establishing successful RMEs

FACT SHEET **7**

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# developers, designers, HOAs, & contractors

**READ THIS FACT SHEET IF...**

**you are a developer or a homeowner association member with a need for management of decentralized wastewater systems, or a designer or contractor providing services for decentralized systems.**

This fact sheet gives some management tips for making better and more sustainable use of decentralized systems through the implementation of effective responsible management entitities, or RMEs (*Fact Sheet #1*). While developers, designers, homeowners' associations, and contractors are not RMEs, they each play important roles in ensuring appropriate environmental and public health protection through the operation of decentralized systems.

## FOR DEVELOPERS

**What is the opportunity?**

A developer's role is to build infrastructure and then to sell it to homeowners. Because wastewater infrastructure managed by an RME offers "sewer" service outside of traditionally sewered areas, it can significantly increase property values.

There is also real opportunity to emphasize sustainable, low-impact development (LID), and smart-growth approaches by clustering systems, as opposed to building on-lot individual systems.

Providing options for water reuse can be more attractive to potential buyers. Decentralized systems treat wastewater close to where it is generated, and enable greater reuse locally.

There is also a potential benefit to the developer who is able to increase development density by installing a wastewater system that can serve multiple lots.

**What strategies do developers use?**

Developers set up lasting arrangements to ensure that systems continue to function well after they sell properties. This approach begins with high quality soil/site evaluation, system design, and installation. The process continues with safeguards to ensure operation and maintenance, which in turn supports project marketability, maintains developers' reputations, and gives regulators confidence in the approach. Developers use several strategies to facilitate sustainability for decentralized, cluster, and distributed systems after they leave:

- "Partner" with an existing RME *(Fact Sheet #6)*.
- Expand beyond site development to a more design-build-own-operate model *(Fact Sheet #5)*.
- Take legal responsibility for the formation of a homeowners' association (HOA). Past experience with HOAs has been uneven, so regulators may need to be convinced that the developer is prepared to successfully implement this model *(Fact Sheet #4)*. Often the developer controls the HOA until 51% of the lots are sold or some other threshold is met. To do this:
  - The developer creates the HOA as part of the Restrictive Covenants and Deed Restrictions. From this basis, amendments can be easily made to include and set out the technical, managerial, and financial guidelines for the HOA.
  - A HOA must have good guidance to develop and follow a viable business model. They must establish a basis for fees and an annual dues structure that includes provision for O&M as well as emergencies and longer term repair and replacements. The HOA will need to establish service provider contracts, and the developer and installer should have shared responsibility for a certain number of years of system operation.

**Developers ensure long-term system performance through partnership with an RME.**

Connexus Waterways in Minnesota is a point of contact for developers interested in third-party ownership and maintenance of decentralized treatment systems. The developer may install the system to Connexus' specifications and deed it to Connexus, who becomes the RME taking responsibility for the system's performance. Alternatively, Connexus offers the complete service of system design, permitting, construction, O&M, continuous system monitoring, and ongoing management. (See www.connexusenergy.com/waterwayshome.htm for more information.)

## FOR DESIGNERS

**What is the opportunity?**

Designers can work with a developer (to design new systems in a subdivision, for example) or with a HOA to design replacement systems or repairs.

**What strategies do designers use?**

- *Designer as planner of system:* Designers need to plan and specify systems that effectively treat and disperse or reuse wastewater and are efficient in terms of their O&M requirements. Designers have a difficult challenge, in that developers often focus only on capital and installation costs, and have less concern about operation and maintenance costs borne by the future homeowner. A designer will have to negotiate to find a balance. One strategy is to calculate life-cycle costs and impacts (see costing resources developed for decentralized wastewater systems under *Related Resources* at the end of this fact sheet) and use these to negotiate leverage points so that developers get returns, purchasers get systems that work, and public health and the environment are protected.
- *Designer as inspector of installation:* This is a critical role. Poor installation can render a good design inoperable. Successful construction engineering includes checking for consistency with plans, documenting any compo-

nent substitution, and documenting component locations, the installation process itself and testing of components, as needed, after they are installed.

- *Designer as developer of operation and maintenance manual:* Good designers supply these as a matter of course, and HOAs often require them. The manuals need to include specifications of installed equipment, operating requirements for system components, required maintenance activities and frequencies, and replacement schedules for system components. Operation and maintenance should include periodic system inspection by a qualified professional, who is often also a qualified designer.

**A designer provides operation and maintenance services.**

**After five years of operation, ecological engineering design company North American Wetland Engineering (now Jacques Whitford NAWE) created a separate division, EcoCheck (www.ecocheck.com), to offer contractual O&M services for decentralized water and wastewater systems.**

**This arrangement provides high quality management for the systems that NAWE designs and installs, which in turn helps maintain the company's good reputation.**

## FOR HOMEOWNERS' ASSOCIATIONS

**What is the opportunity?**

Developers increasingly use home owners' associations as legally responsible entities for cluster systems and other distributed infrastructure. However, HOAs have extremely varied levels of functionality in this role—and few have performed well. Regulators across the country are increasingly concerned about the long-term performance and accountability of HOA-managed systems, especially since HOAs can dissolve, leaving no one responsible for system management. Furthermore, the risks and consequences of unmanaged wastewater systems are considerably greater and more serious than lapses in other typical HOA-managed services, such as trash collection.

Issues around sustainability and lack of professionalism can interfere significantly with the success of this model. Lack of consistent, effective leadership in HOA boards has resulted in failure of this model in some situations. Some states will not accept HOAs as management entities because of poor experiences in the past, or because the dangers and pitfalls are deemed too great. Prospective HOAs looking to take on decentralized wastewater management responsibilities need to be aware of the long-term professional commitment required for success.

Typical characteristics of a HOA include (*Fact Sheet #4*):

- Boards are voted in by (and therefore represent) members.
- Membership in the HOA is generally required as a condition of purchase or ownership.
- The HOA is responsible for maintaining community infrastructure, often including large-scale wastewater system elements such as collection systems and community drainfields.

Management of the wastewater systems is in the interest of HOAs, because system failure leads to repair costs that affect all owners and that may even affect property values.

**What strategies do HOAs use?**

While HOAs could hire staff to perform maintenance, usually HOA boards end up managing a variety of contractors who perform various services (engineering, inspections, septic tank pumping, permitting assistance, etc.). Ideally, the HOA should be required by covenant to have a long-term maintenance contract with a licenced qualified operations and maintenance provider or RME (*Fact Sheets #5* and *#6*), as this eliminates piecemeal work. In addition, it is often preferable that the homeowners pay up front for the year so all O&M fees are collected in advance and deposited in a designated account.

**This fact sheet was prepared by the Institute for Sustainable Futures at the University of Technology Sydney in Australia and Stone Environmental, Inc., in Vermont.**

**Learning from municipal trash-haulers: A consortium to help existing contractors expand and provide long-term services.**

Forty-nine independent trash-hauling companies in the Minneapolis region, aided by their industry association, formed a consortium that has been contracting with the City of Minneapolis since the 1970s. The consortium has its own staff to coordinate operations and to provide additional services such as collection of recyclables. It subcontracts its member-shareholders to service their combined customers, making sure that no individual member company suffers a loss of customer numbers. The consortium—now with 12 members following mergers and acquisitions—has operated successfully for more than three decades and has been re-awarded the contract in a competitive bid.

The model holds promise for creating an entity to improve management of existing decentralized systems, for which RMEs usually avoid taking responsibility. A consortium of wastewater transporters could bring in other actors to provide a complete management service, filling this critically important gap.

It is important to ensure the bylaws of the HOA include provisions that enable the wastewater system to last as long as the houses do, and to function well for many decades. This includes ensuring an adequate budget for routine maintenance, and a "sinking fund" for major repairs and replacements as well as emergencies. It is also important for HOA boards to have adequate oversight processes to monitor transactions, consistent with the requirements for utilities.

The bylaws of the HOA must also identify homeowners' responsibilities towards the wastewater system: water use, garbage grinders, inappropriate disposal of pharmaceuticals and other chemicals down the drain, failure to pay, shut-off requirements, and safe management/reuse of treated effluent.

## FOR CONTRACTORS

**What is the opportunity?**

Pumpers, maintenance providers, inspectors, and engineers all play roles through contracts with the HOA or developer to provide services that are essential for the good performance of decentralized sysems. In some cases, RMEs contract for almost all the services they provide:

- The not-for-profit sewer company Ozarks Clean Water Company in Missouri outsources around 90% of its RME functions, such as design, engineering, installation, and maintenance, to White River Valley Environmental Services.
- Minnesota O&M service provider Ecocheck (see above) joined with the electricity cooperative Connexus to create the RME Connexus Waterways. The contract with Connexus constitutes around 25% of Ecocheck's business.

Licensing requirements are variable, from profession to profession and from one locality to the next, but contractors must be properly licensed for whatever work they perform.

## RELATED RESOURCES

There are several costing resources that can help designers make life-cycle cost arguments for the installation and operation of systems aligned with good design. See, for example, the Australian publication *Costing for Sustainable Outcomes in Urban Water Systems—A Guidebook* (www.waterquality.crc.org.au/publications/report35_costing_sustainable_outcomes.pdf) and the guide for asset management commissioned by the National Decentralized Water Resources Capacity Development Project (NDWRCDP) *Decentralized Wastewater System Reliability Analysis Handbook* (www.ndwrcdp.org/userfiles/WUHT0357.pdf).