General Site Evaluation Guidelines: Residential Systems

The SoilAir™ Evaluation Protocol form is a tool to help the site evaluator determine the underlying cause(s) for the septic system failure and to determine if the *SoilAir*™ system is the appropriate repair to rejuvenate that system. Answers to each question on the form are obtained through interviewing the home or site owner(s), obtaining past permits and soil tests from local agencies, boroughs, or municipalities, conducting onsite soil testing to confirm the current drainfield soil and biomat conditions, and performing thorough septic system inspections.

The use of the *SoilAir*™ system is most effective in rejuvenating a failing septic system due to anaerobic biomat clogging. Since an anaerobic biomat is a naturally occurring part of the septic system, digging a test pit beside the drainfield or extracting an auger core to determine the thickness of this biomat and to observe whether the soil beneath the drainfield is dry will be helpful.

Drainfield soils should have sufficient hydraulic conductivity for the present hydraulic loading rate. If past soil profile and perc test data is not available to determine whether the hydraulic conductivity of the drainfield soils is adequate to handle the current wastewater flow, the site evaluator must determine if there is adequate soil permeability in relation to the size of the existing absorption area.

Every site situation is different and the site evaluator should use the means necessary to honestly and accurately make the determination as to whether anaerobic biomat clogging is the predominant underlying cause of the surface malfunction or ponded absorption area. Should the site evaluator determine that the ponded condition or malfunction is predominately the result of other factors, SoilAir™ may not be the appropriate rehabilitative option.

Community and commercial systems have different site evaluation requirements than single family residential systems; contact SoilAir™ for specifics.

PERSON(S) COMPLETING THE EVALUATION

Name(s): _____

Company: _____

Address: _____

_____

Phone Number(s): _____

E-Mail: _____

REGULATORY AGENCY CONTACT _____

APPLICATION

☐ Repair Permit –Existing malfunction

☐ Preventative Maintenance - System functioning properly

☐ PSMA - Unsatisfactory condition, no malfunction

SITE OWNER INFORMATION

Name(s): _____

Address: _____

_____

City/State/Zip Code: _____

Phone Number(s): _____

Email (optional): _____

Tax Parcel Number: _____

Municipality / County: _____

CLIENT INFORMATION: (If different from site owner)

Name(s): _____

Address: _____

_____

City/State/Zip Code: _____

Phone Number(s): _____

E-Mail (optional): _____

SITE HISTORY

A. House / Structure

1. Age: _____

2. # Occupants: _____ Length of ownership: _____

3. Have there been any additions to the original structure: Y / N If Yes, explain:

_____

4. # Bedrooms / Est. Flow: _____

5. Lot Size: _____

6. Water Supply: ☐ Well ☐ Public

B. Wastewater System: ☐ All Wastewater Connected ☐ Separate Systems

C. Sewage System

1. Age: _____ Date of Last System Maintenance: _____

2. Permit Issued: Y / N (Include copy with submission if available)

3. Malfunction: Y / N ☐ Surface ☐ Backup ☐ Groundwater

D. Graywater System (If applicable)

1. Age: _____

2. Type: _____

3. Size: _____

4. Location: _____

5. Condition: _____

6. Permit Issued: Y / N (Include copy with submission if available)

E. Property for Sale: Y / N Home Vacant: Y / N (explain)_____

1. PSMA Inspection Results (include copy of report): _____

_____

NON-STRUCTURAL EVALUATION

A. Water leaks: Y / N (explain) _____

1. # of Toilet(s): _____ Flush Amount(s): _____

B. Water Conservation Implemented: Y / N (explain) _____

1. What Type(s)? _____

C. Garbage Disposal: Y / N Amount of usage: _____

D. Dishwasher: Y / N Amount of usage: _____

E. Washing Machine Type: ☐ Top load ☐ Front load. # Weekly loads: _____

F. Sump Pump: Y / N

1. Discharge Point Location: _____
2. Location in Relation to Drainfield: _____

G. Downspouts Affecting System Y / N (explain)? _____

H. Site Grading & Surface Water Diverted Properly around System: Y / N (explain)

_____

SOILS / SITE CONDITIONS

A. Soil Survey Mapping

1. Soils: _____
2. Geology: _____

B. Site Testing (include copies of any pertinent past reports, if available)

1. Number of Test pits / Auger borings: _____
2. Limiting Zone(s): _____
3. Perc Rate(s) or Hydraulic Conductivity: _____
4. Depth to Fragipan, Bedrock or other Root/water Limiting Layer: _____
   (Circle the appropriate limiting layer(s))
5. Texture of Soil at Installation Depth: _____
6. Soil Type Verified, if Known: _____
7. What New System Options are Available for Site (explain)? _____

_____

SYSTEM EVALUATION / LOCATION

A. Components

1. Treatment Tank
   a. Size/Type: _____
   b. Condition: _____
   c. Baffles: _____
2. D-Box
   a. Size/Type: _____
   b. Condition: _____
3. Delivery System
   a. Gravity: Y / N Pipe Condition: _____
   b. Pressure Pump Size (if applicable): _____
4. Laterals
   a. Diameter: _____
   b. Orifice size: _____ Orifice spacing:_____
   c. Number:_____
   d. Gravity or Pressure: _____
5. Absorption Area
   a. Type: _____
   b. Size:_____
   c. Depth of Installation from Ground Surface: _____
   d. Cover Amount over Aggregate:
      i). 4 Corners and Center of Bed _____
      ii). Beginning & End of each Trench _____
   e. Condition: _____
      i). Ponded – Amount: _____
      ii). Type of Material:_____

B. Electrical Service Available for Blower Installation? _____

C. Evidence of an Anaerobic Bio-Mat: Y / N Thickness (inches) _____

D. Structural Repairs Needed: _____

CONCLUSIONS

_____

_____

_____

RECOMMENDATIONS

_____

_____

_____

It has been determined through a comprehensive site evaluation that an anaerobic biomat is the predominant underlying cause of system failure. Soil test results, past or present, provide evidence that there is adequate permeability in relation to system size and that the malfunction or ponded condition is not predominately due to a soil or geologic condition restricting water flow or soil compaction due to improper system installation practices.

_____

Signature of Site Evaluator Date

An accurate, honest evaluation of the history of the site/system is the most valuable tool for predicting the performance of the SoilAir™ System. When complete, this evaluation can be emailed to dsmith@soilair.com or sent via US mail to 84 Cedar Dr, New Britain PA 18901. Please call 267-880-0264 or 860-510-0730 with any questions.

Please provide a drawing or sketch of the site and system (distance measurements), along with any other pertinent site information. Site photos my also be informative.