1 System Design

1.1 New buildings may be designed using either gravity or vacuum condensate return system to the condensate pump.

1.2 When designing new condensate pumps you can assume the campus main back pressure to be 15 psig.

1.3 Piping should not be run below grade.

Note: A number of University buildings in the past were designed with piping under the basement slab running to a sunken area holding the condensate pump. Without exception the below grade pipes have premature failure and numerous leaks.

2 Pressure Powered Pumps

2.1 Where pressure powered pumps are used the pump is to use 40 psig (+/-) pressure steam as the driving media which can be drawn from the middle stage of the two stage reducing station.

Note: Pressure powered pumps have been used repeatedly and successfully on campus. Be aware, though, that during times of low steam pressure these pumps lose motive power and have problems getting the condensate back to the tunnels.

3 Mechanical Pumps

3.1 Where mechanical pumps are to be used the pump system should be duplex, pad mounted (not bolted to the floor), and piped with flex connections.

3.2 Hoffman HC Series, Domestic, or Shipco can be used as a standard of quality and basis of design.

4 Vacuum Pumps

4.1 Vacuum pumps should only be considered as a replacement when the condensate pump is servicing older steam radiation devices.

Note: Vacuum systems have a number of advantages but have gone out of common use. Thus, it is not wise to force engineers unfamiliar with vacuum systems to use that as the basis of design.