

Sand Filter Plans Submittal

A. PLOT PLAN

- a. Scale drawing must show: direction of north, property lines or dimensions, direction of slope; proposed and existing structures; location of existing and/or proposed wells on this and adjacent properties; location of roads and driveways, position of creeks, streams, ponds, springs and other drainageways; proposed setbacks from all property lines; complete detail of the septic tank, sand filter, drainfield, replacement area and any other component of the proposed system. All plans must be submitted on maximum 8 ½ x 14" paper due to archival requirements.

B. ELEVATIONS

- a. Ground level at tank(s)
- b. Base of pump
- c. Ground level at corners of sand filter before and after excavation
- d. Top of sand filter
- e. Distribution laterals at sand filter
- f. Underdrain pipe invert
- g. Ground level at 1st disposal trench

C. SPECIFICATIONS

- a. Manufacturer for:
 - i. Septic and/or dosing tank and risers
 - ii. Pump or siphon model
 - iii. Liner (specification information)
 - iv. Filter fabric if used
- b. Pressure pipe, diameter(s) and rating
- c. Sand source and sieve analysis
- d. Effluent pump screen

D. CONSTRUCTION DRAWINGS

- a. Tanks (each one) – sealing, waterproofing, odor control, anti-buoyancy, risers, etc.
- b. Pump station – plumbing, valving, wiring, pull-rope, anti-air-lock, alarm setting, pump control(s) settings, effluent screen, serviceability, control support assembly, etc.
- c. Sand filter
 - i. Plan view – dimensions, distribution pipe lengths, spacing, and manifold.
 - ii. Side view (x2) – subbase content and construction, base grade(s), containment structure, liner placement and protection, sand and gravel layers and depths, filter fabric placement, backfill, etc.
 - iii. Distribution laterals – detail of orifice location, orifice shields turnups, threaded end-caps, depth of rock under and over.
 - iv. Underdrain pipe – detail of material, length, means of perforation (slotted or holes) and orientation of perforation, gradient, depth of surrounding rock, filter fabric, seal at passage through structure or liner, and boot detail.
 - v. Box construction – materials and methods, waterproofing, liner protection (concrete requires building permit, except for pre-fab).
 - vi. Cross section – North/South and East/West versus ground elevations, procedures of cut/fill and backfill.

E. HYDRAULIC CALCULATIONS

- a. Orifice size and number
- b. Total dynamic head and gallons per minute
- c. Pump selection – brand and model (provide pump curve)

All drawings must be done to scale legible on white paper. Submit in duplicate. A \$150 plan check fee is due at time of submittal.

Sand Filter Fact Sheet

The Sand Filter is a sewage treatment system which takes advantage of the biological and chemical processes by passing the effluent through a media of sand. The filter consists of a four foot deep watertight box containing layers of sieved sand and gravel as shown below. Each unit requires a pump to intermittently dose and distribute the effluent from the dosing (septic) tank into the filter. In most cases the filter is followed by a drainfield reduced to 1/3 normal size for final effluent disposal. Estimated construction costs are three to four times that of a typical standard tank and drainfield system. Plans must be submitted and reviewed before the permit can be issued. (see over)

