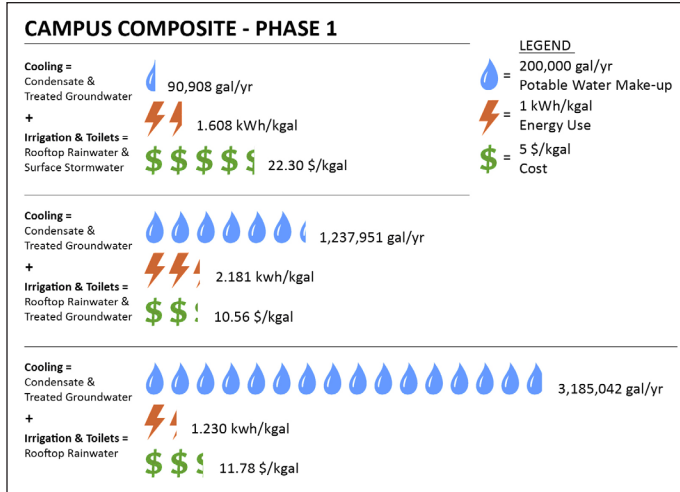


Carolina North Water and Energy Plan

Chapel Hill, North Carolina



Cost/benefit analysis of non-potable water sources

Biohabitats has played a key role in the planning and design of a 1,000-acre property owned by the University of North Carolina at Chapel Hill. The property, known as Carolina North, will be a research and mixed-use academic campus intended to promote synergy among research, business, science, law and technology. Envisioned

as a highly green environment, the campus is specifically designed to be a model of sustainability and to take advantage of the latest technological developments.

As Carolina North moves from planning to implementation, Biohabitats has begun engineering design of stormwater practices on the site, and

Integrated and sustainable energy/water solutions and innovative stormwater management strategies help a new campus optimize water and energy consumption, reduce greenhouse gas emissions, and limit impacts to receiving waters.

has provided valuable insight for the campus integrated water strategy by assessing local water sources and campus water demand. A water balance is a powerful planning tool, as it quantifies water demand and helps identify reasonable approaches for conservation, efficiency gains, or development of new sources. Working with the University, Biohabitats created a dynamic water balance model that examined a diverse suite of potential non-potable water supplies to meet cooling, toilet flushing and irrigation demands for the new campus development. The water balance was performed on a monthly basis, accounting for

seasonality of sources (such as surface stormwater) and demands (such as cooling). The effort included an integrated approach to water and energy, where various water strategies are investigated and evaluated based on potable water use, cost, and energy consumption. This effort aids the University in its goal of developing a campus dedicated to sustainability, with a substantial reduction in potable water usage expected based on this modeling effort.

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