31 70 00 Tunnels
Revision 01/04/2019

**Purpose:**
The Architect and/or Engineer shall incorporate the Rice specific requirements indicated in this standard’s section into their design. The Architect and/or Engineer shall further produce project specifications in line with industry standards that are updated to reflect these Rice specific requirements.

1. **General Requirements**
   a. The standard design is for poured in place tunnels. Prefab tunnels are not acceptable.
   b. Tunnels will have an exterior bentonite waterproofing.
   c. Conduits for lighting and power shall be surface mounted inside tunnel. Do not bury in concrete.
   d. Tunnel lighting shall be dual switched.
   e. Top of tunnel to be minimum 3 feet below top of grade.
   f. Architect/Engineer shall coordinate with Rice Project Manager and University Architect regarding at-grade hatches and ventilation assemblies prior to 50% Design Development.
   g. Entrances to tunnels shall be secured with cage doors similar to those currently in use. Coordinate with Rice Project Manager to visit an example.
   h. Walk paths in new tunnels shall be sufficiently sized to allow a person to walk upright unobstructed. Exceptions may be granted by the University where there is a conflict with gravity sloped pipes.

2. **At Buildings Basements**
   a. Where tunnels meet buildings there shall be a floodlight door (submariner door).
   b. For security, a caged door shall be installed just inside the tunnel.
   c. Penetrations into building basements will require double linkseals.