Strategic Alliances
Decentralized and Centralized Treatment
Working Together

Allison Blodig, REHS - Infiltrator Water Technologies
• Past
  • Centralized OR Decentralized/Onsite
  • Onsite considered short term solution
  • Onsite an inferior solution

• Paradigm shift
  • Decrease in money for centralized infrastructure
  • Decentralized evolved and has been providing efficient and cost-effective alternatives
  • Currently can provide collection and treatment to more than 1 MGD
  • Engineers are finding creative ways to make the two options work together
Crowne View Development

- Located in Southern Missouri
- Nightly/weekly rental community
- Under Expansion
Original Development

- 33 Rental units
- 16-Plex rental building
- 18,000 gpd of flow permitted
- All treated by a local permitted wastewater facility
Permitted Flow Allocation

- 33 units = 12,850 gpd
- 16-plex = 4,375 gpd
- Only 2 additional units (778 gpd) would be allowed
New Addition Proposed

- 10 Rental units
- 10 Bedrooms each
- Additional flow = 15,000 gpd
Beautiful Location but...

- Sloping lots
- Rocky soils
- No place to put individual septic systems
Innovative Solutions Using Decentralized
Black/Grey Water System

- Changes to 16-plex:
  - Replumbing:
    - 20% or 875 gpd will continue to go to the local treatment plant
    - 80% or 3500 gpd will be treated by a new decentralized system

- New units will have split systems
Septic Tank Effluent Pump (STEP)
New Units Solution

Black Water = 3,500 gpd

- 2 units will share a 1,500-gallon 2-compartment black water tank
- 1.5” low pressure sewer main total 799 lineal feet
- Feeds into the existing low-pressure collection system
New Unit Solution

• Grey Water = 11,500 gpd

• Each unit will have 1-2,000-gallon tank
• 1,418 lf of 2” low pressure collection
Dispersal

- Treated water from 16-plex
- Grey water from new units

➢ Go to 23,000-gallon tank for dosing onsite
Soils

- Shallow separation
  - 15-36 inches
  - Rock
  - Rocky clay

- Steep vertical slopes
  - 15-35%

- Limited area

- Loading rate of 0.4-0.6 gpd/ft²
Drip Irrigation Chosen

Soil loading rate for Drip or LPP in MO

• ½ actual LR = 0.2 gpd/ft²

Area required

• 1.72 acres
• 6 zones = .288 acres each
Dosing Design
24 doses/day/zone
2,500 gpd/zone
Distributing valve
Status and Future

- About half of the rental units have been constructed
- Grey water is going to the 23,000-gallon tank
  - Pump and haul
- The 16-plex has not been connected yet
- The system should be online in 2020
Moving Forward

• Working together is always an option
• Balancing public health with sustainable growth takes innovation
• Technology is there and it is cost effective
• What about the thinking of engineers and regulators? Regulations?