

CAMPUS DEFERRED MAINTENANCE EXAMPLES

(Submitted by Institution)

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FORT HAYS STATE UNIVERSITY

Stone Masonry Deterioration:

Sheridan Hall, completed in 1916 was constructed of load bearing masonry walls. The exterior surfaces of these walls consist of coursed limestone, native to western Kansas. This particular type of limestone found in the Ellis county region, is a very soft and porous variety, as compared to that found in eastern Kansas. Given those qualities, this stone is very susceptible to damage from the repeated freeze/ thaw cycles of our climate. As moisture is absorbed into the stone during winter months and freezes, it causes cracking and spalling of the exposed stone surfaces. In past years, this type of condition has necessitated the temporary closing of some entrances, where a number of stone fragments fell onto pedestrian pathways below. To date, approximately \$250,000 worth of the most severely damaged stones have been extracted and replaced. Four years ago, the entire stone exterior was chemically sealed to retard the rate of damage to remaining surfaces. At present, a number of stones remain in need of replacement at the upper water tables and parapet walls.

Obsolete Electrical Transformer:

Picken Hall, completed in 1904 and 1908 is provided with electrical service through an aging electrical transformer located in the lower level mechanical room. As currently located in a very small equipment room, the unit is almost inaccessible to technicians providing service on this equipment. Clearances around the perimeter of the unit do not meet current electrical code requirements. Should this unit experience a catastrophic failure, it would be impossible to readily extract and replace it with a new unit. Delays associated with providing a new unit, at an exterior location, and reconnecting the unit to electrical distribution panels, would severely impact offices, classrooms and labs located within the building. This unit needs to be replaced with a new transformer of proper capacity and located external to the building, to provide ready service access. Five years ago, a similar condition existed at Custer Hall. During the summer, this unit failed and caught fire. Fortunately the building only suffered smoke damage on the lower level, where the unit was located. The entire building was without electrical service for several days, while emergency repairs were undertaken. These repairs included relocating the transformer to an exterior location.

Unreliable High Voltage Electrical Switch Conditions:

Concrete and masonry utility tunnels throughout campus contain the backbone of electrical, steam and telecommunication systems servicing academic and residential life facilities. A component of the high voltage electrical system includes switchgear located within these tunnels. Location of these components within a tunnel system creates obvious problems of accessibility for service to the units. Of even greater concern, is the fact this tunnel system lies completely within a 100-year flood plain. Should the campus ever flood, as it did in the 1950's, it is almost certain these switches would fail. If that were to occur, it would be impossible for technicians to gain access to the units and undertake necessary repairs or replacement. In 1993, this possibility was very real, as floodwaters reached within three feet of breaching the flood levy bordering the campus. Had this occurred, the campus would have been without power; until such time as flood waters receded to a point the tunnels could be safely entered. Five years ago, one of these switches was relocated to above grade. Other units remain in need of relocation, as a part of a comprehensive improvement plan for the campus high voltage system.

Cunningham Hall – Gross Coliseum Sanitary Sewer Line Replacements

Construction of Cunningham Hall – Gross Coliseum was completed in 1973. In recent years Physical Plant workers observed cracks in sections of cast iron sanitary sewer lines, where they crossed utility tunnel walls. This condition occurs at locations in Cunningham Hall, as well as Gross Coliseum. During repairs of failed lines, it has been observed that failed sections of piping also occur under concrete floors as well. In some areas, rusting sewer pipe has also expanded and heaved ceramic tile floors around floor drains. The full extent of the problem will not be known until a majority of larger sanitary lines are inspected with video cameras.