



Appalachian State University Water Treatment Plant

Pilot Study and Design of Water Treatment Plant Boone, North Carolina

Hobbs, Upchurch & Associates conducted a water study and formulated a Master Plan for the University. A key component of the recommendations included recommendations for the water treatment plant.

Key Elements:

- Pilot study of two pressure membrane filtration systems.
- Design of microfiltration system that utilizes the existing water treatment plant as a backup for organic reduction.

Plant Design

The ASU water source is classified as a high quality water that is ideal for filtration with microfiltration pressure membranes. HUA designed a 2 MGD facility including pumping, membrane filtration, finished water pumping upgrades, chemical feed systems and upgrades. Based on a concern by the North Carolina Department of Environment and Natural Resources that development could affect raw water quality, HUA designed the system to continue to utilize the existing basins. Structural improvements were designed for the sedimentation basin. Should water quality deteriorate, organic removal can be achieved by using coagulation in the existing basin, prior to the membrane filtration.

The plant design is currently under review by DENR and the NC Department of Administration State Construction Office.