Septage Receiving Made Easy:

Ten Things we have Learned

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Allegan Plant History

- Original plant built in 1938 along Kalamazoo River
- Major expansion in 1970’s to increase capacity to 4.0 mgd and provide secondary treatment
Plant History (cont.)

- Addition of new tanks in the 1990’s to accommodate loading from Perrigo Corporation
- Major Renovation project in 2008 to replace most process equipment and double organic treatment capacity. Added septage receiving as part of this project.
- Currently doing renovations on Treatment Train No. 3 built in the 1990’s
- Planned construction project in 2013 to add a second Septage receiving station and second UV disinfection channel.
Why Receive Septage?

- Revenue Source for Plant to maintain operations and pay down debt
- Additional points on SRF program
- Provides Service to the surrounding Communities
- Good for the Environment
  - Treated/Screened/Regulated
Up Front Planning & Marketing to develop Business Plan

- Do preliminary investigation to determine Market Size
  - Solicit letters from local septage haulers to request service
- Educate City Council/Leadership about benefits and risks
- Secure Funding for necessary improvements
- Talks at County Health Department septage meetings to inform local septage haulers
- Mailings to local septage haulers/City Website
- Coordinate with MDEQ/Apply for Septage Receiving Authorization
  - Provides for 25 mile radius zone for required hauling/disposal


**Septage Treatment Overview**

- Allegan’s receiving station has automatic filling system with card reader, automated valve, rock trap, flow meter and septage fine screen (0.25 inch) with 400 gpm capacity.

- A prefabricated building was built next to an existing, unused sludge storage tank which was rehabed/retrofitted for septage/WAS storage/mixing.
Septage Treatment Overview (cont.)

- Septage drains by gravity from screen to 200,000 gallon aerated mix tank

- WAS is directed to aerated mix tank and mixes with septage for approx. 3 days detention time
Septage Treatment Overview (cont.)

- Two PD pumps pump sludge from this tank to one of three on site storage tanks for aerobic digestion, settling/thickening, decant before final sludge removal for land application of biosolids
- City follows EPA 40 CFR 503 rules for land application
Wastes Received

- Allegan receives:
  - Residential septage waste
  - Commercial septage waste
  - Food establishment waste if mixed with domestic septage
  - Mobile home park raw waste
  - Porta-Potty waste
  - Industrial waste (preapproved only)
Total Septage Received

Septage Received (gal)

- 2010: 2,000,000 gal
- 2011: 3,500,000 gal
- 2012: 3,000,000 gal
Revenue Received

Revenue Received ($)
Septage versus Sludge Tank Decant

- P: Sludge Decant (mg/l) vs. Septage (mg/l)
- TSS: Sludge Decant (mg/l) vs. Septage (mg/l)
- BOD: Sludge Decant (mg/l) vs. Septage (mg/l)
- Ammonia: Sludge Decant (mg/l) vs. Septage (mg/l)
Total Sludge Hauled from Plant

Gallons Applied to Farmland

- Sludge Hauled Prior to Septage (per year)
- Sludge Hauled After Septage (per year)

Gallons Applied to Farmland

- 0
- 500,000
- 1,000,000
- 1,500,000
- 2,000,000
- 2,500,000
Provide Good Customer Service to Maintain/Increase Market Share

- Interact with Septage Haulers
- Ask them what would make their experience better
- Keep a tidy facility
  - Get the Septage Haulers to “Buy-in” to keeping it clean

- Provide “Perks”
  - Annual Open House
  - Door Prizes
  - Luncheons
  - Provide rubber gloves
  - Recognition to Largest Haulers – Jackets, hats, calendars, etc.
Load tracking should be automated
Billing once per month or incentive to prepay
Allow for flexibility in payment
Keep up with delinquent accounts
Bottom line – operate as a business
Unloading Operations

- Easy access and turn around/pull through
- 24 hour/7 day access, automatic gates
- Easy unloading
- Security cameras in place
Unloading Operations (cont)

- Washdown area with hoses/fittings provided for different sizes
- Forced air compressor unloading system
- Equipment reliability
  - Schedule maintenance during off times
Unloading videos
Unloading
Unloading Video with Air Supply
Competitive Rates

- Rates should cover:
  - Capital costs
    - Debt repayment for septage receiving facility
    - Debt repayment for any oversizing of other processes to accommodate septage
  - Operations costs
    - Electricity
    - Dumpster for screenings disposal
    - Water bills
    - Manpower costs
    - Equipment maintenance/replacement
    - Analytical testing
    - Sludge disposal – land application, etc.
Competitive Rates (cont.)

- Assume a conservative amount of septage in determining fixed cost repayment – if additional septage received, this provides cushion
- Compare your rates with your competitors!
  - If out-of-line, why??
  - Pay-per-load or per-gallon
- Distance versus convenience versus rates