

Olbrich Botanical Gardens Expansion Project 1

Existing Conservatory

New Greenhouse

Existing Lobby

New Learning Center

Existing Atrium

New Garden Courtyard, Tram Pickup, and Tram Path



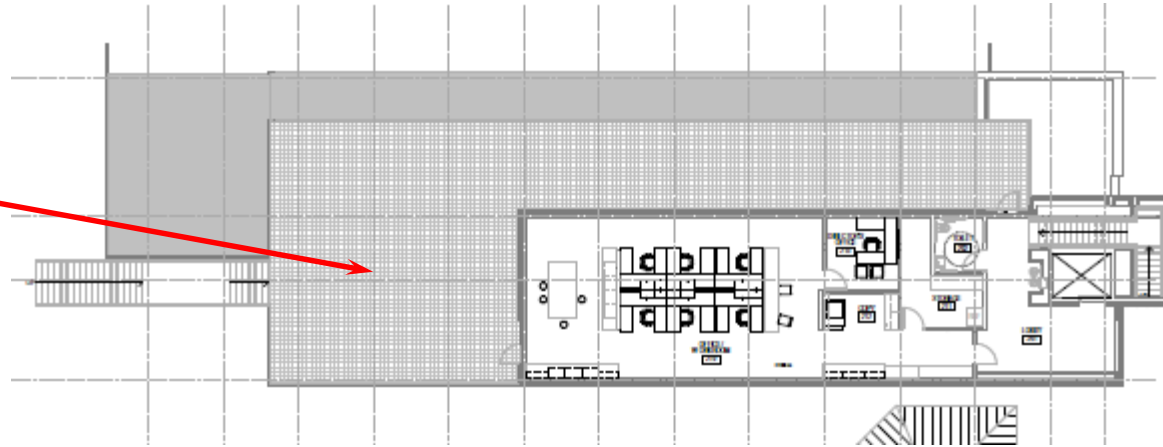
Learning Center Floor Plans

Estimated cost
of construction

\$ 4,219,442

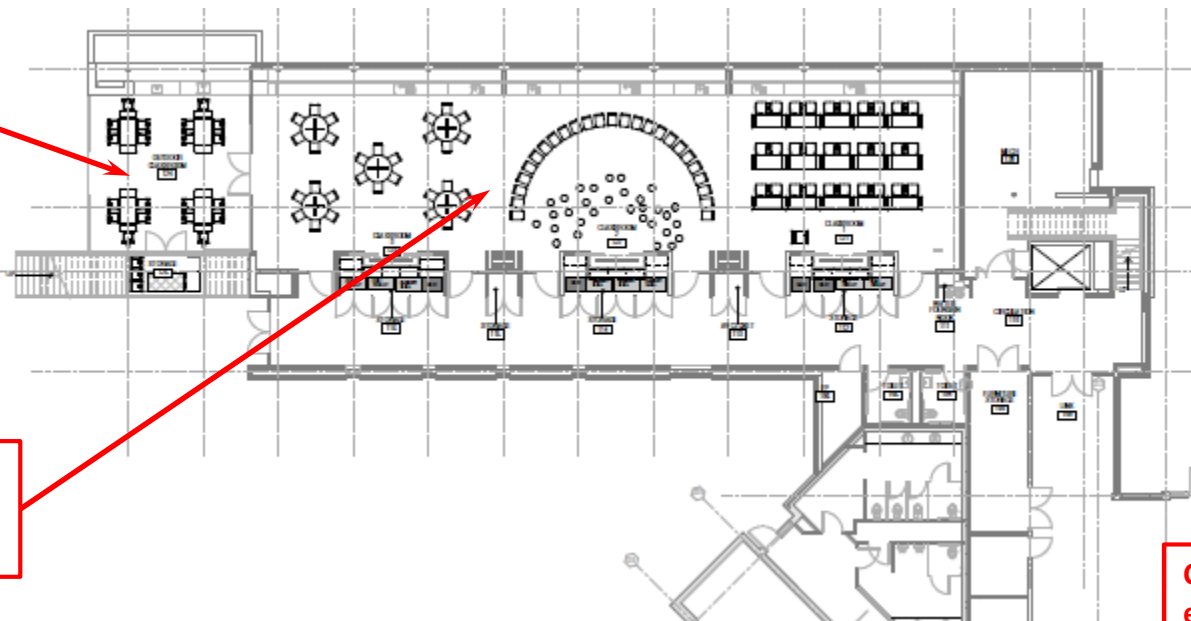
(assuming a standard
foundation, with fire
suppression)

Observation Deck
Open to the Public



Second Floor - Learning Center Staff Offices

Outdoor
Classroom



Interior Classroom, can
be configured to 1, 2,
or 3 spaces

Connects to
existing Lobby

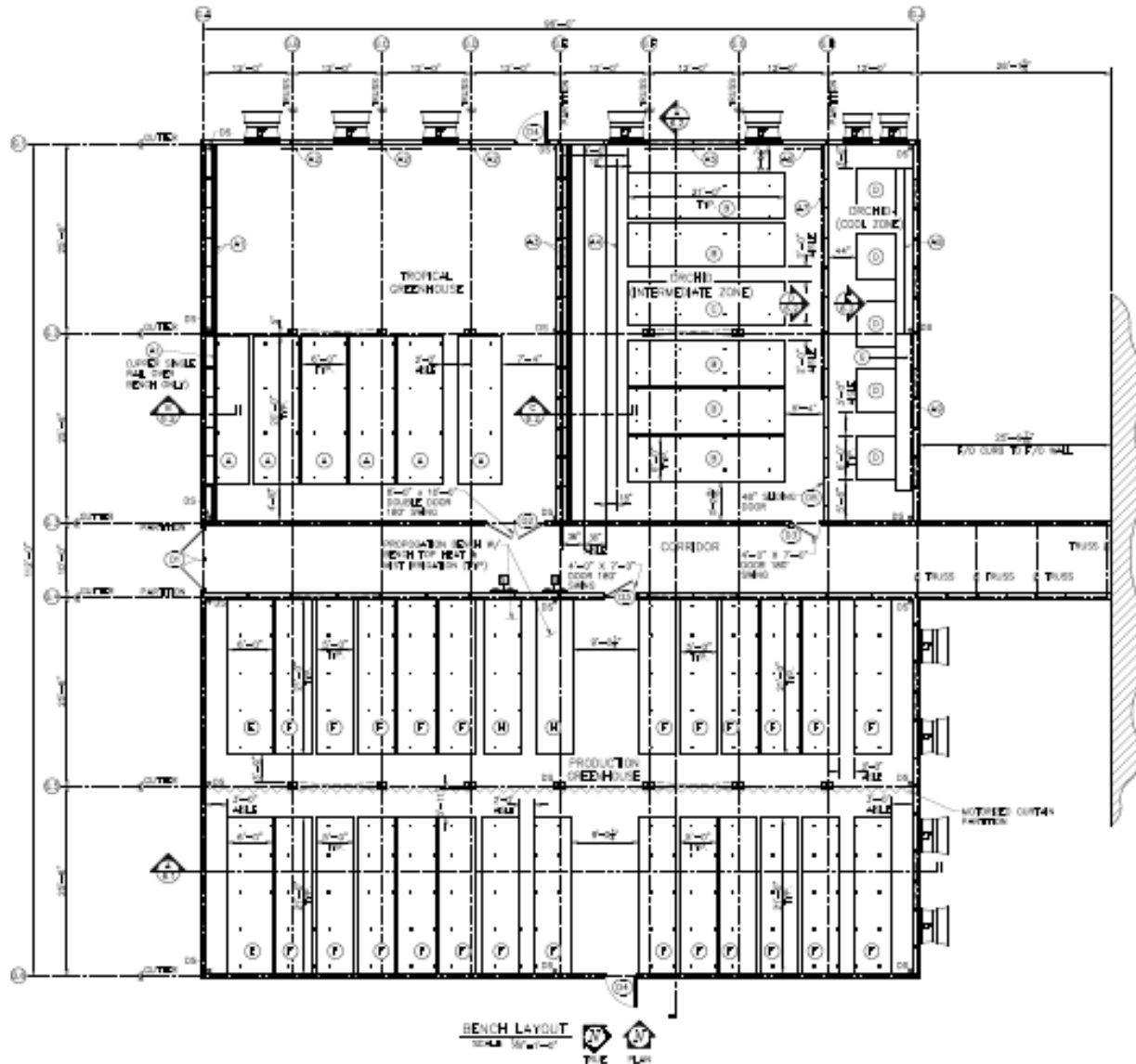
First Floor - Learning Center Classrooms

Greenhouse Floor Plan

Estimated cost
of construction

\$ 3,830,116

(assuming a standard
foundation, non-
combustible, no fire
suppression required)



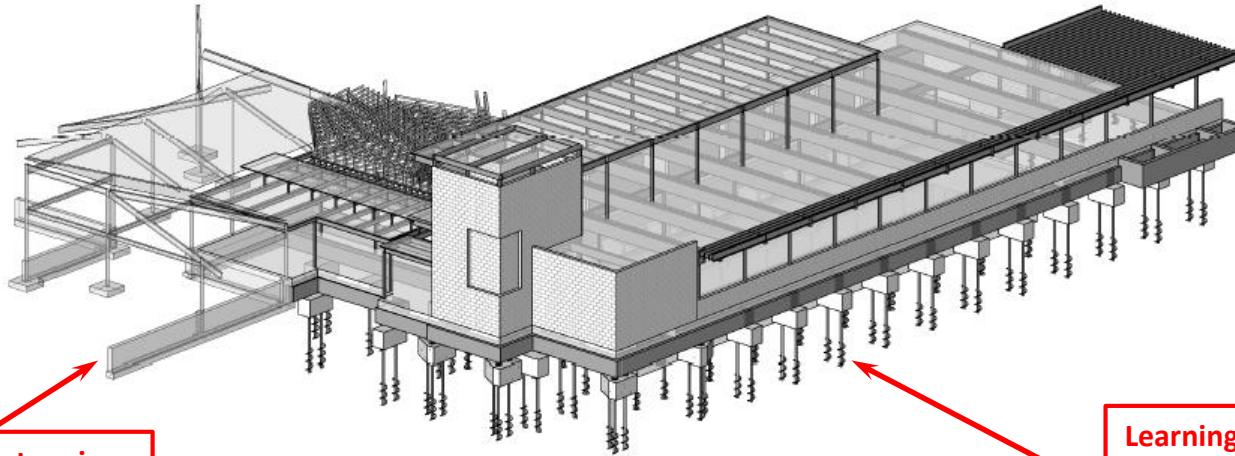
New Greenhouse is approximately the same size as the existing structure it is replacing.

Foundation System

**Estimated cost
of construction**

\$ 1,273,381

(over cost of standard
foundation; this is
Learning Center and
Greenhouse
combined)



Existing structure is
traditional spread
footing

Learning Center and
Greenhouse will be using
helical piers topped with a
modified concrete foundation

Extra Excavation for a Standard Foundation:

- Excavation to about 15 feet deep
- Excavation area adds additional 20 feet to each side of footprint
- Significant dewatering
- Replace with engineered fill
- Adds approximately 3-4 months to the construction schedule
- Requires additional WDNR permits

VS.

Helical Pier Foundation:

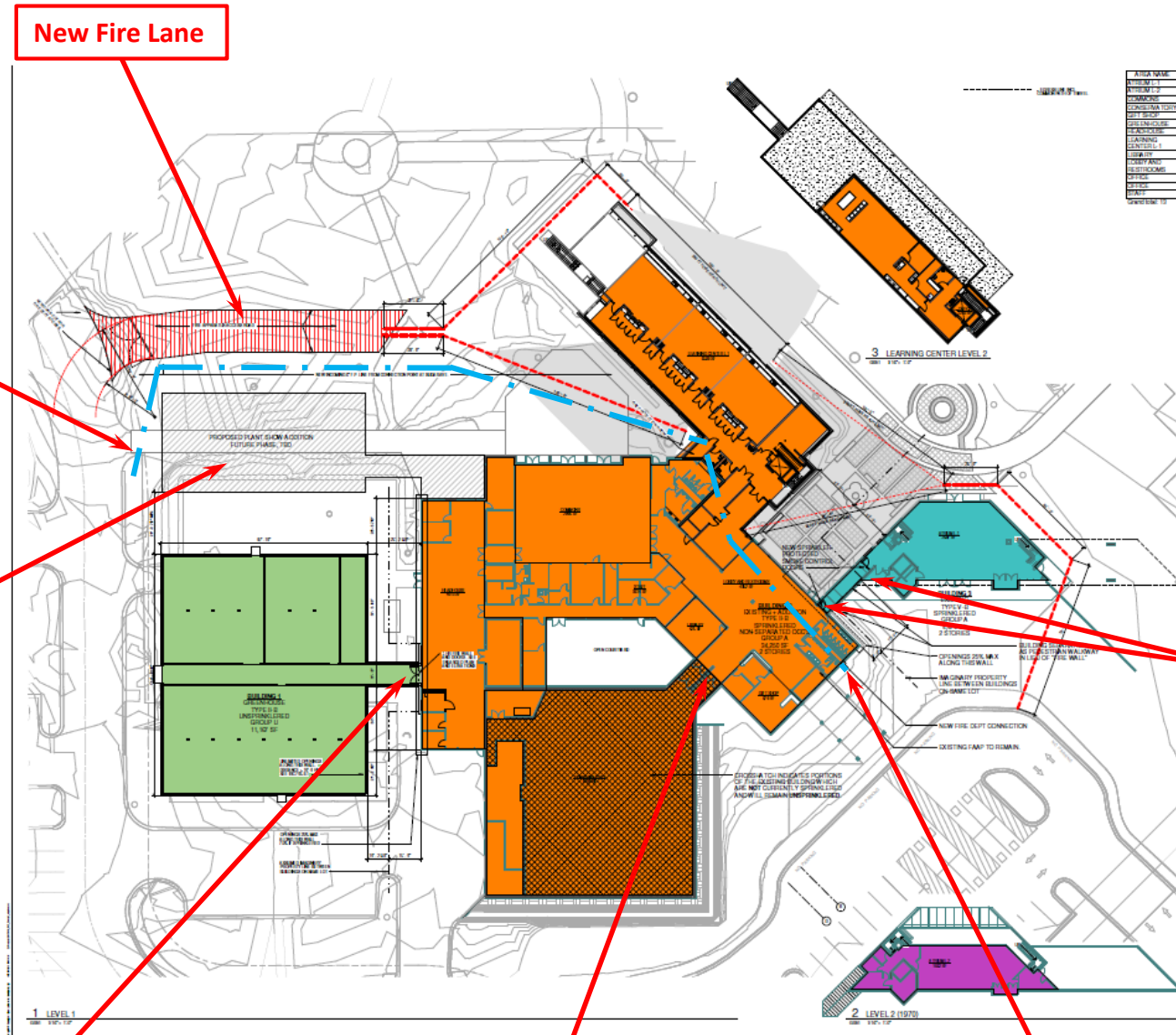
- Excavation between 5 & 8 feet deep
- Excavation area adds additional 5 feet to each side of footprint
- Minimal dewatering
- Replace with engineered fill
- Does not add time to construction schedule

Fire Code and Life Safety Requirements

Estimated cost of construction

\$ 313,219

(does not include
sprinkler
requirements for new
Learning Center)



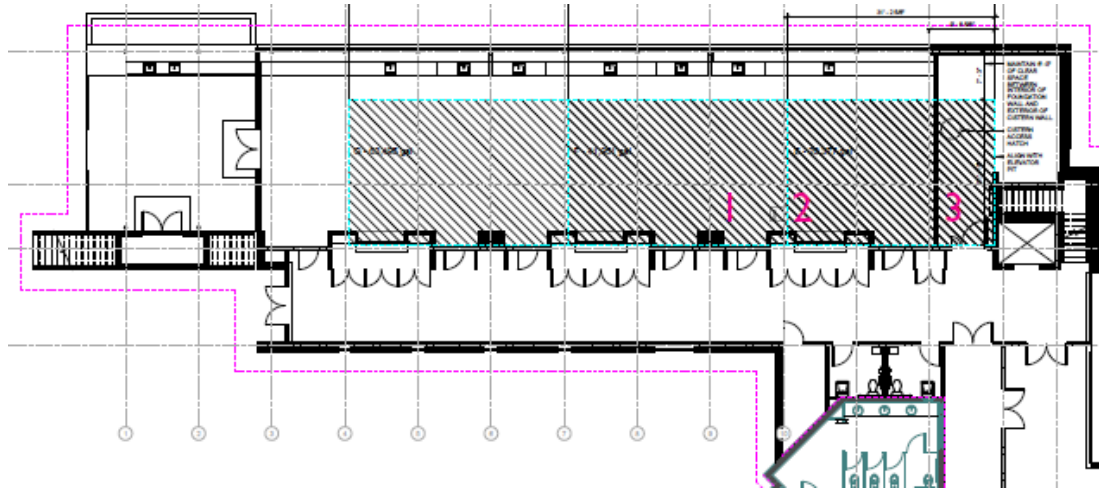
**1 hour smoke
doors, (qty. 2)**

**3 hour construction
at connecting door**

**2 hour FP, 2 pair of 2 doors,
glass entry type**

Fire Department Connection with 4" main line to front entrance

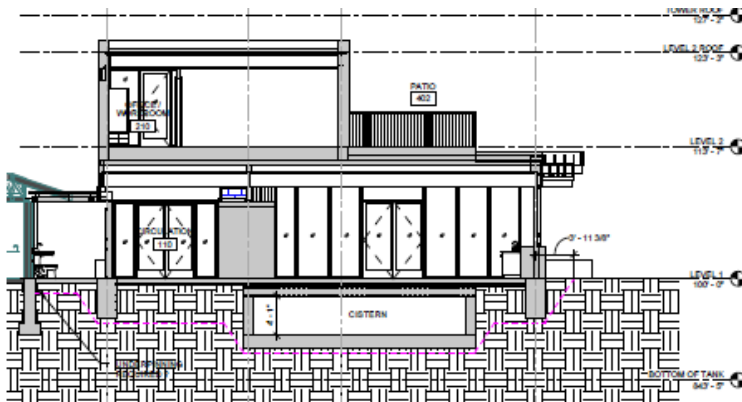
Storm Water Management - Cistern



**Estimated cost
of construction**

\$ 323,628

(includes cistern,
piping, and
equipment)



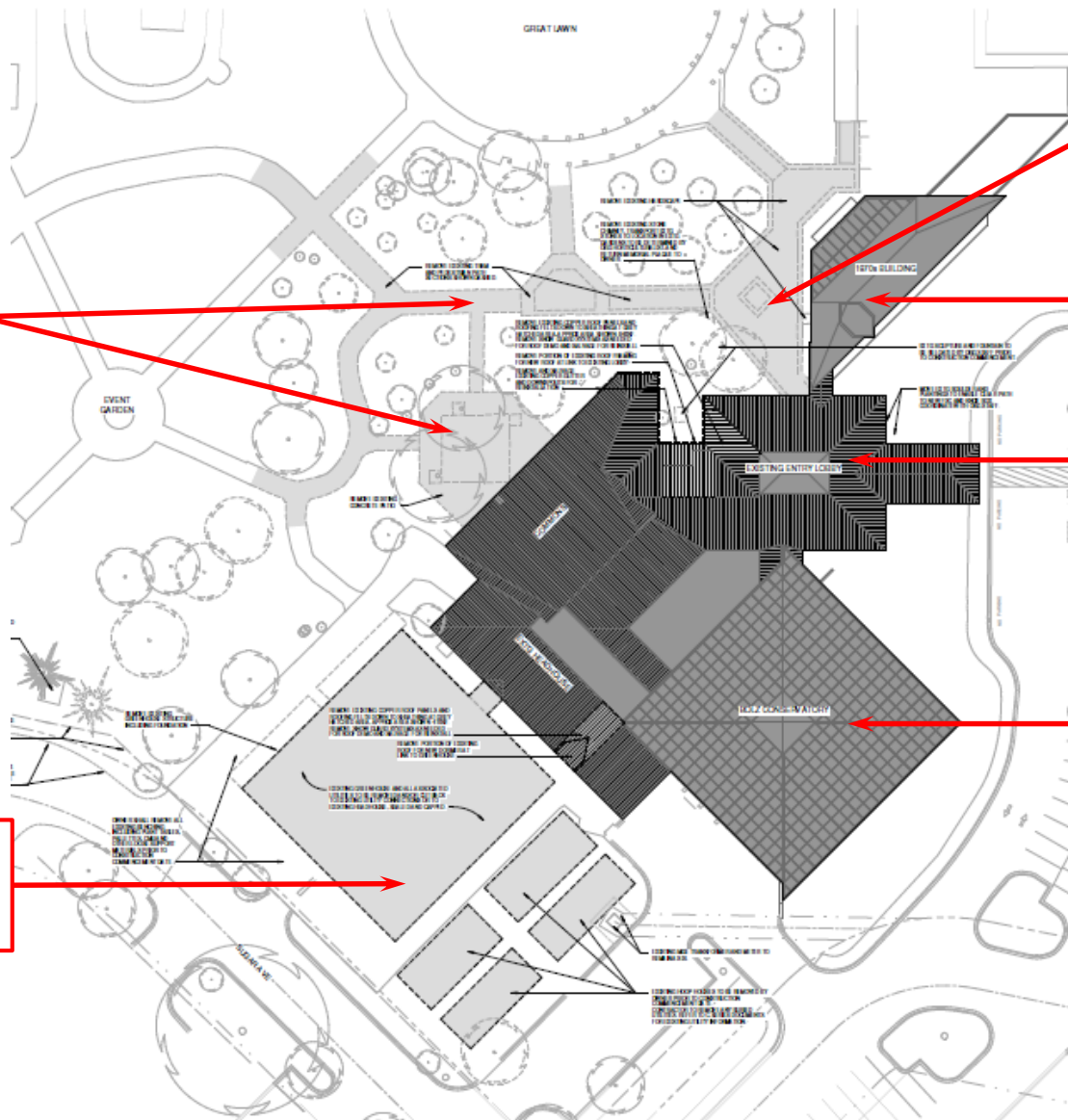
- Cistern collects 95% of the roof water which currently is piped directly to Starkweather Creek
- When empty will handle the 100 year storm event per City of Madison Ordinances (incl. estimated future Plant Show Pavilion roof)
- Water will be used as primary plant water source for plants in the Greenhouse and Conservatory (339,000 gal./year)
- Reduces water consumption from the aquifer by 447,000 gal. per year
- Reduces clean water waste to MMSD by 149,000 gal. year
- Replaces the need to put a 30' by 100' by 3' detention pond within the gardens
- Will have a small detention pond to handle overflow, pre-filter discharge, and as an educational opportunity

Cistern Capacity = 60,000 gallons



X 6

Olbrich Botanical Gardens Existing Site Plan



Existing Lussier
Terrace, and
Paths

Existing Courtyard

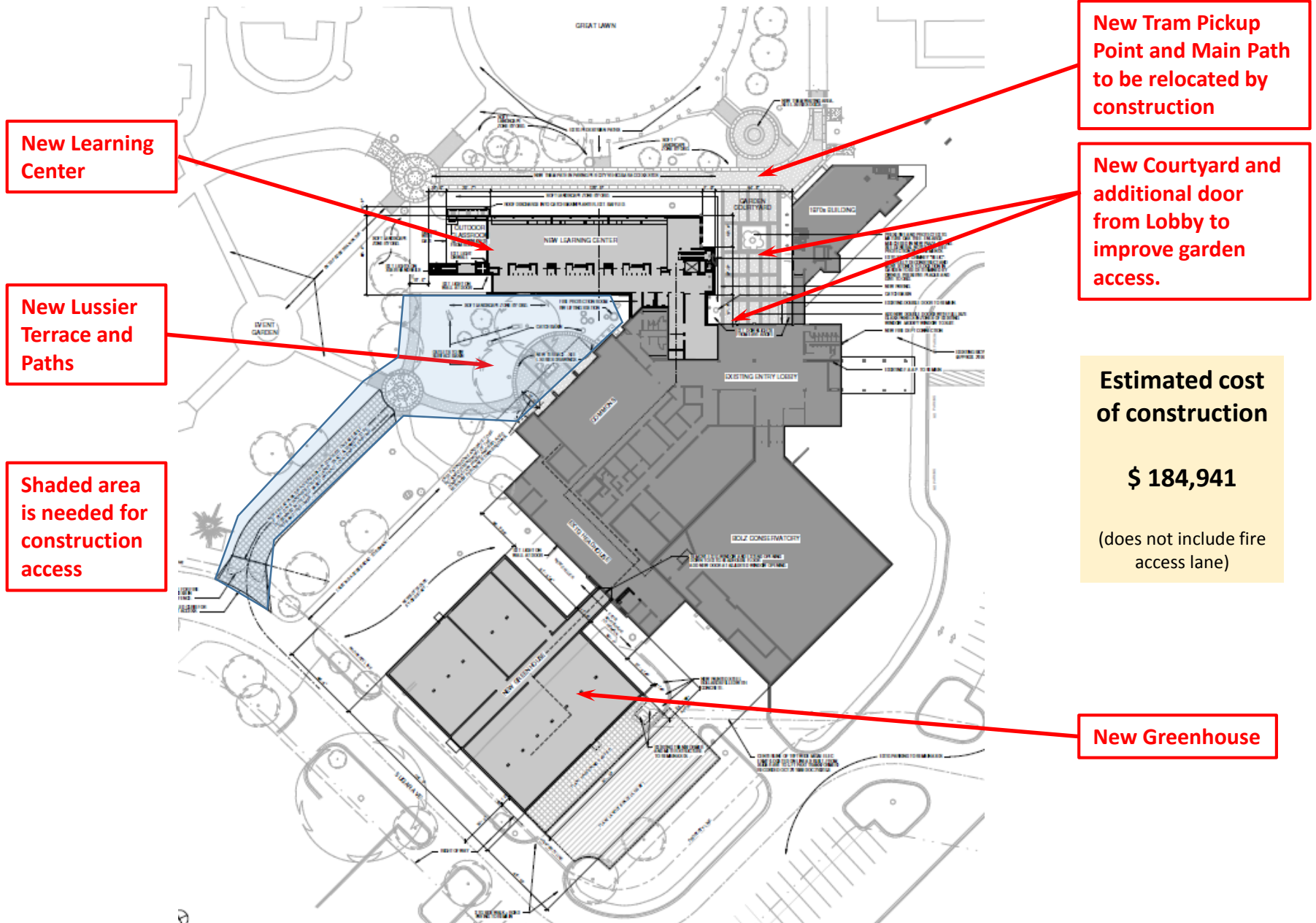
Existing Atrium

Existing Lobby

Existing Conservatory

Existing
Greenhouse &
Hoophouses

Relocate/Reconstruct Existing Hardscape



Budget Amendment Summary



Original Project Budget	\$10,000,000.00	2017/2018; \$5M City & \$5M Olbrich Botanical Society
Design & Soft Costs	(\$1,620,000.00)	Costs expensed or reserved through construction
Learning Center	(\$4,219,442.00)	Estimated construction costs
Greenhouse	<u>(\$3,830,116.00)</u>	Estimated construction costs
Balance Remaining	\$330,442.00	Indicates a positive balance on project to date
Helical Foundations	(\$1,273,381.00)	Learning Center and Greenhouse combined
Fire Code & Life Safety	(\$313,219.00)	Learning Center and Greenhouse combined
Storm Water Management	(\$323,628.00)	
Reconstruct Hardscape	<u>(\$184,941.00)</u>	
Estimated Project Shortfall	(\$1,764,727.00)	To be cost shared 50/50 City Parks and OBS per resolution