

**Living Filter Fact Sheet**

**University Park Campus**

* During the early 1960’s PSU researched land application of wastewater. The Living Filter is a full scale version of that research.
* Why full scale operation of the Living Filter?
  + Extensive Spring Creek fish kill traced to PSU drain disposal of chemicals.
  + PSU Consent Order to remove nutrients from Spring Creek to restore trout fisheries.
  + Extended drought period during 1960’s.
* Living Filter on area that in some areas has 100’ thick soil cover over 100’ of fractured bed rock, then groundwater.
* Living Filter consists of a total of over 600 acres, made up of 50% farm and 50% forest area.
* Permit application rate is 2”/acre/week. Actual rate 45 to 60% of permit.
* Currently PSU has no permit to discharge treated wastewater to the stream. Therefore nutrients are re-cycled for forest/crop production instead of going into Spring Creek.
* All treated flow from the PSU plant has been spray irrigated since 1983.
* 62.4” of effluent applied per year, plus over 38.35” of precipitation = 100.75” (8’-4-3/4”) of water per year.
* Over 500 million gallons of water annually is recycled into the Centre Region ground water reservoir.
* This recycled water helps the PSU wells, especially during drought.
* Plant effluent is pumped by 350 HP pumps approximately 2.5 miles from the plant in 18” DIP to the Living Filter.
* All spray heads set-back a minimum of 200 feet from property lines.
* There are 177 lateral pipes with over 3000 “Rain Bird” spray heads on the Living Filter.
* Spray head spacing: farm area = 73’ x 100’, forest area = 85’ x 85’.
* Generally, laterals are operated once a week, on 7:00 AM, off 7:00 PM.
* Laterals exposed above ground to drain after use.
* Lateral fill and drain lines are manual.
* There are 13 ground water monitoring wells, 175 to 350 feet deep on or near the Living Filter used to sample the ground water.
* There are 20 shallow depth (6 and 12 feet) lysimeters that can be used to monitor the upper soil.
* There are four real-time soil moisture and temperature monitoring stations in forest and cropped areas.
* The Office of Physical Plant has sponsored over $200,000 per year on research at the Living Filter since 1999.
* Over $2,000,000 during that time on crop management, crop/feed management, forest management, bird, small mammal, reptile, and invertebrates impact studies as well as wastewater treatment, ground water movement and quality studies.
* Numerous post graduate students earned their masters and or PhD degree on Living Filter research.
* The Wastewater Management Committee (WWMC) is an active group of scientists, engineers, and operations people that meet monthly to discuss and adjust the Living Filter management plan as needed.