

Problem Definition

- Provide site/civil engineering design for the Heritage Community Courtyard
- Our Focus: Incorporate input and design feedback from the most impacted and direct stakeholders: UMD students

Heritage Community Courtyard Existing Conditions:

- 35,000 ft² of impervious pavement
- 15,000 ft² green gathering space
- 40 Bike racks, 34 located North of Yahentamitsi Dining Hall
- 5 Courtyard outlets, 34 individual concrete benches
- 30 : 70 green gathering space to pavement ratio

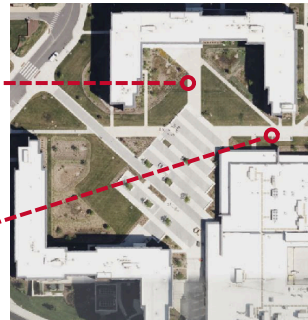


Figure 1: Heritage Community Courtyard

Design Priorities and Process



- Identified pain points via student survey, site visits, and area documentation
- Researched soil type in area, implemented permeable pavement to reduce flooding
- Referenced Site Resources Inc plans to complete Civil3D design and develop plans

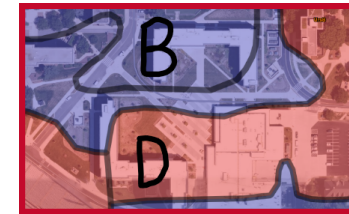


Figure 2: Hydrologic Soil Groups

Student Feedback*

48.3%

noticed stormwater management issues

96.6%

primarily use the outdoor space for navigating campus

72.4%

rate the flow of traffic as "efficient" or "very efficient"

Comments from Students

"Lack of bike racks, especially at Pyon-Chen"

"The overuse of concrete"

"Could use more to make it pleasing to the eye"

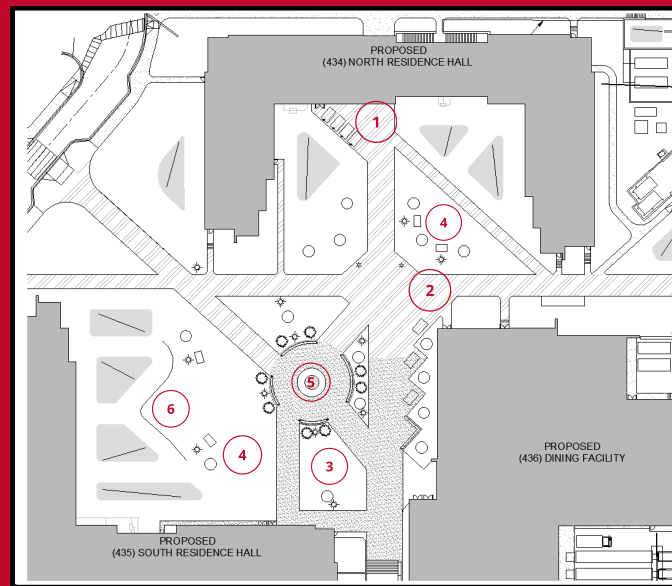
"Central to north campus and close to class buildings"

"It's easy to get into the main buildings"

"Not much to do"

*From 32 UMD student survey responses

Final Design Plan View



- Permeable Pavement
 - Typical concrete
 - Tree/Shrub
 - Light Fixtures
 - Benches
 - Bike Rack

Final Design Elements

- 1 Additional 7 bike racks, 9 benches, 10 outlets
- 2 10,000 ft² permeable pavement
- 3 80% reduction of impervious pavement
- 4 20% increase in green gathering space
- 5 Sidewalk maintains fluid traffic flow
- 6 Add art installations made by UMD Students

Working Histories

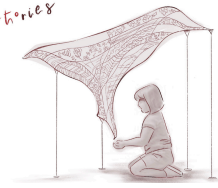


Figure 3: Example Art Installations from UMD POC Students