Septic System Trench TDA-A National Overview

New York State TDA Workshop
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(based on 2005 research)
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VIDEO PRESENTATION
IT ALL STARTED IN SOUTH CAROLINA !!!

• SOUTH CAROLINA ----DEPARTMENT OF HEALTH AND ENVIRONMENTAL CONTROL

• “STANDARD FOR TIRE CHIPS USED AS AGGREGATE IN SEPTIC TANK ABSORPTION SYSTEMS”

• DHEC 12-95
STATUS BY STATE

• STATES **ALLOWING** USE IN DRAINFIELDS:
  – AL, AR, DE, FL, GA, IA, IL, KS, LA, ME, MI, MN, MS, MT, NC, NE, NJ, OH, OK, OR, PA, SC, TX, UT, VA, WV = 26

• STATES **NOT ALLOWING** USE:
  – AZ, **CA**, CO, CT, HI, IN, KY, MD, MO, ND, NM, NY, TN, SD, WA, WI, WY = 17
WHY ALLOW IT ?

• Late 1990s Studies:
  – Oct, 1999- Chelsea Study, U Mass
  – Sept, 2001- Univ. Buffalo
  – NCSU, GA State Univ.

• Leaching Studies
  --12 Studies during the 1990s, mainly to support Civil Engineering uses
BEST Summary To-date (2005)

- Small Flows Quarterly

- Fall, 2003; Vol. 4, No. 4.

- Pages 14 – 23
Physical Attributes

- Holds more water (62% vs. 44%)
- Lighter (1/3): Cuts installation time by ½; lowers freight costs
- Cheaper “aggregate” cost (1/3 the mat’l)
- Did not compact, settle or degrade (SC-8Yr. no degradation or damage by wear; 10 Yr. no settlement problems)
CHIP SPECS - OLDER

• **SC** - ½” X 4”; ½” wire, 90% compliance
• **VA** - ½” x 4”; ½” wire, 95% or 2” Nominal
• **GA** - ½” X 2”; ½” wire, 90%
• **NE** - ¼” X 2½”; _____, 95%
• **NC** - ½” X 4”; ½” wire, 95% or 2” Nominal
NEWER SPECS

• Based on ASTM Standard D6270-98 Standard Practice for Use of Scrap Tires in Engineering Applications

• Univ. of Maine Material Spec for Tire Derived Aggregate (TDA)
  - **Type A** 4 sieve sizes- 100% 4 “, min. 95% 3”, min. 50% 1.5”, max 5% No.4 sieve
  - **Type B** 100% >18”, min 75% 8”, max 50% 3”, max 25% 1.5”, max 1% No. 4
Even Newer Specs

- **FL-** 7 sieve sizes
- **NJ-** Type A sieve sizes (4)
- **NC-** Original spec...or size 2, 3, and 24 of ASTM D-448
National Utilization of TDA in Septic Applications

- Data is incomplete:

  **2005 RMA Market Study**

  - 49 million tires (xx%) in CE; no breakout by landfill, septic, or fills
    - 75% of CE in just 8 States (TX, NC, VA, IA, MN, OH, SC and Maine
    - So, no figure on septic use
The Virginia Experience

- **Approved in 1997** by VDOH and VDEQ solely on basis of SC experience
- Septic specs set at State level; have to be used at local level
- Utilized (5 years) a tracking system for each installation (“just in case”); abandoned in 2005 as “too much paper”
DEQ Marketing Efforts

- Notified all registered contractor, local Health officials and all tire processors
- **Overnight market success**; but not enough supply
- Settled out to a few larger contractors, especially on VA’s Eastern Shore and Southside Virginia (far away from stone)
- VA chips still being used in SC
“The Lesson”

• “Government can create a market, almost overnight, by changing government specs, when appropriate”
THE END