Maintaining building security for the University of North Carolina’s historic Chapel Hill (UNC-CH) campus requires continuous planning. To provide a higher level of access control for the 350 buildings supported by its Facilities Services/Life Safety Services staff, UNC-CH recently began upgrading to a proprietary key system that eliminates the possibility of unauthorized key duplication, and is simultaneously installing new policies to ensure proper tracking of all keys.

The 729-acre central campus is among the most beautiful in the nation, according to the American Society of Landscape Architects. Authorized in 1776 by the state constitution, it was the nation’s first state university and the nation’s only public university to award degrees in the 18th century. With more than 27,500 students from across the U.S. and around the world, the campus is undergoing a major renovation made possible by a $515 million bond issue for renovations, repairs and new buildings, with campus security and access control an integral part of the upgrade.

In order to improve key control and enhance security, administrators have implemented a patent-protected key system and added biometric access control to laboratories and computer facilities. The migration to a proprietary key system includes a patent-protected keyway that prevents unauthorized key duplication.

“No one else in the country will have this keyway. It is only for this campus, and I have to sign documentation to get the keys and cylinders directly from the manufacturer. We can cut the key blanks and pin the cylinders, but no one else can get them,” said Michael Burch, access control supervisor. “I am
getting ready to re-key two buildings, and I ordered 450 cylinders for one and 400 for the other. We just sent two staff members to the manufacturer’s factory school, and we’re looking at having them supply some of the cylinders pre-bitted to save us time.”

To control key distribution and eliminate master keys, the university is installing an electronic key cabinet in every building. This system notifies a supervisor if a key isn’t turned in and provides an audit trail, so each key – with its own serial number imprint – is accounted for. In addition to locks and keys, other door hardware also plays an important role in controlling access. Typically, touch pad devices are used where monitored electronic access control is needed. In some cases, Electric Latch Retraction exit devices are installed.

Higher security planned for critical areas

Doors that require enhanced access control are being equipped with standalone, microprocessor-based, battery-powered locks that feature an iButton port, 12-button keypad and a standard mortise cylinder. The lock stores up to 100 codes and allows administrators to easily add or delete users in seconds, right at the keypad.

For areas where even higher security is required, biometric hand readers are being installed on exterior doors, computer facilities and laboratories, providing necessary security for data and equipment, and to monitor after-hours access. The hand readers are utilized where a fairly large population of users exists. Each hand reader is a self-contained door controller that provides door lock operation, request for exit, and alarm monitoring. All information, including biometric data and decision-making capability resides locally in the unit, which ensures that the door is secure and will continue to operate properly even if all communications to the main access control computer are lost.

Specialized laboratories, such as those with Biohazard Level 3 designation, and areas with smaller populations of users will be equipped with fingerprint readers. Both types of biometric readers provide the audit trail information needed to verify that a specific person was in a given area at a specific time, not just his or her card or other credential.

Continued growth anticipated

As the campus continues to grow, Burch sees his department’s mission as ever expanding, since the university has more than 700 additional acres available and is planning a major expansion over the next five years. This will require adding to his current staff of 12 people, with additional skills in electronics and data management. The security system has been planned to accommodate this growth. Any additional buildings will incorporate the new high security key system as well as the biometric readers and key management software now being implemented.