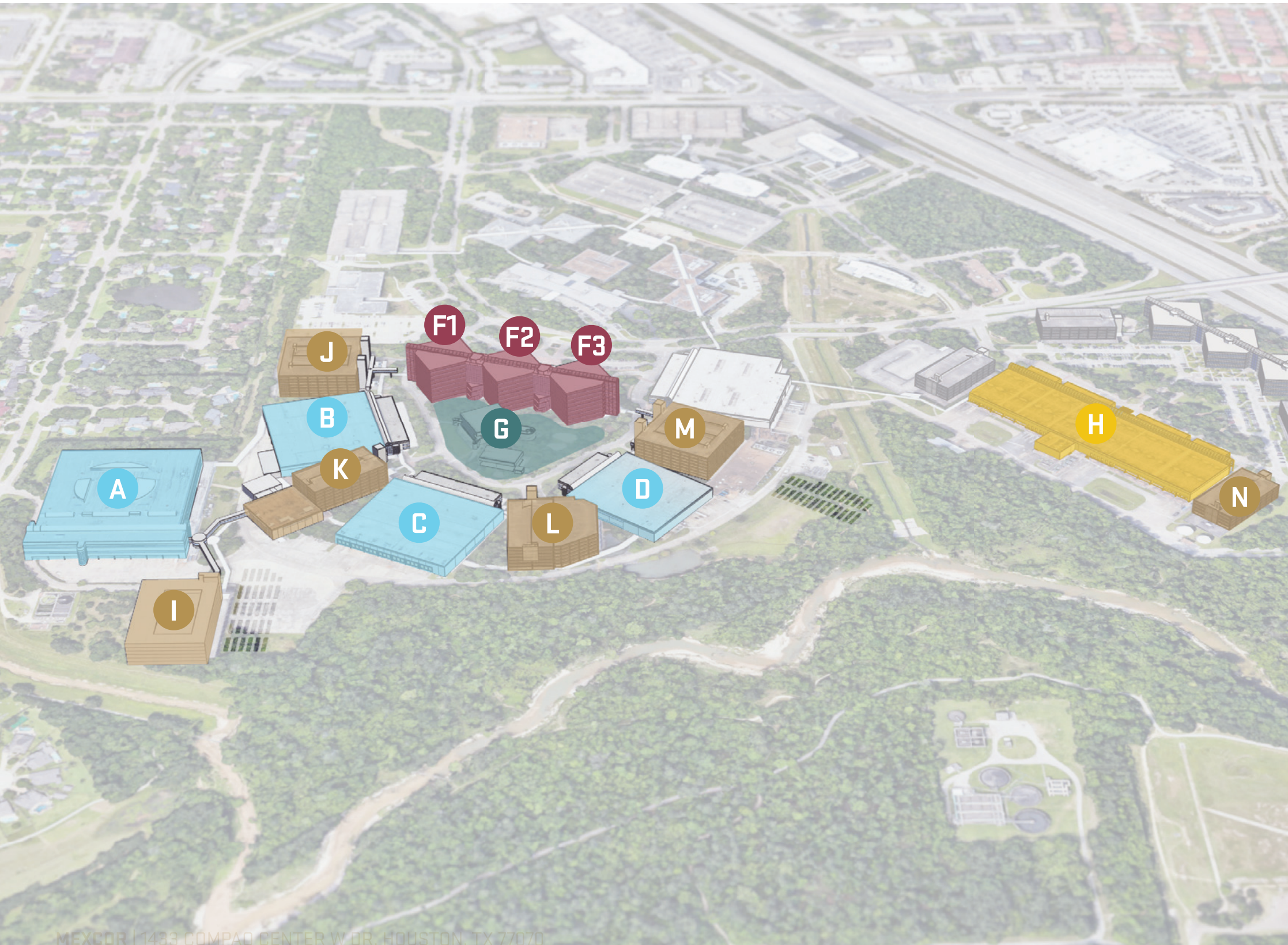
John Deere  
Caterpillar Inc.  
Mustang

## SCHOOLS

[Texas A&M University](#)  
Lone Star Community College  
University of Houston  
University of Texas Austin

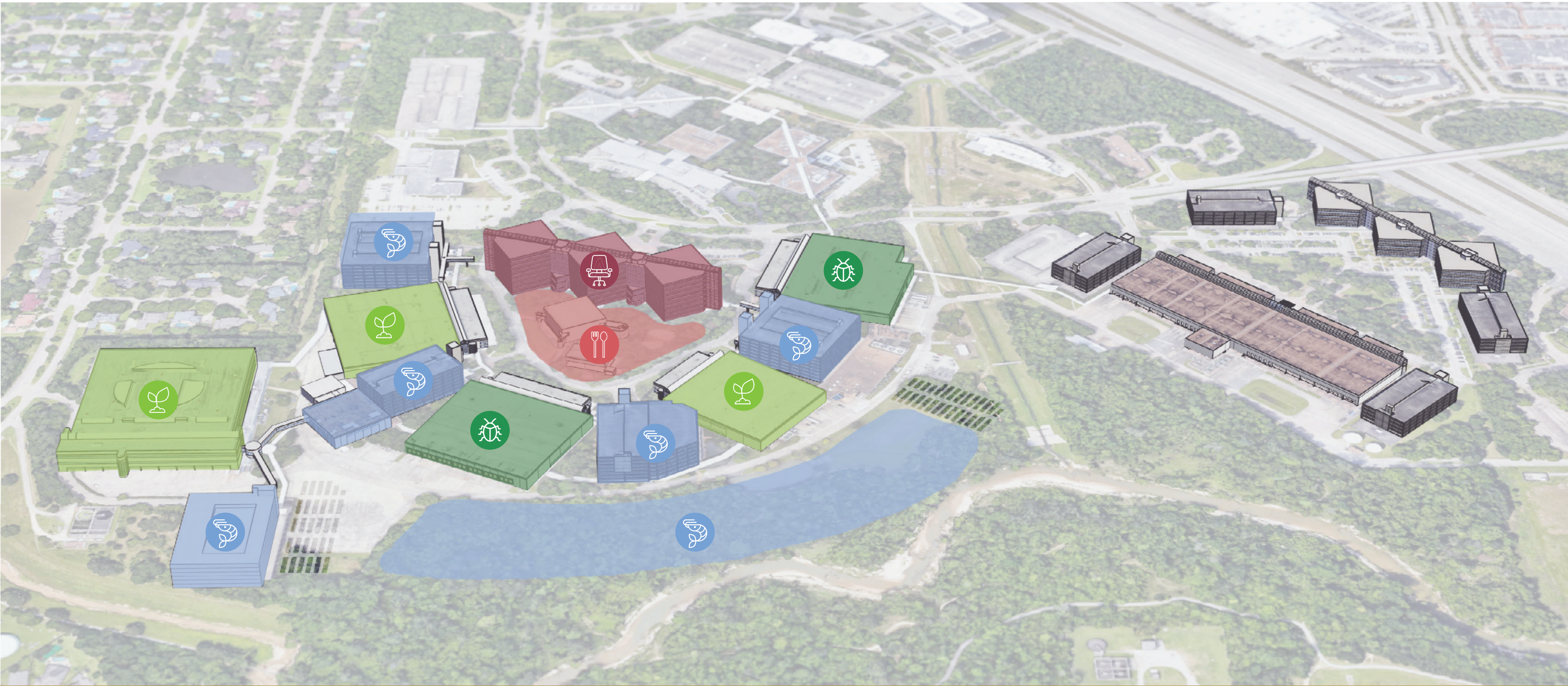


# CAMPUS | BUILDING METRICS



<p><b>A</b></p> <p><b>CCM-07</b></p> <p>LEVELS 4</p> <p>HEIGHT 18' (WAREHOUSE LVL 1)</p> <p>TOTAL SQ FT 695,000</p>	<p><b>B</b></p> <p><b>CCM-06</b></p> <p>LEVELS 1 + MEZZANINE</p> <p>HEIGHT 30'</p> <p>TOTAL SQ FT 182,000</p>
<p><b>C</b></p> <p><b>CCM-05</b></p> <p>LEVELS 1 + MEZZANINE</p> <p>HEIGHT 30'</p> <p>TOTAL SQ FT 182,000</p>	<p><b>D</b></p> <p><b>CCM-04</b></p> <p>LEVELS 1 + MEZZANINE</p> <p>HEIGHT 12'</p> <p>TOTAL SQ FT 208,000</p>
<p><b>F1 F3</b></p> <p><b>CCA-06 / CCA-04</b></p> <p>LEVELS 8</p> <p>HEIGHT 90'</p> <p>TOTAL SQ FT 226,000</p>	<p><b>F2</b></p> <p><b>CCA-05</b></p> <p>LEVELS 8</p> <p>HEIGHT 90'</p> <p>TOTAL SQ FT 237,000</p>
<p><b>G</b></p> <p><b>CONFERENCE + FITNESS</b></p> <p>TOTAL SQ FT 33,200</p>	<p><b>H</b></p> <p><b>CCM-01 + 02</b></p> <p>LEVELS 1 + MEZZANINE</p> <p>HEIGHT 30'</p> <p>TOTAL SQ FT 250,000</p>
<p><b>I</b></p> <p><b>PG-13</b></p> <p>LEVELS 3</p> <p>HEIGHT 40'</p> <p>TOTAL SQ FT 90,135</p>	<p><b>J</b></p> <p><b>PG-8</b></p> <p>LEVELS 7</p> <p>HEIGHT 80'</p> <p>TOTAL SQ FT 421,806</p>
<p><b>K</b></p> <p><b>PG-7</b></p> <p>LEVELS 8</p> <p>HEIGHT 90'</p> <p>TOTAL SQ FT 461,104</p>	<p><b>L</b></p> <p><b>PG-6</b></p> <p>LEVELS 7</p> <p>HEIGHT 80'</p> <p>TOTAL SQ FT 913,997</p>
<p><b>M</b></p> <p><b>PG-5</b></p> <p>LEVELS 8</p> <p>HEIGHT 90'</p> <p>TOTAL SQ FT 449,808</p>	<p><b>N</b></p> <p><b>GARAGE</b></p> <p>LEVELS 3</p> <p>HEIGHT 34'</p> <p>TOTAL SQ FT 108,000</p>

# CAMPUS SITE PLAN | EXAMPLE USE CASES



## POSSIBLE USE CASE EXAMPLES



AQUACULTURE



AGRICULTURE [INDOOR FARMING]



INSECT FARMING



FOOD HALL



OFFICE





11445 COMPAQ CENTER WEST DRIVE



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**THANK YOU**



**Gensler**