

ADVANCED WASTEWATER MANAGEMENT CONCEPTS

- Created decentralized wastewater management guidance for USEPA
- Developed and implemented decentralized approach forums to educate various stakeholders
- Documented successful decentralized management programs in case studies
- Initiated a study of water quality impacts of soil-based treatment/dispersal systems
- Documenting capital and operation/maintenance costs and other advantages of decentralized approach to wastewater problem solving

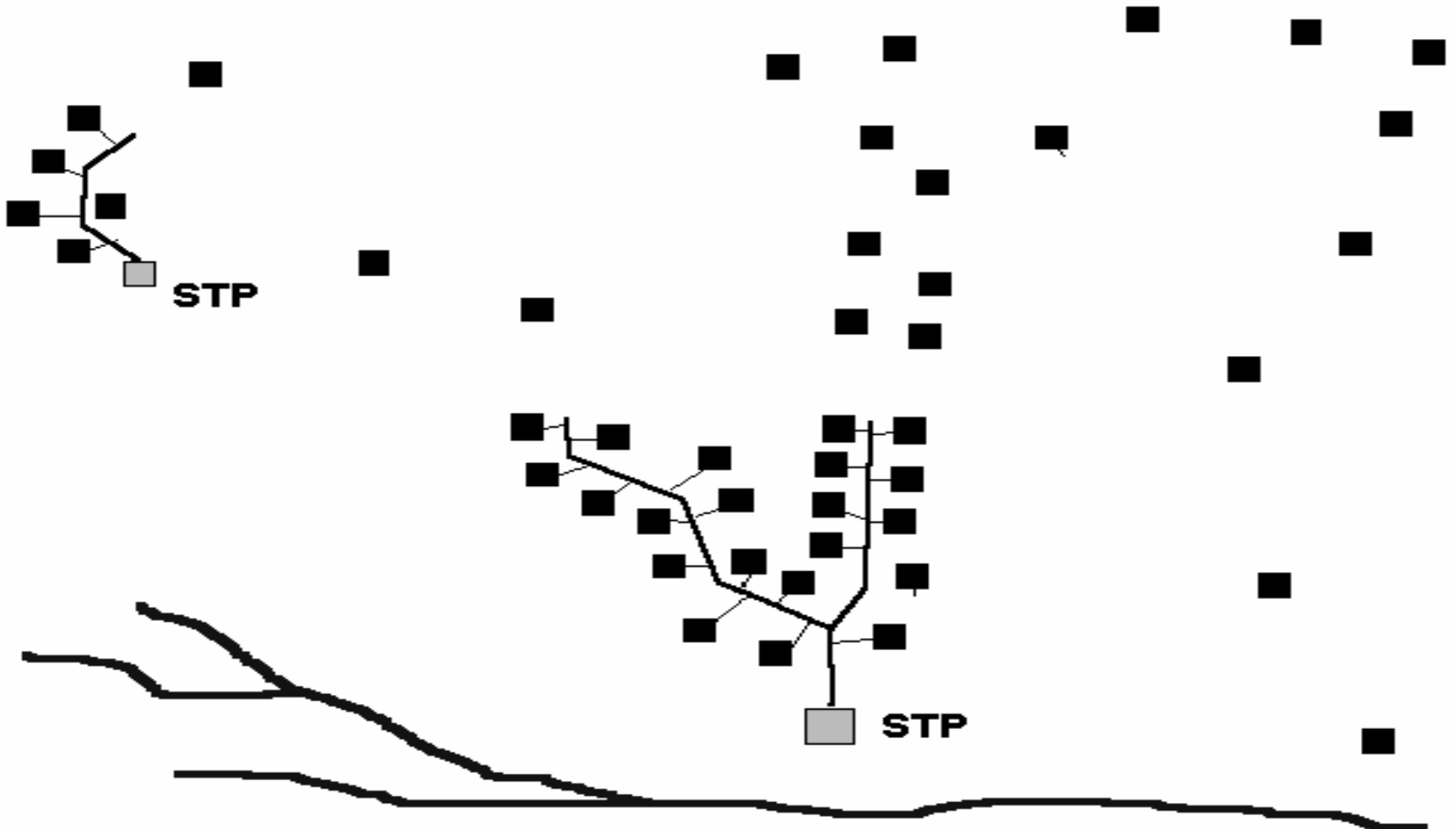
WHAT IS THE DECENTRALIZED APPROACH?

- Sometimes called “distributed systems”, decentralized systems minimize the need for long-distance transport/collection systems and the associated potentials for catastrophic health and environmental impacts, keep water close or in its originating basin, encourage multiple, low-maintenance treatment and dispersal systems in lieu of multiple high cost and O/M lift stations needed to reach a single treatment facility, thereby providing multiple reuse opportunities throughout the community, all managed by a single sustainable organization.

DECENTRALIZED APPROACH PRINCIPLES

- If it is not broken, don't fix it!
- Target worst problems first.
- Use low-cost collection, not conventional.
- Use low-maintenance treatment systems, not activated sludge.
- Prefer soil-based dispersal (GW recharge), not surface water bodies.
- Maximize reuse in all cases

DECENTRALIZED SOLUTION



DECENTRALIZED APPROACH ADVANTAGES

- Lower capital costs than conventional sewer approach
- Less duration and degree of community disruption during construction
- Reduced infiltration and exfiltration, reducing groundwater contamination and treatment impacts
- Maximizes reuse potential
- Reduces investment in unnecessary system capacity

APPLIED TO OLYMPIA, KY

- Several decentralized and centralized options applied to Olympia.
- The centralized (“big pipe”) options were all more expensive than the decentralized options
- A community-wide “alternative” technology option was also very expensive
- A combination of onsite and cluster “alternative” systems, all centrally managed, was the least costly option (\$6,000/edu capital and \$10/mo total cost). This is a real decentralized solution.

PRESTON INFORMATION

- Community-wide septic tank effluent collection system to pond and soil dispersal
- Most houses collected by gravity (STEG) and pay \$28/mo for sewage management
- Some houses served by STEP and are charged \$34/mo
- Fees will be raised to match higher-than-anticipated expenditures