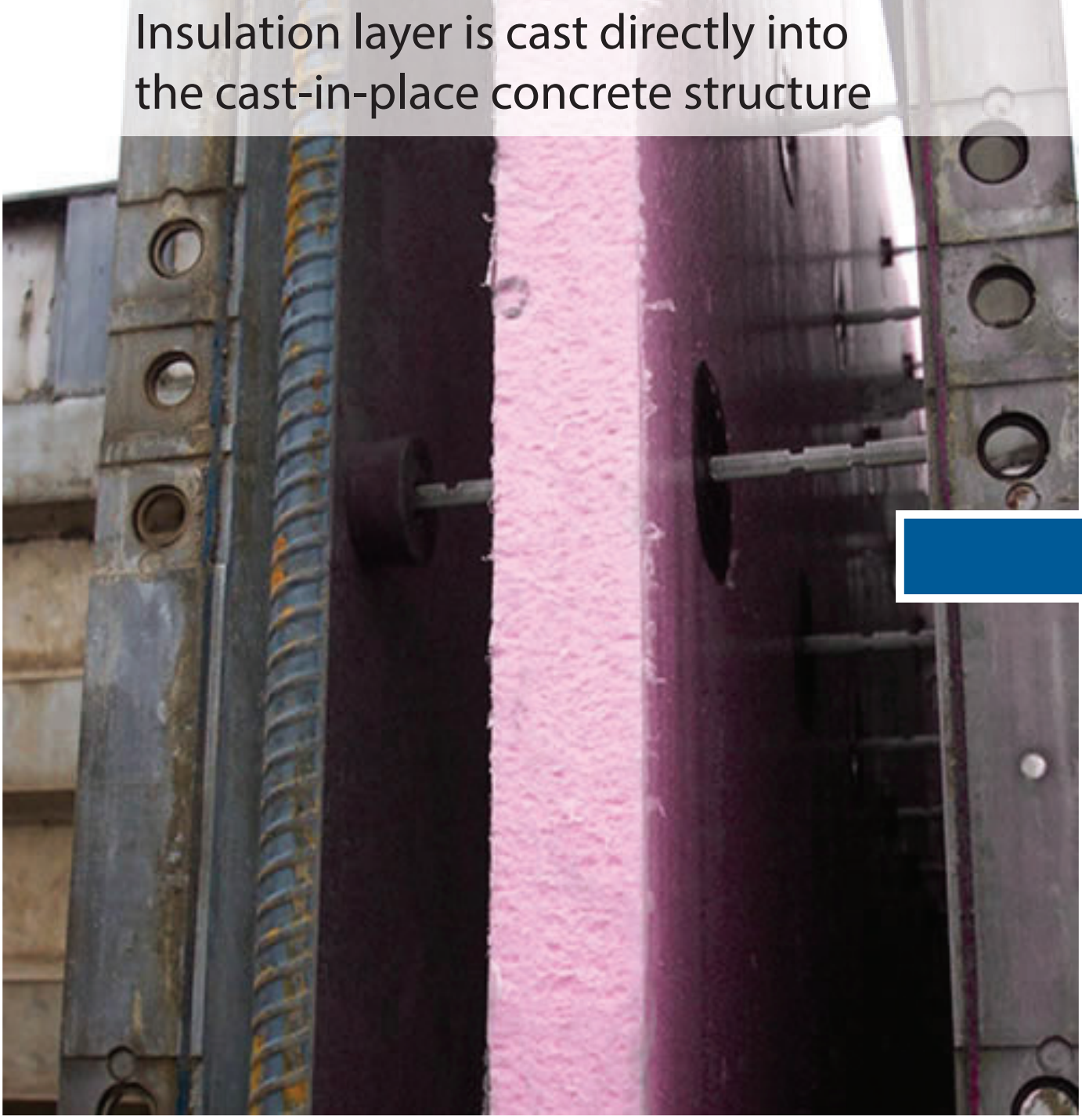


Project Description

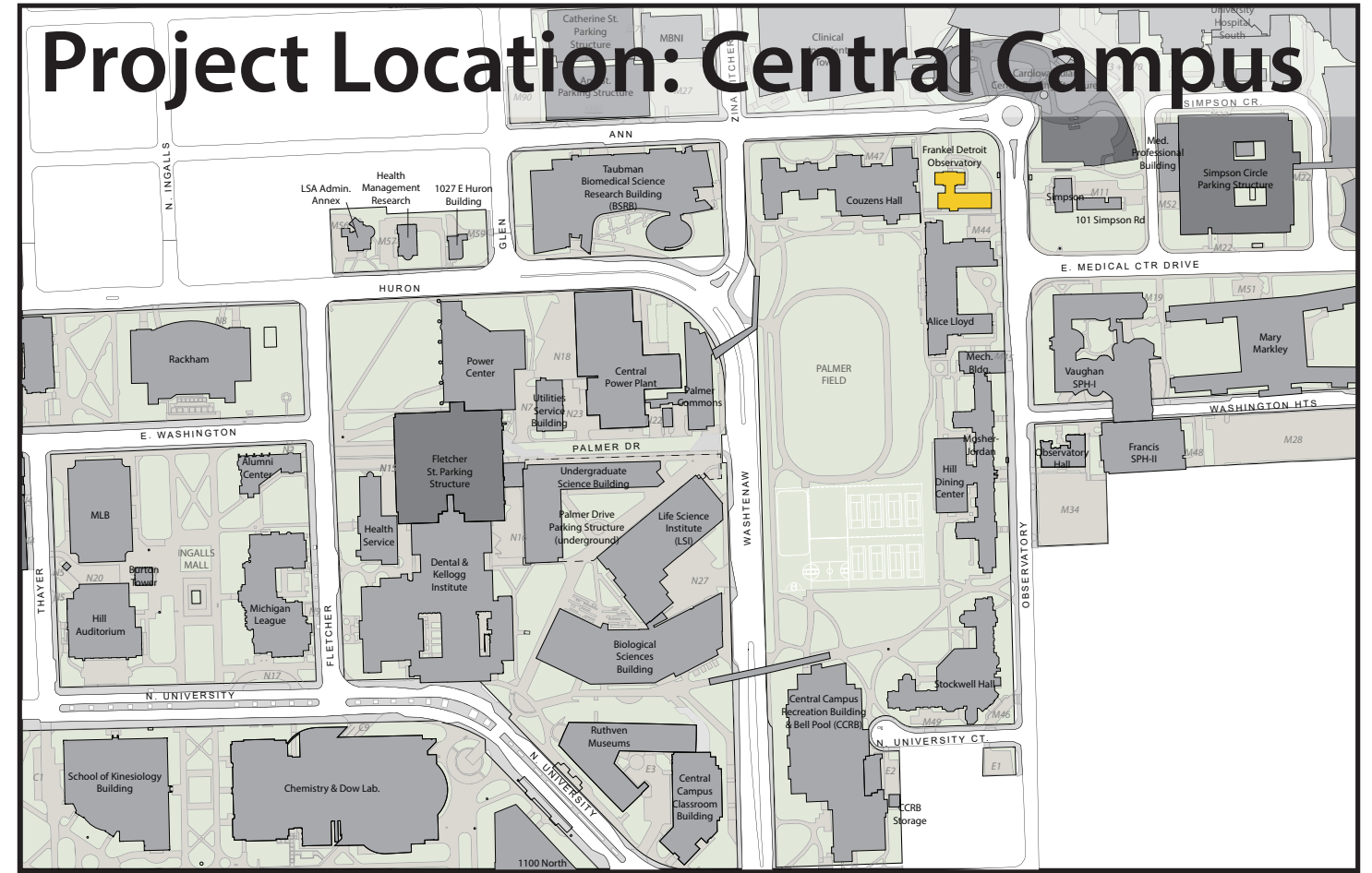
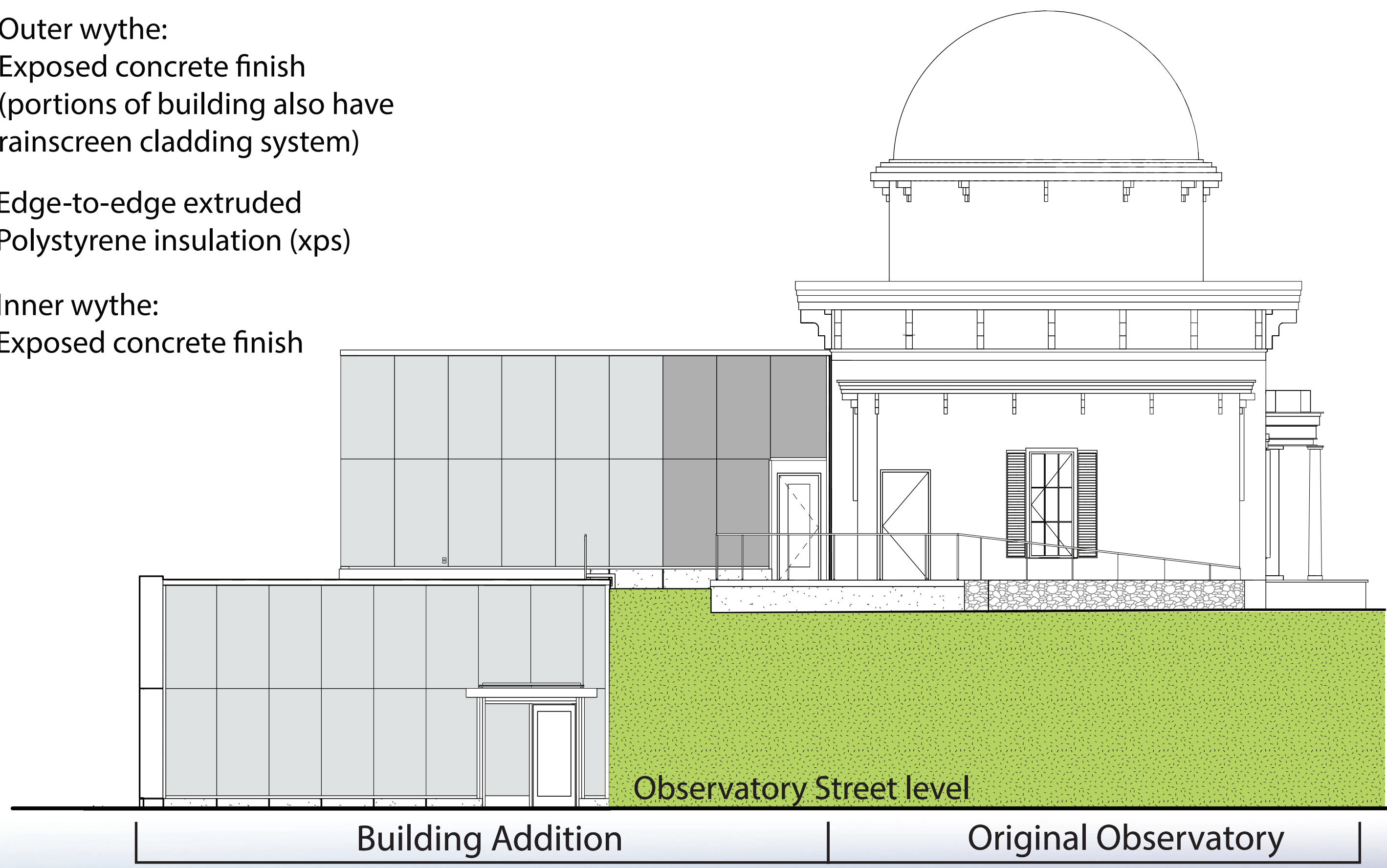
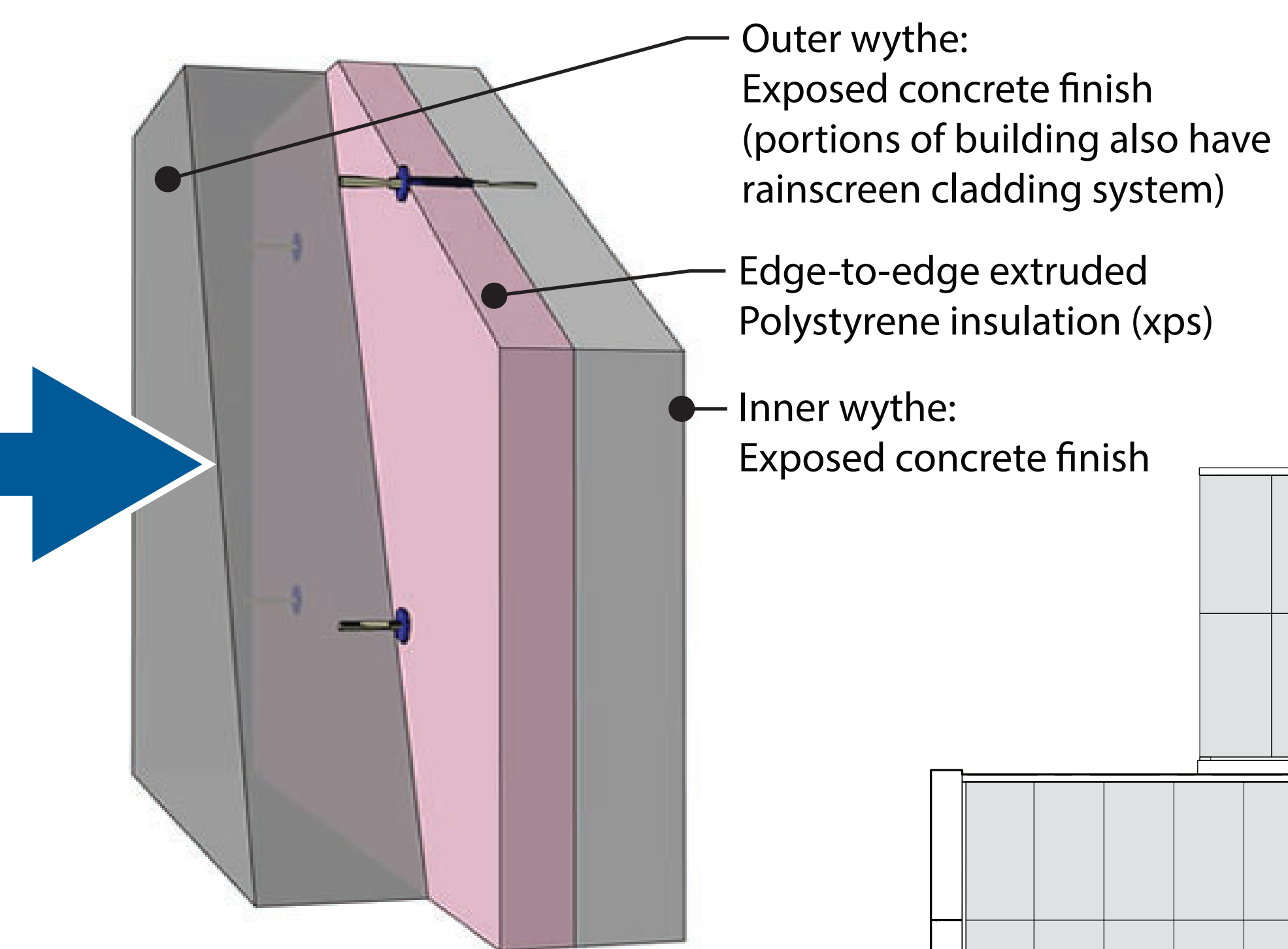
The Detroit Observatory is a historic resource for the university and surrounding community, but the lack in accessibility, classrooms, restrooms, and support spaces have hindered the ability to be a destination linking the university's history of scientific study to the

present and beyond. Through this project an addition of approximately 7,000 gross square feet was constructed to provide a flexible multi-use classroom, a new entry and reception area, restrooms, storage, and catering and support spaces. The new

addition maintains the historical character and setting of the original observatory and provides a prominent street presence to enhance the visibility while new ramps, an elevator and site improvements provide much needed barrier free access.



Insulation layer is cast directly into the cast-in-place concrete structure



Sustainability Facts

Detroit Observatory Classroom and Accessibility Addition (Addition Only)
 Building Use: Assembly/Classroom
 Location: Ann Arbor, Michigan
 Size: 7,000 Square Feet

ASHRAE 90.1 version	2013
Energy cost savings compared to ASHRAE baseline	10%
Total energy savings (Addition Only)	\$1,932/ year
Water fixture baseline	2015 Michigan Plumbing Code
Total water savings	49%
Roof (R-Value)*	Code: 30, Project: 30
Glazing - Fixed Assembly	
U-value**	0.42, 0.32
Solar Heat Gain Coefficient (SHGC)**	0.4, 0.3

Project Team

Owner	University of Michigan - Bentley Historical Library
Architect	Harley Ellis Devereaux
Engineer	Harley Ellis Devereaux
Contractor	AZ Shmina Inc.
Commissioning Authority	U-M AEC
Project Management	U-M AEC

Design Period: 05/2018 - 07/2019
 Construction Period: 7/2019 - 6/2021
 *The higher the R-value the better the insulating quality
 **The lower the U-value and SHGC the more energy efficient the window



Innovative Exterior Wall System

- Cast-in-place concrete with insulation sandwiched in-between
- Partially below-grade walls combined with the thermal mass of the cast-in-place concrete walls help regulate interior temperatures

Energy Efficient Envelope

Low 21% window-to-wall ratio provides enough natural daylight and views while creating an efficient thermal barrier

Accessibility and Project Site

- A new accessible building entry extends out to the sidewalk at grade level to support community participation, while an elevator improves accessibility
- Large screens in the addition broadcast digital feeds from the main telescope for special viewing events enhance connections to the community

