Acknowledgements

We would like to acknowledge the efforts of Bob Siegrist, Ph.D., and his colleagues at the Colorado School of Mines, who originally developed the research protocol for this study. We appreciate the input and direction provided by Ted Louden, Ph.D., McChigan State University, Doug Joy, Ph.D., University of Georgia, and Larry Nelson, Ph.D., North Carolina State University (Emeritus), who reviewed the protocol, the final project report or statistical design for the study.

We also acknowledge the substantial efforts of those who served on field performance assessment teams or who helped coordinate assist with its implementation. These individuals included Oregen DIO, staff Ed Woods, Chuck Marmon, Mike McKeen, Russ Olson, Brian Poff, Bob Baggett, Del Clincie, Larry Brown, and Berny Duffy; Clackamas County soils staff Larry Olander, and Karen Livingston; Deschutes County staff Don Hallerstrom, Jerry Kathan, and Jeff Friend; and Clackamas and Deschutes Counties GIO staff, as well as environmental health specialists, soil scientists, geologists and technicians, including John McKelvey, Stephanie Maccav, Ryan Davenport, Christine R. Reitz, John Davis, Tony Saccio, Beth Chagaris, and Amy Morgan from North Carolina and Oregen.

We also appreciate the assistance of homeowners who allowed us to evaluate the performance of onsite wastewater systems at their homes. Finally, we acknowledge the project funding agencies, Environmental Studies Group and Infiltrator Systems, Inc., for funding such a broad, independent, third-party research study of both chamber and traditional aggregate-laden septic systems across two divergent climatic zones.

Note that while we appreciate the assistance of these individuals, organizations, and funding agencies, the views expressed in this paper are those of the authors and not those of the collaborators mentioned, their institutions or funding agencies.

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Editor’s Note: This column is a response to calls received over the National Small Flows Clearinghouse (NSFC) technical assistance hotline. If you have further questions concerning landscaping septic systems, call 800-624-8310 or (303) 282-4191 and ask to speak with a technical assistant.

The following is a fact sheet published by the University of Minnesota College of Agricultural, Food and Environmental Sciences.

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Landscaping near and around septic systems is of concern to many homeowners. Whether craneflies or mounds, improper septic systems must have a minimum of three feet of unsaturated soil between the drainage field or point of infiltration and limiting soil condition such as hardpan, bedrock or water table that is properly treated wastewater. A mound system is required if three feet of separation cannot be achieved with an in-ground trench system. Mound systems are designed to maximize the absorption capacity of existing soil (see Figure 1). Mound location, size, shape, construction procedures, and maintenance of the mound all impact its performance in determining how well the system will function. Placement of plants on or near the mound must be done with care to ensure a properly functioning septic system. Plants enhance the system by removing moisture and nutrients from the soil and providing cover to prevent erosion.

Mound Placement

A rectangular mound rising 18 inches to 5 feet above the surface of a relatively flat home landscape may be quite noticeable and possibly very unattractive. Careful design planning before the mound system is installed can help to create a sustainable landscape with lower maintenance costs, greater environmental benefits, and much higher aesthetic value. Mounds can be placed to suit individual landscaping and lot size needs (see Figures 2 and 3). Properly landscaped areas around the mound can serve as privacy barriers, wind breaks for homes, and a screen from unsightly views. As a homeowner considering the placement of a septic mound, know your options. The earlier in the process that you become involved in expressing your preferences, the more options you will have. For instance, before the house is designed or built, potential septic locations, along with soil borings and percolation tests, can give some control over the placement and final outcome. County or city ordinances set distances from septic fields or leach lines, based on the appropriate state standards and rules (typically 100 feet or 10 feet from property lines (P.L. 30) (see Figure 4). Additionally, on even a slight slope, it is paramount that the mound not be located on the contour for proper operation of the system. Soil must not be moved to create a different slope, as this reduces the ability of the soil to accept the effluent. Once the drain-
field or mound is determined, protect it from compaction and disturbance to ensure proper sewage treatment. When planning a landscape, there should be an invisible or concept line the eye follows around the yard (see Figures 2, 3, and 4). Where space allows, this line is a graceful curve that represents the division between two different types of plant material (turf or ground cover versus shrub) or between plants and hard goods (turf, ends and the shrubs begin. If your property is large enough to plan an unbroken turf area as the first priority, then place the septic system beyond the concept line becomes a real bedline where the lawn and the shrubs end, disguising it as part of a natural feature. This can make a dense cover and only need to be moved once or twice a year. More in October and late June to reduce weed growth. Fescues, such as fine fescues, can tolerate dry soils and shady sites. A mixture of fine fescues, grasses, such as creeping red, hard, and sheep’s fescues (Festuca rubra, Festuca longifolia, Festuca ovina), in equal proportions can be seeded at the rate of 3.5 pounds per 1,000 square feet. Traditional lawn grasses, such as common Kentucky bluegrass and perennial ryegrass, can be planted on a mound and regularly mowed. Mowing will increase evaporation from the mound and aid in root control. Perennial flowers, such as daylilies and peonies, can be grown; however, extra care must be taken to mulch or plant close together so soil will not be exposed and erode. Low maintenance plants that do not need tending and care (remember minimal traffic on the mound) are best. Enjoy from afar, and do not walk on the mound.

Figure 2. A and B represent possible placement of mound septic systems.

Figure 3. C and D show additional mound system locations.

Figure 4. Model landscape plan for mound septic system.

Guidelines for Planting on and Near Septic Mounds

It is very important that the integrity of the mound be kept intact and that soil does not wash away. A permanent vegetation cover is required to minimize topsoil loss. Open sites are more susceptible to frost, heaving, and erosion. Plants trap snow, which acts as a mulch and prevents erosion.

• Topsoil on the mound should be a minimum of 6 inches and a maximum of 30 inches.
• Use minimal tillage when planting and build a cover as soon as possible to limit erosion.
• Always wear gloves when working over septic systems to minimize contact with soil.
• Use plants that do not like water or wet soils near the septic system. This will prevent their root systems from interfering with the septic system.
• The larger the plant, the more extensive (not necessarily deeper) the root system.
• Do not place trees and shrubs on the mound; they may be planted at the foot or on side slopes. Frame the mound with trees and shrubs at a distance, but use only herbaceous (non-woody) plants on the mound itself. Trees should be planted a minimum of 20 feet from the edge of the mound. Trees known for seeking water reservoirs, such as poplar, maple, willow, and elm, should be planted at least 50 feet from the mound. Shrubbery should not be planted on top of the mound.
• Avoid irrigation and fertilization on a mound; in fact, never plan to irrigate this area. Use plants that can withstand dry conditions. Plants listed below tolerate and thrive on natural rainfall in Minnesota.
• Minimize traffic on the mound, both human and animal, to avoid soil compaction. Do not exercise pets or stake pets on septic mounds. Never drive a car or other vehicle across the mound or mow when the soil is wet. Compacted soil can lead to soil erosion and impedes the flow of air around the system. In winter, activity on a mound can cause frost to penetrate, resulting in freezing problems.
• Do not plant edible plants, such as vegetables and herbs on a mound or drainfield.
• Annually inspect the mound for animal damage, such as burrowing and tunneling. Control animals at the first sign of tunneling or burrowing before damage is extensive.
• Root barriers (geotextiles impregnated with a long-lasting herbicide that kills plant roots) have been used around mounds. Installation is expensive and can be avoided with proper plant selection.

Suggested Plants for Use on Septic Mounds

Herbaceous plants, such as wildflowers and grasses, are good choices for mound plantings. Grasses are especially desirable due to their fibrous root systems, which hold soil in place. Grasses also provide year-round cover.

The following native prairie plants grow well on dry soils and would be good choices for a mound septic system:

Wildflowers

- wildflower onion (Allium schoenoprasum)
- pincushions (Antennaria neglecta)
- butterflyweed (Asclepias tuberosa)
- heath aster (Aster ericoides)
- bigleaf aster (Aster macrophyllus)
- Pennsylvania sedge (Carex pensylvanica)
- prairie clover (Dalea spp.)
- pale purple clover (Erodium cicutarium)
- rattlesnake master (Eryngium yuccifolium)
- wild geranium (Geranium maculatum)
- purple loosestrife (Lythrum salicaria)
- shooting star (Dodecatheon meadia)
- sneezeweed (Helenium autumnale)
- black-eyed Susan (Rudbeckia fulgida)
- Cassandra’s scepter (Sedum spectabile)
- Oregon grape (Berberis repens)
- false indigo (Baptisia australis)
- common milkweed (Asclepias syriaca)
- purple coneflower (Echinacea angustifolia)

Grasses

- silverblue fescue (Festuca rubra)
- blue fescue (Festuca rubra)
- wild fescue (Festuca rubra)
- wild bergamot (Monarda fistulosa)
- pennycross (Penstemon spp.)
- purple flowered (Pulsatilla patens)
- violets (Viola spp.)

* Stainless steel or a cover crop of annuals, ryes, or oats to prevent erosion while the plants become established.

Low-maintenance lawn grasses, such as fine fescues, can be used to make a dense cover and only need to be moved once or twice a year. More in October and late June to reduce weed growth. Fescues, such as fine fescues, can tolerate dry soils and shady sites. A mixture of fine fescues, grasses, such as creeping red, hard, and sheep’s fescues (Festuca rubra, Festuca longifolia, Festuca ovina), in equal proportions can be seeded at the rate of 3.5 pounds per 1,000 square feet. Traditional lawn grasses, such as common Kentucky bluegrass and perennial ryegrass, can be planted on a mound and regularly mowed. Mowing will increase evaporation from the mound and aid in root control. Perennial flowers, such as daylilies and peonies, can be grown; however, extra care must be taken to mulch or plant close together so soil will not be exposed and erode. Low maintenance plants that do not need tending and care (remember minimal traffic on the mound) are best. Enjoy from afar, and do not walk on the mound.

References and Further Information

Septic System Owners Guide. CP-6583
Plants in Prairie Communities. FO-3238

The publications can be ordered from the University of Minnesota Extension Service. Call (612) 624-9400 or (800)976-6636.

For landscape design publications, refer to SU LIS URL in Extension site: www.su tid an.umn.edu

Figure 1. Suggested plants for use on mound septic systems.