Vacuum System Design Specification

Only design / install dry house vacuum systems that do not use water for cooling, pumps with water bearings, or drain disposal of aspirant unless specific planned processes in the building (e.g. surgical medical procedures) require such a system.

Design house vacuum systems to trap any particulates or liquids in separators / traps prior to attaching house piping to commercially-available skidded vacuum pumps / accumulator.

Size skidded house-vacuum systems such that one pump can be shut down and isolated from the others and the house vacuum system for maintenance, while other pumps operate to maintain full vacuum for the building.

Install a 4? high berm around the house vacuum system in the mechanical room, and have no floor drains located inside the berm.

Ensure house vacuum separator, filter, accumulation tank, muffler, etc. have site-glasses on them, or clear-bowls or housings for in-operation visual inspection.

Ensure house vacuum separator, filter, accumulation tank, muffler, etc. have drain-ports available that are at least 24? above the floor or any obstruction under the drain port with ball-valve access for quick open/closed operation with a ¼ turn of the valve handle.

Install house vacuum system components in the following order-of-flow (see Appendix B for piping schematic):

1. Incoming piping from building attaches to,
2. T and pipe with vertical bypass leg at least 12? above the horizontal ?flow-through? pipe which attaches to,

3. Liquid separator with at least 4-gallon bowl attaches to,

4. Particle separator / filter with full-flow and maximum size100 microns particulate attaches to,

5. Post Separator / Filter T with vertical leg on the bypass at least 12? above the horizontal ?flow-through? pipe attaches to,

6. Inlet to the skidded vacuum pumps and accumulator commercial package vacuum system the outlet of which attaches to,

7. Single manifold and outlet piping which attaches to,

8. T with vertical leg on the bypass at least 12? above the horizontal ?flow-through? pipe attaches to,

9. Muffler and vertical leg to building roof which attaches to,

10. Post Muffler T with vertical leg on the bypass at least 12? above the horizontal ?flow-through? pipe attaches to,

11. Rain-guard and associated safe-exhaust piping on the roof with final outlet at least 120? above the roof surface and well-away from any air intakes / make-up air plenums on the roof.

See Appendix B for diagram.