

# **Minutes from the Individual Sewage Disposal System (ISDS) Task Force – Regulatory Working Group Meeting November 1, 2000**

In attendance:

Russ Chateaufneuf, Pat Quinlan, Rob Adler, Alison Walsh, Eugenia Marks, Scott Moorehead, Tom D'Angelo, Tom Getz, Kendra Beaver, Ernie Panciera, Deb Knauss

The meeting was led by Russ Chateaufneuf, who opened the meeting at 8:20.

The minutes from the last meeting were discussed. It was noted that the group agreed only that effluent filters should be required for new construction, not as a retrofit for existing systems. Tom D'Angelo made a motion to accept the minutes as clarified. Rob Adler seconded the motion. There was no discussion. Acceptance of the minutes, as clarified, was unanimous.

Russ outlined the meeting agenda and a schedule of topics to be discussed at the next three meetings. It was acknowledged that the schedule was ambitious. He explained that there was an interest in getting initial feedback and input from the group within this time frame so that we can report back to the full committee and ensure that the goals of the task force are addressed. He stressed that the working group may revisit topics at future meetings to refine recommendations and even work out specific language of proposed rules where appropriate. In fact, DEM is hopeful that the working group will wish to continue to meet as needed after the task force work is completed. Kendra stressed the importance of starting meetings promptly at 8:00 AM to meet the goal.

It was requested that consideration be given to inspection of septic systems at the time of home sale. Russ mentioned the alternative efforts pursued by the department to address failing or substandard systems. These include the System Suitability Determination process that provides criteria required to compel upgrades, the development and publication of the "Septic System Check-up Manual" that provides guidance and procedures for conducting septic system inspections, and the priority placed on system repairs, which number in excess of 1200 annually. In addition, he noted that RI already benefits from similar laws in Massachusetts and Connecticut in that many lenders and homebuyers in RI are aware of these requirements and are placing more emphasis on septic system function as part of home sales.

## Trench construction of leachfields

Russ summarized proposed changes to leachfield construction:

- Trench construction (current rule requires greater area to be excavated and backfilled with ISDS gravel)
- Ten foot invert perimeter with 3:1 slope to be maintained to original grade and toe of slope to terminate a minimum of 5 feet from the property line (current rule requires the invert perimeter be maintained for 25 feet)

It was suggested that there be a provision for construction of a retaining wall, if original grade can not be met within five feet of the property line, thus eliminating the need to apply for a variance in these instances.

It was suggested that the invert perimeter regulation might be linked to preventing seepage breakout down slope based on a minimum depth to the seasonal high water table at some distance from the leachfield.

It was asked if reducing the volume of aggregate required increases, decreases or results in no net change with respect to public health and environmental protection. It was stated that this would represent no net change in protection, but it would result in a possible reduction in installation costs and improvement in aesthetics.

Figures of trench-style construction were distributed.

Figure: Deep water table, bottom of stone in the C horizon

Figure needs to be corrected to reflect that no ISDS gravel (aggregate) is required unless the soil material in the C horizon is too coarse.

There was a recommendation to reduce the 18 to 30 inch cover above the pipe invert to 12 to 24 inches. Freezing and damage from landscaping construction and other yard activities were stated as a concerns with a reduction of the cover requirement.

It was agreed to remove compacted straw as cover over the stone, since it is little used and inferior to the fabric alternative.

Figure: Bottom of stone in A or B horizon

This configuration was described as being beneficial to protection of public health and the environment because the soils in these horizons provide better treatment of effluent.

Figure: Invert above grade

Title of the figure will be changed to "Water table less than 4 four feet".

It was noted that the figure must be corrected to depict the invert perimeter maintained to ten feet.

This configuration suggests 5 feet between trenches, current rule requires ten. It was suggested that the A horizon be removed and the B horizon left in-place with the system size based on the characteristics of the B horizon. Additionally it was suggested that concrete sand be incorporated beneath the trenches.

Concern was expressed about approval of systems of this design allowing development in areas with 2 foot water tables, where such applications would previously have been denied a permit; is this compromising protection of public health? In support of this concern it was stated that Massachusetts requires a minimum separation to groundwater of four feet to protect public health. Alison agreed to furnish the group information about how Massachusetts handles these situations.

Foundation drains and subdrains

Current regulations require that leachfields be constructed a minimum of 25 feet from these drains. DEM believes that in some cases, this is not protective enough and is proposing that up-gradient and side-gradient separation remain at 25 feet and that the down-gradient separation be increased to 75 feet. This would apply to all construction, including repairs.

It was inquired as to whether this recommended change is based on testing. Russ stated that DEM is relying on literature to guide this recommendation. A request was made for DEM to provide background information to support this recommendation.

It was inquired as to whether the regulations could provide a reduced setback requirement for drain systems discharging to a drywell.

Shallow and deep leaching chambers

Russ stated that use of these chambers in leachfields has resulted in more failures than trench construction. The reasons for their poor performance is that they place effluent deep in the soil profile, which contributes to anaerobic conditions, and they load effluent to a small foot print in the leachfield. In an effort to increase the treatment provided by chambers, DEM is proposing decreasing the effective leaching area assigned to each of the units as follows:

| <b>Deep leaching chambers (galleys)</b>    |   | <b>Shallow leaching chambers (flow diffusers)</b> |   |
|--|---|---|---|
| Current Regulation (ft <sup>2</sup> /unit) | Proposed Regulation (ft <sup>2</sup> /unit) | Current Regulation (ft <sup>2</sup> /unit)        | Proposed Regulation (ft <sup>2</sup> /unit) |
| Each interior unit                         |   | Each interior unit                                |   |
| 12 inches of stone - (58)                  | <b>(36)</b>                                 | 12 inches of stone - (64)                         | <b>(60)</b>                                 |
| 24 inches of stone - (74)                  | <b>Not allowed</b>                          |   |   |
| Each end unit                              |   | Each end unit                                     |   |
| 12 inches of stone - (98)                  | <b>(45)</b>                                 | 12 inches of stone (78)                           | <b>(65)</b>                                 |
| 24 inches of stone (153)                   | <b>Not allowed</b>                          |   |   |

There were recommendations that deep leaching chambers be eliminated from the regulations, or allowed exclusively for repairs and only when H-20 loading over the leachfield is necessary or the lot is severely constrained in size, however no consensus was reached and additional information was requested.

#### Sloping sites

There was no figure available for systems designed on sloping sites.

Invert perimeter for each trench on the slope would be 10 feet. Horizontal distance between trenches would be 10 feet.

Options for such as designs are:

- Equal dosing to each line through pump, siphon or dosing d-box; or
- Serial distribution: Leachfield is designed with additional 25% capacity and the distribution lines would be connected by a relief line (“overflow pipe”).

Concern was expressed that the group does not have an independent expert in ISDS design present. George Loomis is such an expert but has not been able to attend. Russ mentioned that George expressed high interest in attending, but likely had conflicts in his schedule. He indicated that he would speak to George and attempt to work out scheduling conflicts. It was asked if the draft regulation could be reviewed by a third party environmental advocate for a determination as to whether proposed changes increase protection of public health and the environment, decrease it, or represent no net change in protection. Tom Getz responded that such input is welcome, but that such a person should be involved with the Task Force as work progresses and not after the fact.

#### Velocity requirement in pipe between septic tank and distribution box

There was discussion regarding accommodating a reduction in elevation between the septic tank and the leachfield (to some maximum), by allowing the septic tank effluent pipe to be fitted with a length of pipe which would convey effluent vertically to the elevation of the portion of pipe delivering effluent to the distribution box. Rob indicated that EPA may be able to offer some guidance on maximum slopes for such piping.

The meeting was adjourned at 10:20.

### Future Meetings

- **November 15, 2000** 8 AM to 10 AM  
Conference Room A, in the Director's Office on the 4<sup>th</sup> Floor, 235 Promenade Street
- **November 29, 2000** 8 AM to 10 AM  
Conference Room A, in the Director's Office on the 4<sup>th</sup> Floor, 235 Promenade Street
- **December 13, 2000** 8 AM to 10 AM  
Conference Room 280 C1 & 2, in the Office of Water Resources on the 2nd Floor,  
235 Promenade Street