Sara Heger
sheger@umn.edu
septic.umn.edu
H2OandM.com
• Program began in 1974
• Professional Training – Septic System: Designers, Inspectors, Pumpers, Installers
• Research and Demonstration
• Homeowner Operation & Maintenance
• Small Community Wastewater Solutions
• Housed within the Water Resources Center
Presentation overview

- Why this project?
- Project objectives
- Tool
- Using the tool
- Next steps and timeline
Collaborative effort

- Funding: National Institute of Food and Agriculture (NIFA) grant
- Lead institution: University of Minnesota, Sara Heger (PI) and Dave Gustafson
- Project development team
  - Iowa Department of National Resources, Dan Olson
  - North Carolina Onsite Water Protection Section, Nancy Deal
  - Southeast Wastewater Initiative, Aaron Wills & Sheila Craig
  - University of Arizona, Kitt Farrell-Poe
  - Wastewater Education, Dendra Best
- Tool/database support
  - The Carney Group, Jules Inda and Pat Carney
Why a Community Septic System Owner’s Guide (CSOG)?

- Management is critical
- Increase in cluster systems and advanced treatment systems with more critical management activities
- Need for customized information
Why an online tool?

- There wasn’t one!
- Everything is going electronic
- Allow for national perspective on management
- Allow for local variation
- Ease in updating in the future
- National clearing house
How much wastewater are we talking about?

- 25% of the US population
- 70 million Americans
- 5 billion gallons per day
- ~33% of all new construction
- Unquantified number of commercial properties
  - strip malls, resorts, restaurants, gas stations and similar
- US EPA estimates that there are more than 350,000 existing large-capacity septic systems (serving more than 20 people) nationwide
Share of new homes built with septic systems by region, 2013.

- East North Central: 28%
- New England: 51%
- East South Central: 36%
- South Atlantic: 13%
- Middle Atlantic: 19%
- West South Central: 10%
- Mountain: 11%
- Pacific: 8%

Data: National Association of Home Builders
Why so many decentralized systems?

- Lack of space for individual system replacement
- Reduction of load allocation for meeting total maximum daily load standards
- Reduced costs compared to wastewater treatment plants
- Smart growth initiatives
- Development and redevelopment occurring outside the reach of municipal sewer extensions
• Bridge the gap between septic system professionals, regulators, and owners
• Produce sound management guidance from the perspective of a system owner
• Raise the bar for management expectations
• Educate system owners to clearly define long term maintenance activities
  • Increased system performance
  • Long-term cost-savings
Project objectives

• Develop content and a web interface to produce an expert-driven and locally-customized manual for any soil-based wastewater treatment system (does include surface discharge, but not wastewater treatment plants)

• Provide owners and users with fundamental information about the operation and management of their systems

• Electronic or hard-copy

• Can be updated if the system, user or other details change
• H2OandM.com is an online tool to create customized homeowner O&M manuals for onsite septic systems from a single family home to a large cluster system

• The tool will work for newly designed/installed systems or those that have been in the ground a long time
Tool is a survey

- Boilerplate sections written by team
- Allows the input of local information
  - Number of connections, treatment train components, local permitting issues, rate structures
  - Any regional, state, or local differences in regulations that affect the management of community systems.
- Only need to be entered once to minimize development time for each O&M Guide
Audience for project

- **Online tool:**
  - Developer
  - Engineers/Designers
  - Installers, Operators, Service Providers
  - Regulators,
  - Facilitators, and
  - Informed community members

- **H2OandM guide**
  - Individual owner of a septic system
  - Homeowner part of cluster system
What will be in each H2O&M guide?

• The specific treatment train components and how they work, in addition to the service activities and frequencies
  • Text
  • Diagrams and pictures
• The management issues, challenges, and operations plan each system has identified and implemented to ensure long-term, effective wastewater treatment
• The operational responsibilities each system user must accept to protect the infrastructure from preliminary failure
Where does content come from?

- Each H2O&M guide will be a combination of:
  - Boilerplate content and imagery that has been critically reviewed by project development team
  - Locally customized content and images
- What if user of tool doesn’t know key info?
  - Tool will send user to other resources
• A septic system professional creates an account where all their projects are stored
• Using the web interface they enter specific site and system information
• Tool creates an electronic or hard copy O&M manual which includes
  • stock image and text
  • customized information entered
Welcome to Community Septic: Owners Guide On-Line Tool

About This Tool
This tool is designed to develop an Owner’s Guide for everything from a single-family home, to a commercial property, to a cluster system serving 50+ homes. Some key things to keep in mind about the tool:

- It contains generic stock/boiler plate general information, system component descriptions and images, and operations and maintenance (O&M) recommendations
- It allows you to upload site specific descriptions, images and O&M recommendations
- It will produce a PDF guide For homeowners and businesses to use electronically or printed out
- It allows you to start and stop a project during the process and update it years later when things change
- It does NOT cover every scenario that exists across the US, but we hope it covers a vast majority of them!

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This tool is funded by the National Institute of Food and Agriculture and created by the University of Minnesota.
REGISTER

First & Last Name *

Phone *

Address *

City *

State *

Zip Code *

Company Name:

Email *

Password *

Confirm Password *

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SIGN IN

sheger@umn.edu

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Don't have an account? Sign Up
Welcome Sara Heger of University of Minnesota

This is your own account home page: a dashboard for your current projects and portal to all of your information. Use the Account menu at the top to navigate within this section of the website.

Edit Your Profile
Add or edit your personal information like email, login credentials and address.

Create New Project
Start a new project to generate your own Owner's Guide PDF for your system.

Manage Your Image Library
Upload images to quickly access them throughout all your projects
My Projects

Manage all your existing projects or start a new one. You may change the display order by clicking the up and down arrows next to each project.

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Sections of tool/guide

• In-home plumbing – type, access and O&M
• Collection – type, access and O&M
• Tanks – type, access and O&M
• Advanced treatment systems - type, access and O&M
• Final treatment and dispersal – type, access and O&M
• General use and operation
• Specific O&M and options for extending life
• Problems/Troubleshooting
Sections of the tool

Wastewater Treatment System

Sources

Wastewater treatment system

Check the relevant box to indicate the type of contributing source.

Residential

Check this box for conventional domestic system.

☑

In-home business

Check this box for a conventional domestic system which also accommodates additional commercial inflow and enter text as a sentence to describe.

☑

Church
Completed guide
Tool advantages

- Value added information to customer
- Professional/third party recommendations on O&M activities and home management tips
- Ability to update the O&M manuals as the system or user changes
- Capability to create templates for commonly designed, installed or serviced systems
Next steps and timeline

• Tool available at H2OandM.com

• Training will be conducted in 2016 at conferences and via webcast

• Interested in training opportunities, questions or feedback:
  • Sara Heger an email – sheger@umn.edu
Acknowledgements

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