VILLAGE OF BARRINGTON HILLS

Board of Health

NOTICE OF MEETING

Tuesday, January 13, 2015 ~ 7:30 pm
112 Algonquin Road

AGENDA

1. Organizational
   1.1 Call to Order
   1.2 Roll Call

2. [Vote] Minutes

3. [Vote] Septic Code Amendment Sec. 4-2-7

4. Horse Density/Livestock Report

5. Groundwater Program ~ Barrington Hills
   5.1 Village Hall Level 2 Report
   5.2 Level 2 Program
   5.3 Groundwater Aging

6. Public Comment

7. Trustee's Report

8. Adjournment

Chairman: Gwynne Johnston

VILLAGE OF BARRINGTON HILLS
BOARD OF HEALTH MEETING
December 9, 2014

The regular meeting of the Village of Barrington Hills Board of Health was called to order at 7:35 p.m. by Chairman Johnston.

Board of Health Members Present:	Gwynne Johnston, Chairman Frank J. Konicek, M.D., Vice Chairman Anne Majewski, M.D.
Board of Health Members Absent:	Shirley Conibear, M.D.
Others Present:	Robert Kosin, Director of Administration Dan Strahan, Village Engineer Janet Agnoletti, BACOG

APPROVAL OF MINUTES: Dr. Majewski made a motion to approve the minutes of the November 20th, 2014 meeting of the Board of Health. The motion was seconded by Dr. Konicek and approved unanimously.

MEETING CALENDAR 2015: Mr. Kosin presented the draft calendar. After discussion a motion was made by Dr. Majewski and seconded Dr. Konicek to recommend adoption of the draft calendar by the Board of Trustees. The motion was approved unanimously.

WATER QUALITY STUDY: Mr. Kosin introduced the discussion by clarifying a question from the previous meeting regarding privacy of groundwater data. After review, it had been determined that any data, including groundwater testing, that is gathered by the Village and relied upon by a public body is public and is subject to the Freedom of Information Act.

Dr. Konicek asked for clarification of what the obligations were for public and private wells. Mr. Kosin responded that there is not testing obligation for private wells. The threshold at which state testing requirements begin is for wells serving 25 or more unrelated individuals. Above this threshold the testing requirements are similar to the Level II groundwater testing program offered by BACOG.

Chairman Johnston noted the feeling of the Board of Health would be to support a program to develop baseline data of groundwater quality in the Village. Mr. Strahan noted that nine locations had been identified within the Village that would be subject to testing requirements as a public well and that the proposal would be to coordinate with staff at these locations to take samples from the system. Chairman Johnston asked if there were any recommendations from BACOG regarding the frequency or timing of such a testing program. Ms. Agnoletti indicated she would look into this topic with the Illinois State Water Survey, but noted that as most of the

testing parameters are naturally occurring the time of year was unlikely to affect the levels. Ms. Agnoletti noted that a typical testing frequency for these parameters, if found to be at normal levels, would be once very ten years. Chairman Johnston noted he would prefer annual testing or perhaps more often to identify seasonal trends. Ms. Agnoletti noted that the ISWS can perform eight tests per batch through the BACOG program and that there is currently a waiting list of 80 residents. She noted that she was unsure if ISWS had the capacity to perform the tests once or twice per year for the Village.

Mr. Kosin discussed the logistics of the proposed program, noting that Village staff would coordinate with the Village Engineer to make contacts. Mr. Kosin noted that the costs of the program could be covered within the normal activities of the budget.

Mr. Strahan noted that the Village has been conducting surface water quality testing for several years as part of the NPDES program, which can be looked at as an initial indicator of groundwater quality. Mr. Strahan also observed that the Village owns several properties as well as roadway right-of-way throughout the Village, which could provide a means to install monitoring wells as a way to gather data without having to overcome privacy and other issues associated with data from private wells.

A motion was made by Dr. Majewski and seconded by Dr. Konicek to recommend to the Village Board that funding be approved by the Village Board to support an ongoing groundwater testing program. The motion was approved unanimously.

Chairman Johnston asked how the data would be analyzed and monitored over time. Ms. Agnoletti noted that the data could be mapped in GIS and suggested gathering data points beyond the Village limits, perhaps from adjacent municipal wells. Ms. Agnoletti also suggested using the contacts established in a current BACOG groundwater level testing program utilizing 18 state wells located throughout the BACOG area.

Chairman Johnston asked for further input regarding how residents contribute to the program while addressing privacy concerns. Mr. Strahan suggested that data could be submitted with quarter section, section, township, and range information, which would be accurate enough for Village wide testing but would not require a specific address.

PUBLIC COMMENT: No public comments were made. Dr. Majewski asked if anyone has address the question of septic system design for commercial horse boarding operations. Mr. Strahan noted the response received from the Lake County Health Department that they did not have specific criteria, but would rely upon an estimate from the applicant and use a water meter to identify the flow rate. Dr. Majewski noted her concern that this area was note regulated.

Dr. Konicek asked if the question of horse density had been addressed. Mr. Kosin noted that Village staff has contacted a faculty member at the University of Illinois who was interested in studying the area to review potential horse density. After discussion, a motion was made by Dr. Majewski and seconded by Dr. Konicek that in view of the conflicting evidence that has been presented to the Board of Health regarding grazing density and the public health concerns for potential surface and groundwater contamination, the Board of Health recommends that no

specific grazing density value be made until an expert in the field can provide professional input and guidance regarding appropriate grazing density in the area of Barrington Hills. Chairman Johnston requested that this concern be communicated to the Board of Trustees.

ADJOURNMENT: Dr. Konicek motioned to adjourn at 8:37 PM. Dr. Majewski seconded the motion. All present said aye.

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MEMORANDUM

To: Robert Kosin, Village of Barrington Hills
Board of Health Members

From: Daniel J. Strahan, P.E., CFM
Gewalt Hamilton Associates

Date: January 8, 2105

Re: Design Flows for Barn/Stable Uses

Currently the Village Septic Ordinances does not include specific design flow rates for septic systems serving a barn or stable. Applications for such installations in Barrington Hills have been sized based on estimates of anticipated usage by the applicant's design engineer. Recently questions have arisen as to whether the septic system for this type of use should be more specifically regulated.

As the Board of Health will be considering a draft amendment to Section 4-2-7 in the early part of 2015, it would be an opportune time to also consider whether the ordinance should be revised to specify flow rates for barn/stable uses. We have reviewed existing regulations within neighboring counties and a variety of state health departments throughout the country. Based on our research, we offer the following observations:

- Typical ordinances include a table listing design flow rates for a variety of residential, institutional, and commercial uses. To date we have not found any ordinance that specifies a design flow rate for a septic system serving a barn or stable.
- The closest parallel use to horse barns that we could find within existing ordinances is the use of kennel/animal hospital, which is included in several state and county septic ordinances (although not in Illinois or Wisconsin). A few examples are as follows:

	Use	Flow Rates (Gallons Per Day)
McHenry County	Dog Kennels	30 gpd per run/cage
Kentucky	Veterinary Office Dog Kennel	10 gpd per animal (250 min. per clinic) 5 gpd per dog
Indiana	Kennels & Vet Clinics	5 gpd per cage 10 gpd per inside run 20 gpd per outside run 10 gpd per animal 25 gpd per surgery room 75 gpd per doctor/assistant 20 gpd per support staff
Ohio	Veterinarians & Animal Hospitals	10 gpd per run/cage 20 gpd per employee
Texas	Vet Clinics	10 gpd per animal

- Some ordinances note that when a use is not specifically listed, the applicant may install a flow meter to verify the flow rate proposed for the use. Lake County Health Department recommended this approach when I inquired about their criteria for such facilities.

3600 I-70 Drive SE, Suite E, Columbia, MO 65201 ■ TEL 573.397.6900 ■ FAX 573.397.6901
The Monadnock Building, 53 W. Jackson Blvd., Suite 924, Chicago, IL 60604 ■ TEL 312.329.0577 ■ FAX 312.329.1942

4-2-7: PRIVATE SEWAGE DISPOSAL:

(A) Purpose: It is the purpose of this Section to ensure the adequacy, proper location, and proper construction of septic systems in order to protect the public health, safety and general welfare.

(B) Applicability and Prohibition: This Section shall apply to all sewage and drainage systems and facilities located within the Village. It shall be unlawful and a violation of this Title of the Village Code to perform any work subject to this Section, or to install, use or maintain any facility or system subject to this Section except in strict compliance with the provisions and appendices of this Section and the provisions of all other applicable laws, ordinances, rules and regulations of the Village and of other governments and agencies having jurisdiction.

(C) Definitions: The following definitions shall apply to this Section:

1. "AEROBIC TREATMENT PLANT" means equipment or devices for the treatment of sewage by the forced addition of air or oxygen.

2. "APPROVED or APPROVAL" means accepted by or acceptable to the Village except as the context shall explicitly indicate accepted by or acceptable to the Illinois Department of Public Health.

3. "BEDROOM" means, for the purpose of establishing the rate of flow for domestic sewage, any room, whatever named, which is easily suitable for use regularly as a room for sleeping, including, but not limited to, a den or study.

4. "BUILDING SEWER" means that part of the horizontal piping of a drainage system which extends from the end of the building drain, receives the discharge of the building drain and conveys it to a private sewage disposal system or another approved point of disposal. The building sewer commences five feet (5') outside the building foundation wall.

5. “CLASS I AEROBIC TREATMENT UNIT” means a mechanical wastewater treatment unit classified, listed and labeled as Class I by an ANSI accredited third-party testing and certification organization and certified compliant with the International Organization for Standardization (ISO)/International Electrochemical Commission (IEC) Guide 65 to determine compliance with the requirements of NSF ANSI Standard 40 for wastewater treatment systems.

6. “COARSE SAND” means fill material having an effective diameter of 0.15 to 0.33 mm with a coefficient of uniformity <5.0, and having less than 20% material coarser than 2 mm and less than 5% silt and clay.

7. "COUNTY" means any one of four (4) Counties, Cook, Kane, Lake and McHenry in the State of Illinois.

8. "CURTAIN DRAIN" means a drainage system designed and constructed to intercept and accept surface and ground water which, were it not for such a system, would travel onto or into the subsurface seepage system of the private sewage disposal system.

9. "DEPARTMENT" means the Illinois Department of Public Health.

10. "DOMESTIC SEWAGE" means waste water derived principally from dwellings, businesses or office buildings, institutions, food service establishment, and similar facilities.

11. "EFFECTIVE SIZE" means the size of screen opening where ninety percent (90%) by weight of a sample of filter media is retained on the screen and ten percent (10%) passes through the screen.

12. “FLOW CONTROL DEVICE” means a device specially designed to equalize the outflow elevation of effluent from a distribution box, typically a rotating pipe cap provided with an off center outflow orifice that can adjust the flow line by rotation of the cap.

13. "HUMAN WASTES" means undigested food and by-products of metabolism which are passed out of the human body as may be indicated by the presence of human fecal coliform-group bacteria.

14. “LIMITING LAYER” means a horizon or soil condition in the soil profile or underlying strata that includes:

    An estimated high water table, whether perched or regional.

    Masses of loose rock fragments, including gravel, with insufficient fine soil to fill the voids between the fragments.

    Rock formation, other stratum or soil condition that is so slowly permeable that it effectively limits downward passage of effluent.

15. "LIQUID CAPACITY" means the volume of a tank below the invert of the outlet line.

16. “MAINTAINED AND SERVICED” means the tasks, procedures, and inspections required by the manufacturer of the component/system or the Village for the private sewage disposal system to operate within the parameters and requirements of this Section and any other restrictions established as part of the system approval or as part of a variance.

17. "NSF" means the National Sanitation Foundation, an independent testing laboratory.

18. "PERSON" means any individual, group of individuals, association, trust, partnership, corporation, person doing business under an assumed name, the State of Illinois or any Department thereof, or any other entity.

19. "POPULATION EQUIVALENT" means an average waste loading equivalent to that produced by one person which is defined as one hundred (100) gallons per day.

20. "PRIVATE SEWAGE DISPOSAL SYSTEM" means an on-site, soil absorption treatment facility for domestic sewage, commonly referred to as a septic system, which is designed, constructed, operated and maintained in accordance with this Section. When used with this definition, the word "NEW" means any such system installed after the effective date of this Section.

21. "PRIVATE SEWAGE DISPOSAL SYSTEM CONTRACTOR" means any person engaged in the business of constructing, installing, maintaining, servicing, or cleaning of private sewage disposal systems or the hauling or disposal of wastes removed therefrom.

22. "PROPERTY OWNER" means the person in whose name legal title to the real estate is recorded.

23. "REPAIR" means the construction necessary to correct prohibited discharges or improve an existing private sewage disposal system which fails by operation or design to be in compliance with this Section.

24. "SEPTAGE" means the solid and liquid wastes removed from private sewage disposal systems.

25. "SHALL" means the stated provision is mandatory.

26. “SOIL BORING” means an observation pit, dug by hand or backhoe, or an undisturbed soil core taken intact and undisturbed by a probe.

27. “SOIL CLASSIFIER” means one of the following:

    A Certified Professional Soil Classifier (CPSC who is certified by the Illinois Soil Classifiers Association (ISCA) or a certified soil classifier with the American Registry of Certified Professionals in Agronomy, Crops, and Soils (ARCPACS).

    A person who is a full member or associate member of the Illinois Soil Classifiers Association (ISCA), provided that direct supervision is provided to this person by an ISCA Certified Professional Soil Classifier or ARCPACS certified soil classifier who accompanies the person on at least 25% of the soil investigations and reviews and signs all of that person’s soil investigation reports.

28. “SOIL LOADING RATE” means the maximum rate, based upon a soil’s texture structure and consistence and expressed as gallons per square foot (gpd/ft^2) of infiltration area, at which effluent may be applied to a soil treatment system.

29. "SUBSURFACE SEEPAGE SYSTEM" means all approved components of a subsurface seepage field, seepage bed, chamber system or buried sand filter.

30. "UNIFORM COEFFICIENT" means a number obtained by dividing that size of sand in millimeters of which sixty percent (60%) by weight is smaller, by that size of sand in millimeters of which ten percent (10%) by weight is smaller.

31. "VILLAGE" means the Village of Barrington Hills in the Counties of Cook, Kane, Lake and McHenry, State of Illinois.

32. "WASTE" means either human waste or domestic sewage or both.

33. "WATER TABLE" means the upper limit of the portion of the soil or rock formation that is completely saturated with water.

(D) General Requirements: Every private sewage disposal system shall be designed, constructed, operated and maintained in accordance with the minimum standards as specified in the following regulations.

1. Rate of Flow for Domestic Sewage: Each unit of the private sewage disposal system shall be designed to treat the volume of domestic sewage and human wastes discharged to it.

   a. Volume Design Requirements: The volume of sewage flow shall be determined in accordance with Appendix A of this Section. For non-residential establishments, the Building Officer will consider, in addition to the methods set out in Appendix A of this Section, the use of documented flow volumes obtained from similar installations. Flows shall conform with subsection (D)7 of this Section unless approval has been obtained from the Illinois Environmental Protection Agency and the Village.

   b. Additions or Enlargements: In terms of the permit issued therefor, any change to the volume of sewage flow to that system shall constitute a repair situation and be corrected in compliance with this Section.

   c. Credit for Existing Systems: For new construction or the addition of one or more bedrooms that will utilize an existing septic system, credit will be assigned based on the age and use of the existing seepage field upon the date of the building permit application. For existing systems less than 10 years old, 100% credit is assigned to the length of distribution lines in place. For existing systems less than 20 years old but greater than 10 years old, 50% credit is assigned to the length of distribution lines in place, unless an inspection of the existing system by the Village Health Officer warrants that additional credit can be assigned; up to 100% credit can be assigned for systems less than 20 years old. For existing systems greater than 20 years old, no credit is assigned to the length of the distribution lines in place; up to 50% credit can be assigned based on an inspection of the existing system by the Village Health Officer.

   d. Credit for Existing Chamber Systems: For new construction or the addition of one or more bedrooms that will utilize an existing chamber septic system, credit will be assigned based on the age and use of the existing chamber system upon the date of the building permit application. For existing chamber systems less than 15 years old, 100% credit is assigned to the length of distribution lines in place. For existing chamber systems less than 30 years old but greater than 15 years old, 50% credit is assigned to the length of distribution lines in place, unless an inspection of the existing chamber system by the Village Health Officer warrants that additional credit can be assigned; up to 100% credit can be assigned for systems less than 30 years old. For existing systems greater than 30 years old, no credit is assigned to the length of the distribution lines in place; up to 50% credit can be assigned based on an inspection of the existing chamber system by the Village Health Officer."

2. Type of Waste: A private sewage disposal system shall be designed to receive and treat only domestic sewage. No cooling water, groundwater, discharges from roof drains, footing tile drains, water softeners nor swimming pool wastewater, or other clear water discharges shall be directed to the private sewage disposal system. No automotive grease, oil, toxic wastes, nor any waste other than domestic and human wastes shall be discharged to a private sewage disposal system. Wastes from floor drains in areas where vehicles or motorized equipment are serviced and parked shall be connected to a holding tank. The holding tank shall be constructed of the same materials required for gas and oil interceptors meeting the requirements of Section 890.25 of the Illinois Plumbing Code.

3. Individual Service: A private sewage disposal system shall serve only the lot on which the system is located.

4. Water and Sewer Line Separation: The following criteria shall govern the separation of water supply lines and sewer lines.

a. Horizontal Separation: Sewers shall be installed at least ten feet (10') horizontally from any existing or proposed water line. When site conditions prevent a lateral separation of ten feet (10'), a sewer may be laid closer than ten feet (10') to a water line provided that the elevation of the crown of the sewer is at least eighteen inches (18") below the invert of the water line.

b. Crossings: Where sewer lines must cross water lines, the sewer line shall be laid at such an elevation that the crown of the sewer line is at least eighteen inches (18") below the invert of the water line. This vertical separation shall be maintained for that portion of the sewer line located within ten feet (10') horizontally of any water line it crosses. When sewer lines must cross above water lines, the sewer lines shall be Schedule 40 or equivalent material and with water tight joints.

5. Acceptable Pipe Materials: All piping located more than five feet (5') from the building foundation, used to convey wastewater to a private disposal system, shall be considered a part of the private sewage disposal system. All piping located from a point five feet (5') from the building foundation to a point six feet (6') beyond the septic tank (or distribution box where used) shall be ductile iron, vitrified clay, asbestos cement, or plastic pipe. Perforated pipe or open-jointed tile shall be used only as provided in this Section.

a. Plastic Pipe Materials: Plastic pipe, and fittings utilized in private sewage disposal system shall be manufactured from the list of approved materials specified in Appendix B of this Section in accordance with the latest revision of the materials standard indicated.

b. Use of Plastic Pipe: Use of plastic pipe shall conform to the uses designated in Appendix C of this Section.

6. Pipe Size and Slope: All solid pipes carrying gravity flow shall have an inside diameter of at least four inches (4") and a minimum slope of twelve inches (12") per hundred feet (100'). Building sewers in excess of 50 feet in length shall be provided with at least one clean-out every 50 feet that terminates at grade.

7. Prohibited Discharge: There shall be no discharge of domestic sewage or septage from any building sewer or private sewage disposal system to the surface of the ground or to farm tiles, streams, rivers, ponds, lakes, or other collectors of water, nor to wells, cisterns, caves, tunnels or other such underground spaces.

8. Water Softener Wastewater. Backwash water from a water softener or similar device shall be discharged to one of the following:

a. A separate subsurface seepage system, provided that the seepage field is designed to accommodate the liquid capacity of the water softener on a daily basis. A septic tank is not required in front of a seepage field received flow from this device.b. A separate building drain, in accordance with the Illinois Plumbing Code, that will discharge to a subsurface seepage system, provided that the seepage field is designed to accommodate the flow from this device on a daily basis. A septic tank is not required in front of a seepage field receiving flow from this device.

9. Private Sewage Disposal System Development: The following factors shall govern the location and design of a private sewage disposal system:

a. Soil: The area of a subsurface seepage system shall be sized based upon the absorption capacity of the soil. Soil Investigations, prescribed in subsection (H) of this Section shall determine the absorption capacity of the soil.

(1) Each soil profile description shall be classified to establish a soil resource group, soil series or classification, the depth to a limiting layer and observed water, if present.

(2) Each soil profile description shall assign maximum wastewater loading rates segregated by horizon. Each segregated horizon shall be assigned a loading rate between 0 gallons per day per square foot (gpd/ft^2) and 1.0 gpd/ft^2.

(3) The soil located in an proposed primary or reserve soil treatment area must not be seasonally saturated to within 12” of the ground surface.

b. Drainage: A private sewage disposal system shall not be located in areas of flooding, ponding, surface water or where the limiting layer is within two feet (2') of the bottom of the trench or bed. Curtain drains shall be used to minimize surface and ground water in the area of the subsurface seepage system.

c. Water Table: Subsurface seepage systems shall not be constructed in areas where the groundwater table is within four feet (4') of the bottom of the trench or the bed.

d. Limestone Formations: A subsurface seepage system shall not be constructed in an area where there is less than four feet (4') of soil between the lowest point in a subsurface seepage system and the top of a creviced limestone formation. In areas where creviced limestone is known to occur, a soil boring or backhoe excavation to a depth of at least four feet (4') below the bottom of the subsurface seepage system shall be made.

e. Topography: The existing grade elevation and vegetation, especially mature trees, shall be accommodated in the layout of the subsurface seepage system. Every effort should be made to minimize the alteration of the topography without jeopardizing the functional capability of a private sewage disposal system.

f. Distances: The location of the various components of a private sewage disposal system shall comply with Appendix D of this Section so that no component shall be closer than the distances stated to the various features. The distance shall be increased where required by the other factors in this subsection (D) of this Section peculiar to a specific location.

g. Area Reserved for Sewage Disposal: The area to be used for a private sewage disposal system and the reserved seepage field shall be selected and maintained so that it is free from encroachment by accessory buildings, driveways, parking spaces, swimming pools, tennis courts, underground utility services, pastures, patios, slabs, additions to the original structure, or any other structure that limits free access to the system for maintenance, servicing, or proper operation. The property owner and private sewage disposal system installation contractor shall ensure that the designated area for the subsurface seepage system shall be secured prior to construction or modifications to the site and shall be protected throughout the site development process. The property owner and private sewage disposal system installation contractor shall secure this area to deter any traffic, compaction of soil, removal or addition of soil, or encroachment on the area of the proposed subsurface seepage system. Temporary fencing or a similar restrictive barrier may be used to restrict

access. The area of the proposed private sewage disposal system shall be protected throughout the site development or construction process.

10. Electrical Devices. All electrical devices shall be wired in accordance with the National Electrical Code or local electrical code, whichever is more stringent.

    a. Any component of a private sewage disposal system which is electrically activated shall be provided with a conspicuously visible and audible warning device.

    b. Alarms installed after January 1, 2014 shall be located outside of the building served. The power supply for the alarm shall be on a dedicated circuit. The design of the alarm shall meet the requirements specified in Section 5.8 of NSF International/ANSI Standard 40. The alarm shall be housed in a weatherproof box.

    c. Electrical devices installed after January 1, 2014 shall be provided with an electrical disconnect that is located within sight of, and not more than 50 feet away from, the device.

11. Variances: In order to address contingencies or provide relief to practical difficulties, the provisions and appendices of this Section may be varied in accordance with the specific instances hereinafter set forth:

    a. New Private Sewage Disposal Systems: Upon a determination by the Building Officer that the installation of a new private sewage disposal system cannot be accomplished in compliance with the provisions and appendices of this Section, the applicant may seek a variance in accordance with the procedures and standards set forth in subsection 6-3-5(C) of the Village Code. (Ord. 84-4, 3-26-84)

    b. Repairing Private Sewage Disposal System: A variance from the provisions and appendices of this Section, if needed for the repair of a private sewage disposal system, may be granted or denied by the Building Officer, with an appeal to the Board of Health. The Building Officer may approve variances allowing up to one foot of fill material over existing ground to accommodate an otherwise standard trench system. Variances requesting more than one foot of fill or an alternate system type may only be approved by the Board of Health. However, no variance shall be granted unless the applicant satisfactorily demonstrates its said variance is necessary for the system to comply with the purpose of this Section. (Ord. 92-8, 4-27-92)

12. Detached guesthouses: Septic systems serving detached guesthouses having less than three bedrooms shall be designed in accordance with the minimum requirements for a primary residence.

(E) Approved Private Sewage Disposal System:

1. General: A septic tank or Imhoff tank followed by a subsurface seepage system, as described in subsections (F), (G) and (H), of this Section is approved for private sewage disposal when designed, constructed, operated, and maintained in accordance with this Section. No other system or component is approved, including but not limited to aerobic treatment plants.

2. Repair: Any system or component thereof approved pursuant to subsection (E)1 hereof is approved for use in repairs. In addition, an aerobic treatment plant discharging to a subsurface seepage system as provided in subsection (J) of this Section may be used for the

repair of a private sewage disposal system only when a variance has been issued pursuant to subsection (D)11 of this Section.

(F) Septic Tanks:

1. Septic Tank Approval: Manufacturers of prefabricated septic tanks shall submit three (3) sets of plans for each size and configuration of septic tank to the Department for approval. Such plans shall be drawn to scale and show all dimensions, baffles, tees, cleanouts, and material specifications. A written approval for each size tank shall be provided by the Department when the plans are found to conform to the requirements of this Section.

   a. The Department shall issue an approval number to each manufacturer for each series of approved septic tanks, and shall maintain a listing of the approved manufacturers and approved septic tank series.

   b. No prefabricated septic tank shall be sold, offered for sale, or installed other than those which have been approved by the Department. The tank shall bear the manufacturer's approval number and the liquid capacity of the tank, in gallons, prominently displayed on the outside end wall of the tank above, or next to, the outlet pipe so that this information is readily visible after installation and prior to covering.

2. Septic Tank Construction: Septic tanks shall be designed and constructed in accordance with Appendix E of this Section and the following:

   a. A septic tank shall be watertight and constructed of sound and durable materials not subject to excessive corrosion, decay, frost damage, or cracking due to settling or back-filling.

   b. The tank shall support a top-dead load of not less than five hundred (500) pounds per square foot, and concrete tanks shall have a minimum twenty eight (28) day compressive strength of three thousand (3,000) pounds per square inch (psi).

   Tanks shall be designed and constructed so that they will not collapse or rupture when subject to anticipated earth and hydrostatic pressures when the tanks are either full or empty. The manufacturer, design engineer, and/or structural engineer shall certify in writing to the Department that the tank is designed and constructed to meet the load requirements of this Section. If additional loading is anticipated, the tank shall be strengthened to accommodate the additional loading.

   c. Materials: Septic tanks shall be constructed of the following approved materials:

      (1) Poured-in-place reinforced concrete.

      (2) Precast reinforced concrete.

      (3) Concrete block, provided that the core is filled with concrete and reinforcing rods are inserted in the core prior to pouring.

   d. Depth: The minimum liquid depth of the tank shall be forty two inches (42"), and the maximum liquid depth shall be seventy two inches (72").

   e. Inlet and Outlet Connections: The invert elevation of the inlet shall be at least two inches

(2") above the liquid level in the tank. The inlet and outlet openings of the septic tanks shall be provided with cast-in watertight openings.

f. Baffles: Septic tank baffles shall meet the following requirements:

(1) Inlet baffles shall be provided and shall extend at least six inches (6") below the surface of the liquid and to within at least three inches (3") of the tank lid.

(2) Outlet baffles shall be provided and shall be located no farther than six inches (6") from the outlet orifice. Outlet baffles shall extend to a depth of at least forty percent (40%) of the liquid depth. There shall be a clearance of at least one inch (1") of free space between the top of the tank and the baffles.

(3) Slip-in type baffles shall extend the full width of the tank.

(4) The sides of "V" or semi-circular type baffles shall fit tightly against the end wall of the tank.

(5) Venting shall be provided through all baffles and a free vent area equal to the cross-sectional area of the building sewer shall be provided.

(6) Submerged pipe T-branches or sanitary tees may be used at inlets and outlets in lieu of baffles, provided all of the above stated distances and depths are maintained. Submerged pipe T-branches used as inlet baffles shall be 6 inches in diameter or larger. Outlet baffles shall be 4 inches in diameter. Submerged pipe T-branches or sanitary tees shall meet the requirements of ASTM 2661, ASTM 2665, ASTM 3034, or ASTM 2751, provided that the pipe does not have an SDR (Standard Dimension Ratio) number greater than 35.

(7) When a single compartment septic tank is manufactured or used, a gas deflection baffle shall be provided below the outlet baffle of the tank configured to deflect rising gas bubbles away from the outlet structure and toward the interior of the tank. This baffle shall be constructed of a durable material not subject to corrosion or decay. An NSF International/ANSI Standard 46, Section 10 septic tank filter may be used in lieu of the gas deflector baffle. The septic tank filter baffle shall be installed so that it is extended or suspended to a depth equal to 40% of the liquid level of the tank. The tank access over the filter shall be provided with an access riser that extends to 3 inches above the ground surface or greater.

g. Access: Access shall be provided over the inlet and outlet of the tank to facilitate inspection and cleaning. The manhole or access opening shall have a fitted lid with a minimum dimension of 12 inches (width or diameter). Risers shall be watertight and constructed of a durable material. If the top of the tank is greater than 12 inches below the ground surface, a riser with a minimum dimension (width or diameter) of twelve inches (12") shall be provided by the private sewage disposal contractor at a height to bring access of the tank to the ground surface. If a 2- compartment tank is used, and the tank has an opening over the wall between the compartments, the center opening shall have access provided to the ground surface.

3. Capacity: Septic tanks for individual residences shall be sized in accordance with Appendix F of this Section. When the total flow exceeds one thousand three hundred fifty (1,350) gallons per day, two (2) or more tanks in series, or a multi-compartment tank, shall be installed.

Septic tanks for any establishment other than residential units shall be sized in accordance with the estimated flow provided in Appendix A of this Section, and as follows:

The volume below the liquid level for flows up to five hundred (500) gallons per day shall be at least seven hundred fifty (750) gallons. For flow greater than five hundred (500) gallons per day and less than one thousand five hundred (1,500) gallons per day, the volume shall be equal to at least one and one-half ($1^1/_2$) times the estimated daily sewage flow. For flows greater than one thousand five hundred (1,500) gallons per day, but less than fourteen thousand five hundred (14,500) gallons per day. The volume shall be one thousand one hundred twenty five (1,125) gallons plus seventy five percent (75%) of the daily sewage flow. For flows in excess of fourteen thousand five hundred (14,500) gallons per day, the Department and the Village shall be consulted.

4. Multiple Tanks or Compartments: When multiple compartment septic tanks or multiple septic tanks in series are used, the capacity of the first compartment or tank shall be one-half ($^1/_2$) to two-thirds ($^2/_3$) of the total required capacity. Two-compartment tanks shall also comply with the following:

   a. The wall separating the first and second compartments shall be tight-fitting and designed to handle the differential in pressure if one side is pumped.

   b. The wall separating the compartments shall extend to within 3 inches of the tank lid and shall have a free vent area equal to the cross-sectional area of the building sewer.

   c. The center of the opening between compartment shall be in line with the center of the inlet and outlet openings.

   d. The depth to the invert of the opening between compartments shall be 40% of the liquid depth.

5. Septic Tank Installation: The contractor shall use his best efforts to prevent floatation or drifting of the septic tank.

6. Abandoned Septic Tanks: Septic tanks, cesspools, and seepage pits which are no longer in use shall be completely pumped and collapsed in place, removed or filled with sand or soil.

7. Lift Station: If conditions as outlined in subsection (D)8 of this Section prohibit gravity drainage of effluent from the septic tank to the drop box, then a pump, designated by the manufacturer to handle domestic sewage, may be used as a component of a private sewage disposal system. Pump discharge head must be adequate to overcome the elevation differences between the pump and the drop boxes plus friction loss of discharge pipe. The end of the discharge line shall be designed to prevent siphoning effluent or ground water in the seepage lines back to the lift station. If check valves are required by the manufacturer, a weep hole above the valve is required to prevent freezing. Pumping rate shall not exceed the outflow capacity of the drop box.

(G) Distribution Boxes:

1. General: Distribution boxes may be installed between a septic tank or aerobic treatment plant and a subsurface seepage system or buried sand filter. If a distribution box is used, it shall be installed level on unexcavated earth, and shall provide equal distribution of flow to the subsequent disposal system.

2. Connecting Pipe: The pipe connecting the septic tank to the distribution box and the pipe connecting the distribution box to the disposal system shall be watertight.

3. Construction: Distribution boxes shall be constructed of a durable watertight, noncorrosive material. They shall be designed to accommodate the necessary distribution lines.

4. Access: Distribution boxes shall be provided with an opening which will serve as a ready access for inspection, cleaning, and general maintenance.

(H) Soil Treatment System Requirements:

1. Evaluation Of Soil Characteristics: The requirements of subsection (D)9a of this section shall be followed for the evaluation of soil characteristics for a subsurface seepage system. The area of soil required for each system shall be based on the values listed in appendix G of this section as obtained from a soil investigation.

a. Procedure For Performing Soil Investigations: Soil investigations shall be conducted in the following manner:

(1) Determination of the soil characteristics on sites proposed for development with private sewage disposal systems shall be based on soil boring data collected by a soil classifier.

(2) There shall be a minimum of 3 borings per subsurface seepage system site. The soil borings shall be at least 50 feet apart, and the proposed subsurface seepage system shall be located within the area where the soil borings were located. More soil borings may be necessary for accurate and appropriate evaluation of a site where there is some concern about the consistency of the soil materials. One of the borings shall be made at the lowest elevation of the proposed absorption field area. Borings shall extend a minimum of 60 inches below the natural ground surface. An observation pit shall be used in gravelly materials.

For permit applications associated with the construction of a new home or reconstruction of a home on an existing lot, additional soil testing will be required if the procedure described above results in a determination that an at-grade system or mound system would be required. Soil borings will be required for all areas of the lot within 300’ of the residence to determine if any area of the property is suitable for a soil treatment trench system. If no such area is found on the property, an at-grade system or mound system meeting the design requirements of Section 4-2-7(H)4 or 4-2-7(H)5 will be permitted.

(3) Observation and determination of soil characteristics may also be determined from a pit dug by a backhoe or other excavating equipment. The Village may require soil pits (backhoe excavation) in cases where the ground is frozen, where the soil materials are considerably varied in texture, where there has been previous or current fill material or cutting of soils, or where gravelly soils are encountered. Soil pits shall be prepared at the perimeter of the expected soil absorption area to minimize damage to natural soil structure. Soil pits shall extend a minimum of 60 inches below the natural ground surface.

(4) Site characteristics to be described include zones of seasonal and permanent water saturation, United States Department of Agriculture (USDA) soil textural changes, USDA soil structural features for each horizon, slope, compaction and depth; soil coloration; consistence; coatings; depth of limiting layer; depth of soil mottling; internal drainage classification; permeability range; and other limiting soil characteristics that may reduce permeability. The following reference materials shall be used as a guide for describing and classifying soil: Field Book for Describing and Sampling Soils, Soil Taxonomy, and Soil Survey Manual.

b. Only those meeting the definition of soil classifier as described in Section 4-2-7(C) qualified to conduct soil investigations.

2. Reserve Field: Every private sewage disposal system shall include, to the satisfaction of the building officer, a reserve soil treatment area for future expansion or replacement equal in size to one hundred percent (100%) of the existingsoil treatment area .

3. Design Requirements for Soil Treatment Trench Systems:

a. Construction: Subsurface seepage fields shall be designed and constructed in accordance with appendices H and I of this section. Any subsurface seepage field approved in clayey soils as described in exhibits D and E of title 6 of this code shall be installed in natural or undisturbed soils.

b.Bedding Material: The bedding material shall be washed gravel or washed stone with a particle size ranging from three-fourths inch (3/4") minimum to one and one-half inches (1 1/2") maximum, except where a chamber system is approved. The bedding material shall extend the full width of the trench as illustrated in Appendix I of this Section. The bedding materials shall be covered by straw, newspaper, or untreated building paper or other pervious material to support the backfill as the laying of the distribution line proceeds. Tar paper, plastic, or other impervious material shall not be used between the bedding material and the earth backfill. Chamber systems may be bedded with material excavated to construct the system. The backfill material shall not contain large clods of earth, demolition material or other extraneous material. No straw, newspaper, or untreated building paper shall be placed between the chamber system and the earth backfill."

c.Distribution Lines: Distribution lines shall be constructed of materials as approved in Appendix C of this Section. The lines shall be perforated or open joint tile. Where open joint tile is used, the tile sections shall be spaced not less than one-fourth inch (1/4") nor more than one- half inch (1/2") apart. Perforated piping shall have one-half to three-fourths inch (1/2" - 3/4") diameter openings on three to five inch (3" - 5 ") centers with a minimum of two (2) rows. The ends of the lines shall be looped except in serial distribution systems. Chambers systems shall include connections between adjacent chambers to prevent soil intrusion. Each row of a chamber system shall include an inlet end cap and an outlet end cap, and shall be bent no more than 20 degrees per unit unless it is capped and piped to another line.

d. Serial Distribution: The following criteria, as illustrated in Appendix J of this Section, shall be used in the design and construction of a serial distribution system:

(1) The bottom of each trench and its distribution line shall be level at a depth not greater than thirty six inches (36") from finished grade.

(2) There shall be a minimum of six inches (6") to a maximum of twenty four inches (24") of earth backfill over the bedding material in the trenches or over the top of a chamber in a chamber system. Machinery which may crush or disturb the alignment of pipe in the trench shall not be allowed on any part of the proposed area.

(3) The trench shall follow the ground surface contours so that variation in trench depth will be minimized.

(4) There shall be a minimum of six feet (6') of undisturbed earth between the septic tank and the nearest trench.

(5) Drop boxes shall be arranged in series, so that each trench is completely filled to the full depth of the gravel or to the top of the chamber in a chamber system before effluent flows to the succeeding trench.

(6) The drop boxes connecting the trenches shall have watertight joints and direct connections to the distribution lines in adjacent trenches. Drop boxes, tight joint "T's" or forty five degree (45^{o}) ells shall be used to connect adjacent trenches.

(7) Where the drop box trench connects with the higher trench, it shall not be deeper than the top of the gravel in the higher trench or the top of the higher chamber in a chamber system. Drop boxes shall rest on undisturbed earth and the backfill shall be carefully tamped.

(8) The invert of the first drop box line shall be at least six inches (6") lower than the invert of the septic tank or aerobic treatment plant outlet. (See Appendix J of this Section.)

(9) All other construction features of the serial distribution field shall comply with subsection (H)1 through 8 of this Section.

4. Design Requirements for At-Grade Systems

a. Pretreatment shall be by septic tank sized for the projected flow per Appendix F and augmented by an approved effluent filter or by a Class I aerobic unit sized per Appendix F.

b. The soil absorption area shall be plowed in accordance with Section 4-2-7(H)10.c. All vegetation shall be cut to the ground surface and removed from the soil treatment area prior to placing the sand.

c. Distribution to and into the absorption area shall be by low pressure pipe (LPP). LPP network piping shall be as specified in this section and Section ?????.

d. The lift station shall be sized for the projected flow per Appendix F.

e. The invert of the distribution lines shall be a minimum of six inches (6”) above existing grade.

f. The square footage of the soil treatment area shall be equal to the projected daily flow in gallons per day divided by the wastewater loading rate in gallons per day per square foot.

g. The minimum length of the at-grade soil treatment area shall be limited by the maximum linear loading rate. The linear loading rate is equal to the projected daily flow in gallons per day divided by the total length of the soil treatment area in feet, and shall be limited as follows:

(1) At-Grade Systems on soils in resource groups A, B, or C shall be designed with a maximum linear loading rate of twelve (12) gallons per day per foot. A maximum of three (3) basal areas may be connected perpendicular to the slope.

(2) At-Grade Systems on soils in resource groups D or E shall be designed with a maximum linear loading rate of six (6) gallons per day per foot. A maximum of two (2) basal areas may be connected perpendicular to the slope.

h. When laterals are at different elevations, a flow control device shall be used to control the inline pressure of the laterals.

i. The minimum depth of gravel in the at-grade soil treatment area shall be ten inches (10”), with six inches (6”) of gravel beneath the pipe and two inches (2”) above. The gravel of an at-grade system shall be covered with a minimum of twelve inches (12”) of topsoil to support vegetative cover. Additional cover shall be placed as needed to accommodate drainage. The gravel shall be completely covered with an appropriate geotextile fabric prior to the placement of topsoil.5. Design Requirements for Mound Systems

a. Pretreatment shall be by septic tank sized for the projected flow per Appendix F and augmented by an approved effluent filter or by a Class I aerobic unit sized per Appendix F.

b. The basal area is defined based upon the slope of the site as illustrated in Appendix N. The basal area shall be plowed in accordance with Section 4-2-7(H)10.c and filled in accordance with Section 4-2-7(H)10.d. The fill material shall cover the entire basal area. The fill shall slope away from the top of the application bed at a maximum slope of 3:1 in all directions. All vegetation shall be cut to the ground surface and removed from the soil treatment area prior to placing the sand.

c. Distribution to and into the absorption area shall be by low pressure pipe (LPP). LPP network piping shall be as specified in this section and Section ?????.

d. The lift station shall be sized for the projected flow per Appendix F.

e. The invert of the distribution lines shall be a minimum of six inches (6”) above the fill material.

f. The square footage of the soil treatment area shall be equal to the projected daily flow in gallons per day divided by the loading rate of the coarse sand fill, one gallon per day per square foot (1.0 gpd/ft^2) or 1.2 gpd/ft^2 when an aerobic treatment unit is proposed for pretreatment.

g. The minimum length of the at-grade soil treatment area shall be limited by the maximum linear loading rate. The linear loading rate is equal to the projected daily flow in gallons per day divided by the total length of the application bed in feet, and shall be limited as follows:

(1) Mound Systems on soils in resource groups A, B, or C shall be designed with a maximum linear loading rate of eight (8) gallons per day per foot. A maximum of three (3) basal areas may be connected perpendicular to the slope.

(2) Mound Systems on soils in resource groups D or E shall be designed with a maximum linear loading rate of four (4) gallons per day per foot. A maximum of two (2) basal areas may be connected perpendicular to the slope.

h. When laterals are at different elevations, a flow control device shall be used to control the inline pressure of the laterals.

i. The square footage of the basal area shall be equal to the projected daily flow divided by the assigned soil wastewater loading rate in gallons per day per square foot. The minimum length of the basal area shall be equal to the minimum length of the application bed.

j. The fill material shall be extended beyond the basal area, tapering to grade at 3:1 slope.

i. The minimum depth of coarse sand fill material covering the basal area shall be twelve inches (12”). The application bed shall be covered with a minimu of twelve inches of topsoil. The said fill of the end slopes and side slopes shallb e covered with a minimum of six inches (6”) of topsoil. Additional cover shall be placed over the application bed(s) as needed to accommodate drainage. The gravel shall be completely covered with an appropriate geotextile fabric prior to the placement of topsoil.

6.Seepage Beds: The total bottom area of the seepage bed shall be one and one-half ($1^1/_2$) times the area specified in Appendix G of this Section. Construction features shall conform to subsection (H)1 through 7 as illustrated in Appendix K of this Section. Distribution lines shall be spaced no farther than six feet (6') center to center and shall be equally spaced. Lines adjacent to the bed sidewalls shall be three feet (3') from the bed sidewall.

7. Curtain Drain: When required by drainage conditions as identified in subsection (D) of this Section, a curtain drain system shall be installed upslope from the seepage field to intercept and accept the lateral movement of surface or ground water and discharge the water below the field in a manner that shall not cause a nuisance.

8. Location and Design: Curtain drains shall not be within fifteen feet (15') of a seepage field line and the final ten feet (10') must be a single piece. Curtain drain trenches shall be six to twelve inches (6" - 12") wide and thirty six inches to forty eight inches (36" - 48") deep or to the top of the seasonal high water table. The trench may hold a clay or plastic piping as well as gravel having a minimum particle size of one and one-half inches ($1^1/_2$").

9. Low Pressure Pipe Systems: Distribution of wastewater into At-Grade Systems and Mound Systems by low pressure pipe systems shall be designed to the following reuqirements:

a. Minimum supply/manifold line diameter shall be two inches (2”).

b. Minimum lateral wastewater distribution pipe diameter shall be one and one-half inches (1½”).

c. Minimum perforation size shall be three-sixteenths inches (3/16”).

d. Maximum perforation spacing shall be three feet.

e. Minimum distal end pressure on any lateral line shall be one foot (1') of head pressure. Maximum distal end pressure on any lateral line shall be five foot (5') of head pressure.

10. Site Preparation: Any preprartion of the soil absorption area shall be conducted only when the soil is dry. Site preparation shall be conducted under the supervision of a licensed contractor.

    a. Mowing: All sites shall be mowed and cleared of brush.

    b. Tree Removal: Any removal of trees shall be by cutting near the surface. Stumps may be removed by grinding or cutting, but shall not be uprooted.

    c. Plowing: Sites approved for At-Grade Systems or Mound Systems shall be plowed prior to placement of fill or gravel as follows:

        (1) Equipment shall be a chiselplow or bold board plow.

        (2) Plowing shall be done parallel to the site contour.

        (3) Tillage shall be minimal to break the consistency of the sod; maximum depth shall be eight inches (8").

        (4) After tilling, the site shall not be graded or smoothed.

    d. Fill: The placement of fill material for At-Grade Systems or Mound Systems shall be as established in this section.

        (1) Fill Specifications: Fill shall be gravel for At-Grade Systems and approved coarse sand for Mound Systems.

        (2) Fill Placement: The fill shall be placed according to the approved plan and shlal be placed immediately after site preparation.

        (3) Storage and Transportation: The storage and transportation of fill shall be as specified on the approved plan; no traffic shall be allowed directly on the plowed area.

        (4) Filling procedure: Fill shall be placed only from the upslope or ends of the proposed soil absorption area. Material may be placed using a backhoe reaching into the soil absorption area or may be pushed into the soil absorption area by low compression equipment maintaining a minimum of ten inches of material beneath the equipment.

(I) Buried Sand Filters:

1. General: Sand filters shall be only used in a repair situation. The effluent shall be discharged in accordance with the requirements of this Section.

2. Design Requirements:

a. Size: Buried sand filters shall be sized as follows:

(1) Residential: The sand filter surface area for residential systems shall be two hundred (200) square feet per bedroom. Where a sand filter is used in conjunction with an aerobic treatment plant, the size of the sand filter may be reduced by thirty percent (30%).

(2) Non-residential: The surface area of the sand filter shall be designed for one square foot per gallon per day for waste with an influent Biochemical Oxygen Demand (BOD) not to exceed 300 parts per million (ppm). A sand filter with flows of 801 gallons or more per day shall have the influent distributed into the sand filter by a dosing system designed according to subsection (i). The sand filter shall be dosed 4 times per day with equal flows not to exceed the design capacity of the filter.

b. Sand Filter Media: The depth of filter media shall be a minimum of twenty four inches (24"). The sand shall have an effective size of 0.5 to 2.0 millimeters, and a uniformity coefficient of less than 3.5. It shall be washed and free of clay and silt.

c. Alternate Media: Other filter media may be used in a subsurface filter provided it meets the criteria of subsection (I)2b hereof and complies with the following requirements:

(1) Is chemically and biologically inert.

(2) Will support biological growth.

(3) Has a hardness equivalent to, or greater than, that of sand.

d. Filter Media Cover: The filter media shall be covered, as illustrated in Appendix L of this Section, with a minimum of ten inches (10") of washed gravel or washed stone having a particle size ranging from three-fourths inch ($^3/_4$") minimum to one and one-half inches ($1^1/_2$") maximum. The gravel or stone shall be covered by straw, newspaper, or untreated building paper or other pervious material prior to backfilling. Tar paper, plastic, or other impervious material prior to backfilling. Tar paper, plastic, or other impervious material shall not be used between the filter media and the earth backfill. A minimum of twelve inches (12") earth cover shall be provided.

e. Distribution and Collection Lines: The distribution and collection lines shall conform to the requirements for distribution lines as given in subsection (H)7 of this Section. The distribution lines shall be level, shall be located three feet (3') from sidewalls, and shall be spaced on three foot (3') centers. They shall be solid pipe to the filter media. The collection lines shall have a slope of six inches (6") per one hundred feet (100') and one collection line shall be provided for each ten foot (10') of width or fraction thereof. The upper end of the collection line shall be capped.

f. Bedding Material: The bedding material for the collection lines shall be placed on the excavation before placement of the collection lines as shown in Appendix L of this Section and shall consist of a minimum of two inches (2") of washed gravel or washed stone having

a particle size ranging from three-fourths inches ($^3/_4$") minimum to one and one-half inches ($1^1/_2$") maximum.

g. Venting: A vent shall be placed on the downstream end of the distribution lines as shown in Appendix L of this Section. The vent shall extend above the ground surface and be screened with one-fourth inch ($^1/_4$") mesh screen or equivalent.

h. Drainage: Surface drainage shall be directed away from the filter. If conditions prohibit gravity drainage of the filter effluent, a pumping chamber shall be installed. The chamber shall be constructed of a watertight, non-corrosive material and shall be provided with a removable lid, which will serve as an access for inspection, cleaning, and general maintenance. An access port or extension collar shall extend at least 6 inches above the ground surface, and the access shall have a minimum dimension of 12 inches. The chamber shall have sufficient depth and the pump controls shall be set in a manner to allow for complete drainage of the filter to eliminate any ponding of effluent within the filter.

i. Distribution of Effluent. Buried sand filters designed to treat non-residential property with flows of 801 gallons or more per day shall have the effluent distributed into the sand filter by pumping. The pumps, pumping chamber, and ancillary equipment shall comply with the following:

(1) Dosing Volume. The dosing volume is the amount of liquid pumped or siphoned during each cycle minus the amount that drains back from the sand filter after each dose.

(2) Pump Selection. The pump shall be submersible pump designed for corrosive liquids.

(3) Siphons. Siphons can be designed where elevation exists between the sand filter and the siphon chamber. However, the siphon shall be designed to deliver the same flow rate at the same head at the distribution system as a pump system. The distribution system consisting of manifold and laterals shall be designed so that it will drain after each siphon. This shall be accomplished by placing the manifold above the laterals.

(J) Aerobic Treatment Plants:

1. General: After the effective date of this Code, aerobic treatment plants shall comply with the requirements of the National Sanitation Foundation (NSF) Standard Number 40, Individual Aerobic Wastewater Treatment, May 1983, and shall bear the NSF seal. A copy of a list of approved aerobic treatment plants may be obtained from the Building Officer.

2. Class II Effluent: Aerobic treatment systems listed by NSF for Class II effluent (BOD5-60 mg/l and suspended solids 100 mg/l) shall discharge to one of the following:

a. A subsurface seepage system designed and constructed in accordance with the requirements of subsection (H) of this Section.

b. A sand filter designed and constructed in accordance with the requirements of subsection (I) of this Section.

3. Class I Effluent: Aerobic treatment plants listed by NSF for Class I effluent (BOD5-20 mg/l and suspended solids 40 mg/l) shall discharge to a subsurface seepage field designed and constructed to be at least two-thirds ($^2/_3$) the size listed in Appendix G of this Section as obtained from soil investigation.

4. Sizing: Aerobic treatment plants which are listed by NSF as Class I and rated at five hundred (500) gallons per day may be allowed for the treatment of domestic sewage from dwellings having a maximum of three (3) bedrooms.

5. Installation: All components of aerobic treatment plants shall be installed at the time of the original installation. If there are practical difficulties, then a solid end cap shall be securely placed over the end of the discharge line until the system can be completed, to prevent a violation of subsection (D)7 of this Section.

6. Access: Access to aerobic treatment plants shall be adequate to allow maintenance and service of all components within the plant.

7. Operation Permit: Upon the installation of an approved aerobic treatment plant, the property owner shall secure an operation permit from the Building Officer at a fee to be established by the Village Board as a record and notice of the installation. The permit shall be in a form containing all pertinent information as to construction, installation and operation of the aerobic treatment plant. A copy of the permit shall be filed with the Village and the Illinois Department of Public Health and the county in which the plant is situated. This permit shall be annually renewed on the anniversary date of the installation for as long as an aerobic treatment plant is used in the private sewage disposal system for the dwelling. Failure to obtain or renew the permit shall constitute a violation of this Title.

(K) Maintenance of Private Sewage Disposal Systems

1. After January 1, 2014, as a condition of receiving a building permit to install a new private sewage disposal system or repair or renovate an existing system, the property owner shall sign the permit acknowledging that they are aware of and accept the responsibility to service and maintain the private sewage disposal system in accordance with Village requirements.

2. For systems installed and permitted after January 1, 2014, the property owner shall maintain all maintenance records on forms provided or approved by the Illinois Department of Public Health and make records available upon request of the Village. These records shall be transferred from owner to owner. Records shall be kept for the life of the system.

3. After January 1, 2014, private sewage disposal systems installed and permitted under Section 4-2-7 of the Village Code are required to be maintained and serviced to ensure proper operation in accordance with the following:

a. Septic tank to a subsurface seepage system or septic tank followed by a sand filter discharging to a subsurface seepage system.

(1) Private sewage disposal system septic tanks serving residential properties shall be evaluated prior to or within 3 years after the date of installation of the system. The system may be evaluated by the homeowner, a Private Sewage Disposal System Installation Contractor, a licensed Environmental Health Practitioner, an Illinois licensed Professional Engineer, a representative of the Illinois Department of Public Health, or an agent of the Illinois Department of Public Health. The evaluation

shall determine whether the tanks and all of the components of the private sewage disposal system have layers of scum and settled solids greater than 33% of the liquid capacity of the tank. If the layers of scum and settled solids are greater than 33%, the tanks and compartments shall be pumped out and maintenance shall be performed. After the first evaluation, the system shall be evaluated a minimum of once every 5 years. Depending on the system's use, the tanks and compartments may need to be evaluated and pumped more frequently.

(2) Private sewage disposal system septic tanks serving non-residential property shall be evaluated within 3 years after the date of installation of the system. The system may be evaluated by a Private Sewage Disposal System Installation Contractor, a licensed Environmental Health Practitioner, an Illinois licensed Professional Engineer, a representative of the Department, or an agent of the Department or local health department. The evaluation shall determine whether the tanks and all of the compartments of the private sewage disposal system have layers of scum and settled solids greater than 33% of the liquid capacity of the tank. If the layers of scum and settled solids are greater than 33%, the tanks and compartments shall be pumped out and maintenance shall be performed. After the first evaluation, the system shall be evaluated at minimum once every 3 years. Depending on the system's use, the tanks and compartments may need to be evaluated and pumped more frequently.

b. An aerobic treatment unit (ATU) requires evaluation and maintenance at least once every 6 months. The system may be evaluated by a Private Sewage Disposal System Installation Contractor, a licensed Environmental Health Practitioner; an Illinois licensed Professional Engineer, a representative of the Illinois Department of Public Health, or an agent of the Illinois Department of Public Health. The homeowner of an ATU may conduct the inspection and maintenance as defined within the Act, but the inspection and maintenance shall be performed per the manufacturer's requirements to assure proper operation. If the required inspections and maintenance are not performed, the system is in violation of the Act and this Part.

c. Buried sand filters require an evaluation to determine whether the tanks and all of the compartments of the private sewage disposal system have layers of scum and settled solids greater than 33% of the liquid capacity of the tank. If the layers of scum and settled solids are greater than 33%, the tanks and compartments shall be pumped out and maintenance shall be performed. The system shall be evaluated a minimum of once every year. The system may be evaluated by a Private Sewage Disposal System Installation Contractor, a licensed Environmental Health Practitioner, an Illinois licensed Professional Engineer, a representative of the Illinois Department of Public Health, or an agent of the Illinois Department of Public Health. Depending on the system's use, the tanks and compartments may need to be evaluated and pumped more frequently.

4. A failure to properly operate, maintain, and have routine service conducted on a private sewage disposal system is a violation of this Title of the Village Code.

(L) Swimming Pool Wastewater:

1. General: Wastewater generated from the operation of a swimming pool includes clear wastes, such as drainage from the pool proper, deck drainage, and perimeter overflow system drainage; and turbid wastes, such as filter wash and backwash water.

2. Approved Treatment and Disposal: Wastewater from swimming pools may not be discharged to a private sewage disposal system receiving domestic sewage. It shall be disposed of in the following manner:

a. Clear water wastes may be discharged directly to storm sewers, surface drainage ways or to the ground surface without additional treatment. Such drainage shall not result in nuisance conditions including, but not limited to, offensive odor, stagnant wet area or a breeding environment for insects.

b. Wash or backwash water from an approved treatment system of swimming pool wastewater may be discharged to natural drainage areas, storm sewers, seepage pits, or to the ground surface. Diatomaceous earth filter wash or backwash water may be discharged to one of the above after treatment consisting of one of the following approved systems:

(1) Passing the wastewater through a separation tank designed for removal of the diatomaceous earth and suspended solids.

(2) Settling the wastewater in a tank which is capable of holding the volume of one backwash. One backwash is defined as the amount of water generated from the backwash of the filters for a period of two (2) minutes for diatomaceous earth filters, at the required backwash flow rate. The tank shall be de-watered after settling and prior to subsequent backwashes. Settled sludge shall be periodically removed to prevent flushing of solids during backwashing. (See Appendix M of this Section.)

(3) A separate private sewage disposal system designed and constructed in accordance with the applicable provisions of this Section.

(M) Servicing, Cleaning, Transporting and Disposing of Wastes from Private Sewage Disposal Systems:

1. General: The collection, storage, transportation, and disposal of all septage shall be handled in accordance with this subsection (L).

2. Truck Identification: The name under which the business is conducted and the address of each contractor shall be painted on each side of every pumper truck operated by him. The letters shall be easily legible and at least three inches (3") high.

3. Equipment Inspection: Equipment shall be subject to inspection and approval by a representative of the Department of the Village at any reasonable time; and upon request, shall be available for inspection at a designated location.

4. Vehicle Construction and Equipment: Each vehicle used for collection and transportation of waste shall be equipped with a leakproof and tightly sealed tank for septage hauling. The interior and exterior sections of all portable containers, pumps, hoses, tools, or other implements which have been contaminated shall be rinsed clean after each use and the rinsings shall be disposed of such that no health hazard or nuisance results. Trucks and tanks shall comply with the following:

a. The vehicle shall be equipped with either a vacuum pump or other type of pump which is self-priming and will not allow any seepage from the diaphragm or other packing glands.

b. The discharge nozzle will be located so that there is no flow or drip onto any portion of the

truck.

c. The discharge nozzle shall be capped when not in use.

5. Seepage Disposal Site: Each licensed contractor engaged in septage disposal shall file with the Department, and each year amend, a statement describing the location and methods of disposal of septage. Methods of septage disposal approved by the Department are as follows:

a. Discharge to a Municipal Sanitary Sewer System: Discharge to a Municipal sanitary sewer system is approved when the Municipality has approval from the Illinois Environmental Protection Agency to receive septage from private sewage disposal systems; and the contractor has written approval from the Municipality to discharge septage into the system.

b. Application to Agricultural Land: Septage may be applied to agricultural land provided the following criteria are met:

(1) The depth to the ground water table or to fractured limestone formations is at least four feet (4') below the ground surface.

(2) The septage is disposed of in the following manner:

(a) It originates from private sewage disposal systems which treat only domestic sewage;

(b) It is not applied to land which has been saturated by rainfall during the twenty four hour (24) period preceding the intended application time;

(c) It is not applied to land with water ponded upon it;

(d) It is not applied to land within one hundred fifty feet (150') of wells, homes, or other water supplies, ponds, or streams;

(e) It is not applied to land having greater than five percent (5%) slope;

(f) It is not applied to land that is intended to grow root vegetables, or other low growing fruits and vegetables which may be eaten raw;

(g) It is applied at a rate which does not exceed five thousand (5,000) gallons of septage per acre per month;

(h) Where it is determined by the Department or the Village that a nuisance condition exists, then the septage shall be incorporated into the soil.

(3) Discharge to Sludge Lagoons or Sludge Drying Beds: Discharge to a sludge lagoon or drying bed must be approved by the Illinois Environmental Protection Agency, or the owner/operator of the lagoon or drying bed must have a permit from the Illinois Environmental Protection Agency to receive septage from the contractor. If the contractor is going to construct a sludge lagoon or drying bed, a permit will be necessary from the Illinois Environmental Protection Agency to construct and operate the proposed facility.

(4) Discharge to an Incinerator Device: Discharge of septage to an incinerator must be approved by the Illinois Environmental Protection Agency or the owner/operator of the incinerator must have a permit from the Illinois Environmental Protection Agency to receive septage from the contractor.

(5) Discharge to a Sanitary Landfill: Discharge to a sanitary landfill must be approved by the Illinois Environmental Protection Agency or the owner/operator of the landfill must have a permit from the Illinois Environmental Protection Agency to receive the septage from the contractor.

6. Other Wastes: Automotive grease, oil, grit, or toxic wastes, or any waste other than septage shall not be applied to agricultural land.

(N) Minimum Performance Standards for Private Sewage Disposal Contractors:

1. General: All private sewage disposal contractors working within the corporate limits of the Village shall be licensed by the Illinois Department of Public Health pursuant to 225 Illinois Compiled Statutes 225/4. All notification forms, plans and percolation test results, and copies thereof, shall bear the seal of a registered professional engineer. The affixing of a registered professional engineer's seal to any work which has not been done by, or under the professional supervision, of the registered professional engineer is a violation of the Illinois Professional Engineering Act and the Village shall cause the Act to be enforced.

a. Installers of Private Sewage Disposal Systems: Licensed contractors who install or repair private sewage disposal systems within the corporate limits of the Village shall:

(1) Obtain a permit from the Building Officer prior to the commencement of a new system or repair. The application for the permit shall be in writing on forms provided for this purpose and shall include at a minimum: name of the property owner, legal description of the property, existing and proposed contours, location of any lakes, streams, surface and subsurface drainage ways within one hundred feet (100') of the system, water table elevation, location of any well and potable water lines, locations and results of percolation tests, design calculations and location and dimension of the system (including reserve seepage field).

(2) Construct or repair the private sewage disposal system in accordance with this Section.

(3) Comply with the inspection requirements in subsection 4-2-8(C) of the Village Code.

b. Pumpers and Tank Cleaners: Contractors who pump, service and clean septic tanks and dispose of their contents shall:

(1) Notify the Department or the Village of the site utilized for disposal, and of any changes in the site of disposal.

(2) Comply with all requirements of subsection (L) of this Section of the Village Code.

(3) Provide an annual estimate of the total gallons of septage disposed of at each site. This estimate shall be given at the time application is made for license renewal.

2. Non-Performance of Private Sewage Disposal Services: Licensed private sewage disposal contractors who have not installed, modified, or renovated any systems or have not serviced or cleaned any private sewage disposal systems during the preceding year, shall so indicate on the renewal application to the Department at the time application is made for license renewal.

3. Enforcement: Failure to comply with the minimum performance standards of this Section, shall constitute sufficient grounds for suspension, revocation or refusal to renew a license. The Department's "Rules and Regulations of Practice and Procedure in Administrative Hearings (77 Illinois Administrative Code 100)" will govern such actions.

(O) Appendices: The appendices attached hereto are incorporated herein.

(P) Prerequisite to Building Permit: The Building Officer shall be provided with adequate proof of compliance with this Section prior to the issuance of a building permit. (Ord. 84-4, 3-26-84)

(Q) Enforcement: The Board of Health shall administer and enforce this Section to the extent not preempted by the Illinois Department of Public Health. (Ord. 92-8, 4-27-92)

APPENDIX A

Table A.1 Soil Resource Groups

Table A.2 Maximum Wastewater Loading Rates

Table A.1 – Soil Resource Groups

Soil Resource Group A: The following soils formed in loamy to sandy material overlying sandy or gravelly lacial outwash, have a moderately well or greater drainage class, and a particle size class of coarse-loamy, sandy skeletal, or fine-loamy over sandy or sandy-skeletal.

54 Plainfield
93 Rodman
323 Casco
325 Dresden
327 Fox
570 Martinsville
706 Boyer

Soil Resource Group B: The following soils formed in silty material overlying stratified glacial outwash, have a somewhat poor or greater drainage class, and a particle size class of fine-silty.

134 Camden
365 Aptaksic
442 Mundelein
443 Barrington
526 Grundelein
696 Zurich
697 Wauconda
698 Grays
791 Rush
792 Bowes

Soil Resource Group C: The following soils formed in silty clay loam glacial till, have a somewhat poor or greater drainage class, and a particle class size of fine.

23 Blount
146 Elliott
194 Morley
223 Varna
298 Beecher
530 Ozaukee
531 Markham

Soil Resource Group D: The following soils formed in silty clay loam lacustrine sediments and have a somewhat poor or greater drainage class.

189 Martinton
192 Del Rey
370 Saylesville

Soil Resource Group E: The following soils formed in silty clay or clay glacial till and have a somewhat poor or greater drainage class.

228 Nappanee
320 Frankfort

Soil Resource Group F: The following soils have a seasonal high water table at a depth of less than 12 inches from the ground surface.

67 Harpster
97 Houghton Peat
103, 1103, 3107 Houghton Muck
107, 1107 Sawmill
153 Pella
219 Millbrook
232 Ashkum
330, 1330 Peotone
367 Beach Sand
465 Montgomery
488 Hooppole
513 Granby
523 Dunham
626 Kish
1082 Millington
1529 Selmass
GP Gravel Pit
MA Marsh
ML Made Land

Table A.2 – Maximum Wastewater Loading Rates: Trench Systems & seepage beds use the most limiting soil condition in the upper 24"; At-grade systems and mound systems use the most limiting soil condition in the upper 12".

	Till / Lacustrine	Outwash
Gravelly coarse sand	0.00	0.00
Moderate or strong platy structure	0.00	0.00
Sandy clay loam, silty clay loam, or finer, and weak platy structure	0.00	0.00
Moist soil consistence stronger than firm or any cemented class	0.00	0.00
Sandy clay, clay, or silty clay texture and weak or massive structure	0.00	0.00
Sandy clay loam, clay loam, silty clay loam, silt, loam or silt loam texture and massive structure	0.00	0.00
Sandy clay, clay, or silty clay texture of low clay content and moderate or strong structure	0.20	0.20
Sandy clay loam, clay loam, silty clay loam or silt loam texture with weak structure	0.20	0.30
Clay loam, silty clay loam, or silt loam texture and moderate or strong structure	0.40	0.50
Sandy loam or loam texture and weak structure	0.40	0.50
Sandy clay loam, sandy loam, or loam texture and moderate or strong structure	0.50	0.70
Fine sand, very fine sand, loamy fine sand, or loamy very fine sand	0.60	0.70
Loamy sand, sand, or coarse sand texture	0.80	0.80

When a Class I aerobic unit is proposed, the wastewater laoding rate indicated above may be increased by a factor of 20%.

APPENDIX B

Table B.1 Quantity of Sewage Flows

Table B.2 Approved Plastic Pipe Materials

Table B.1 - QUANTITY OF SEWAGE FLOWS

Type Of Establishment	Gallons Per Person Per Day (Unless Otherwise Noted)
Permanent Dwellings	
Board houses	50
Boarding schools	150
Institutions, other than hospitals (per bed)	125
Mobile homes, individual (per bedroom)	200
Mobile home parks (per space)	400
Multi-family dwellings (per bedroom)	150
Rooming houses	40
Single family dwellings (per bedroom)	200*
Travel And Recreational Facilities	
Airports, railway stations, bus stations	5
Campgrounds	
Comfort station w/toilets and showers (per space)	35
Comfort station w/toilets, no showers (per space)	25
Day camps, no meals	25
Travel trailer parks with water and sewer hook-ups (per space)	50
Cottages and/or small dwellings with seasonal company (per bedroom)	150
County clubs (per member)	25
Highway rest areas	5
Hotels and motels (per bed)	50
Picnic parks	5
*See Appendices F and G	
Places for public assembly	5
Swimming pools and bathing beaches	10

Theaters	
Movie (per seat)	5
Drive-in (per car space)	10
Commercial, Industrial, And Miscellaneous	
Churches (per seat)	3
With kitchens, add (per meal)	3
Construction camps or sites, factories	
With toilets and showers	35
With toilets, no showers	20
Hospitals (per bed)	250
Laundries (per customer)	50
Offices and other day workers	15
Restaurants, with toilets (per meal)	10
Restaurants, without toilets (per meal)	3
Additional for bars and cocktail lounges	2
Schools	
Without cafeterias or showers	15
With cafeterias and showers	25
With cafeterias or showers	20
Service stations (per vehicle served)	10
Shopping centers (per 1000 sq. ft. floor area)	250
Stores (per toilet room)	400
Accessory Uses	
Non-commercial Stable/Barn	
Commercial Stable	

Table B.2 - APPROVED PLASTIC PIPE MATERIALS

MATERIAL	SYMBOL	STANDARD
Acrylonitrile_Butadiene_Styrene	ABS	ASTM DI788_78a
Polyethylene (corrugated and perforated)	PE	ASTM F405_77a
Polyethylene (smooth-wall and perforated)	PE	ASTM D3350_80
Polyvinylchloride	PVC	ASTM DI784_78
Polyvinylchloride (Schedule 40, 80 & 120)	PVC	ASTM DI784_78
		DI785_76
Styrene-Rubber	SR	ASTM D2852_77
Styrene-Rubber (perforated)	SR	ASTM D3298_74

APPENDIX C

LIST OF APPROVED PLASTIC PIPE FOR SEPTIC USES

TYPES OF PIPES	ASTM STANDARD	BUILDING SEWER[1] 5 Ft. From Building To Septic/Aeration Tank To 6 Ft. Beyond Tank Or Distribution box	SEWER LINES[1] Additional Treatment Facilities, And Sand Filter Collection And Distribution Lines	ALL DISTRIBU-TTION LINES
ABS (sewer pipe)	D2751-05	x[2]	x[2]	x[2]
ABS (DWV schedule 40)	D2661-06; F628-06	x	x	x
PVC (type PSM)	D3034-06	x[2]	x[2]	x[2]
PVC (DMV schedule 40)	D2665-07; F891-04	x	x	x
PVC (STD/-perforated)	D2729-03		x	x
PE (corrugated or perforated)	F405-05[3]			x

x -INDICATES APPROVED USE

1 -Commingling of plastic materials shall not be done except through use of proper adaptors (see Illinois State Plumbing Code, 1983). When building sewer is of a type of material that is different from building drain, proper transition fittings shall be used.

2 -Pipe shall not have a standard dimension ratio (SDR) greater than 35.

3 -Heavy duty only.

APPENDIX D

LOCATION OF COMPONENTS OF PRIVATE DISPOSAL SYSTEMS [1]

MINIMUM DISTANCE ALLOWABLE FROM[1]

COMPONENT PART OF SYSTEM	Well or Suction Line from Pump to Well	Water Supply Line[3] (Pressure)	Lake, Stream or Other Body of Water[4]	Dwelling	Property Line or R.O.W.[5]	Field Drain Tile
	FEET	FEET	FEET	FEET	FEET	FEET
Building Sewer[2]	50	10	50	-	-	-
Septic Tank/Aerobic Treatment Plant	50	10	50	10	10	-
Distribution Box	75	10	50	10	10	
Soil Absorption Trench / Bed (Except Chamber Systems)	75	25	50	20	10	10
Sand Filter	75	25	50	20	10	10
Chamber System	100	25	100	20	10	25
Class V Injection Wells[6]	200[7]	25	25	10	5	10

1. These distances have been determined for use in clay, silt, and loam soils only. The minimum distances required for the use of a private sewage disposal in sand or other types of soil shall be determined and approved by the Village when the soil in question can provide equal or greater treatment of the sewage. See 4-2-7(D) for additional requirements.

2. The building sewer may be located to within 10 feet of a well or suction line from the pump to the well when cast iron pipe with mechanical joints or Schedule 40 PVC pipe with water-tight joints is used for the building sewer.

3. See 4-2-7(D)4 for details on the separation of sewer and water lines.

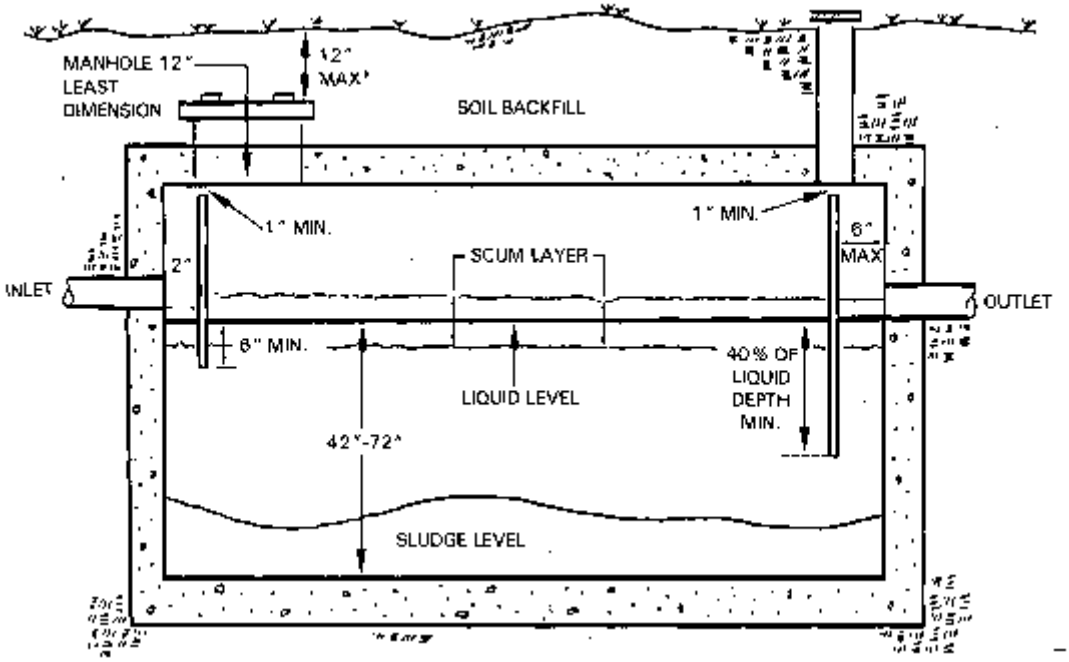
4. The minimum distance allowable from an inground swimming pool is 25 feet. See 4-2-7(K) for additional requirements.

5. Whichever line is most restrictive.

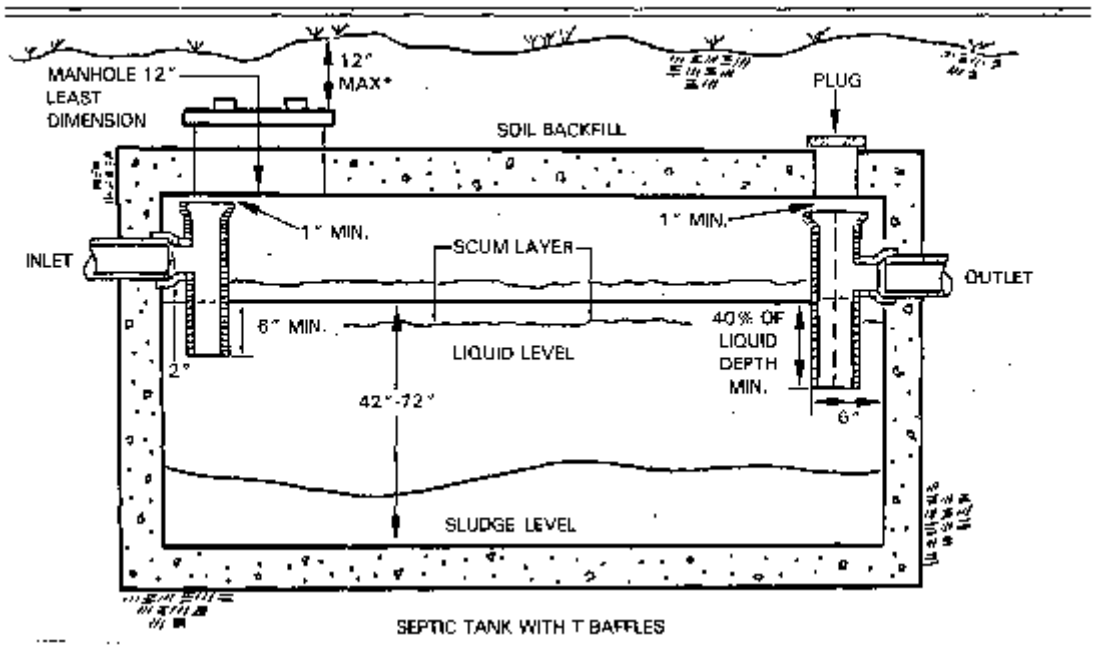
6. Class V Injection Wells are defined in Illinois Pollution Control Board rules. They are typically a shallow well used to place fluids directly below the land surface. See, e.g. 35 Ill. Adm. Code 704.105, 704.106, and 704.280.

7. A lesser separation distance may be obtained with approval or a waiver from the IEPA.

APPENDIX E*



SEPTIC TANK WITH SLIP IN BAFFLES



SEPTIC TANK WITH T BAFFLES

*See 4-2-7(F)2

APPENDIX F*

TABLE F.1 - MINIMUM VOLUMES FOR SEPTIC TANKS & AEROBIC TREATMENT UNITS SERVING RESIDENTIAL UNITS

Number Of Bedrooms	Septic Tank- Minimum Liquid Capacity Of Tank In Gallons	Aerobic Units (Gallons per day)
2 or less	1,250	400
3	1,500	500
4	2,000	600
5	2,500	750
6	3,000	900
7 or more	3,500	1050

TABLE F.2 - MINIMUM VOLUMES FOR SEPTIC TANKS & AEROBIC TREATMENT UNITS SERVING NON-RESIDENTIAL UNITS

Sewage Flow In Gallons Per Day	Septic Tank- Minimum Liquid Capacity Of Tanks In Gallons	Aerobic Units (Gallons per day)
Less than 500	750	1.0 x design flow
500 to less than 1,500	1.5 (gallons per day)	1.0 x design flow
1,500 to less than 14,500	1,125 + .75 (gallons per day)	1.0 x design flow
*See 4-2-7(F)3		

(Ord. 84-4, 3-26-1984)

TABLE F.3 - LIFT STATION SIZING STANDARDS

NUMBER OF BEDROOMS	MINIMUM LIQUID CAPACITY (GALLONS)
2 or fewer	750
3-4	1000
5 or more	1500

APPENDIX G
SUBSURFACE SEEPAGE SYSTEM SIZE DETERMINATION

EXHIBIT A- Loading Rates in Square Feet Per Bedroom and Gallons/Square Feet/Day

Design Group	Soil Group (Most Limiting Layer)	Minimum Separation to Limiting Layer	Permeability Range	Size of System	
				Residential Reg. Absorption (ft^2/bedroom)	Institutional/Commercial Allowable Rate (GPD/ft^2)
I	1A	NR[2]	Very Rapid	NR[2]	NR[2]
II	2A; 2B; 2K	3 feet	Rapid	200	1.0
III	3B; 3K	3 feet	High Moderately Rapid	220	0.91
IV	3A; 3L; 4D; 4K	3 feet	Low Moderately Rapid	240	0.84
V	4A; 4B; 4H; 4L; 5D	3 feet	Very High Moderate	265	0.75
VI	4F; 4M; 5B	3 feet	High Moderate	290	0.69
VII	4N; 5A; 5C; 5H; 5K; 6D	2 feet	Moderate	325	0.62
VIII	4O; 5E; 5I; 5L; 6A; 6B; 6E; 6H; 6K	2 feet	Low Moderate	385	0.52
IX	5F; 5M; 6C; 6L; 7D; 7F	2 feet	High Moderately Slow	445	0.45
X	5G; 6F; 6I; 7E; 7C; 7H	2 feet	Low Moderately Slow	500	0.40
XI	5N; 6G; 6J; 6M; 7F; 7I	2 feet	Slow	740	0.27
XII	7G; 7J; 7L; 8E; 8I	2 feet	Very Slow	1000	0.20
XII	5O; 6N; 6O; 7M;7N; 7O; 8J; 8M; 8O	NR[2]	NR[2]	NR[3]	0.00
XIII	9	**SUBSURFACE DISPOSAL NOT RECOMMENDED**			

[1] Limiting layers include fragipans; bedrock; compact glacial tills; seasonal high water table or other soil profile features that will materially affect the absorption of liquid from the disposal field.

[2] NR = Subsurface disposal system not recommended.

Exhibit B- Key for Determining Sewage Loading Rates (Gallons/Square Foot/Day)

Structure and Parent Material	Single grain: Weak; Platy[2]	Granulary, Angular, and Subangular Blocky; Prismatic									Structureless or Massive				
		Loess; Outwash; Alluvium; Lacustrine						Till							
		Weak		Moderate; Strong		Strong		Moderate; Strong			Loess; Outwash; Alluvium; Lacustrine			Till[3]	
1. Fragmental; Ext. or Very Gravelly Sand	>1.00[4]	N/A[5]	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
2. Sand; Loamy coarse sand; Loamy sand; Gravelly sand; Gravelly loamy sand	1.00	1.00	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	1.00	N/A	N/A	N/A	N/A
3. Fine sand; Loamy fine sand; Coarse sandy loam	0.84	0.91	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	0.91	0.84	N/A	N/A	N/A
4. Sandy loam; Fine sandy loam; Gravelly sandy loam; Gravelly loam; Gravelly silt loam	0.75	0.75	N/A	0.84	N/A	0.69	N/A	N/A	0.75	N/A	0.84	0.75	0.69	0.62	0.52
5. Loam; Silt loam; Very fine sandy loam; Sandy clay loam; Silt; Very fine sand; Loamy very fine sand; Gravelly clay loam	0.62	0.69	0.62	0.75	0.52	0.45[6]	0.40[6]	0.62	0.52	N/A	0.62	0.52	0.45[6]	0.27[6]	N/R[7]
6. Silty clay loam (<35% c); Clay loam (<35% c)	0.52	0.52	0.45[6]	0.62	0.52	0.40	0.27	0.52	0.40[6]	0.27[6]	0.52	0.45[6]	0.27[6]	N/R	N/R
7.Silty clay loam (>35% c); Clay loam (>35% c)	N/A	N/A	0.40[6]	0.45[6]	0.40[6]	0.27[6]	0.20[6]	0.40[6]	0.27[6]	0.20[6]	N/A	0.20[6]	N/R	N/R	N/R
8. Sandy clay; Clay	N/A	N/A	N/A	N/A	0.20[6,9]	N/A	N/A	N/A	0.20[6,9]	N/R	N/A	N/A	N/R	N/A	N/R
9. Organics; Fragic; Lithic; Paralithic	---SOIL PROPERTIES HAVE VERY SEVERE LIMITATIONS; SUBSURFACE DISPOSAL NOT RECOMMENDED-----														

FOOTNOTES:

[1] Disturbed soils are highly variable and require special on-site investigations.

[2] Moderate or strong platy structures for the soil textures in Groups 4, 5, and 6 have a loading rate of 0.40 g/sq.ft/d. Platy structure having firm or very firm consistency or caused by mechanical compaction has a loading rate of 0.0 g/sq.ft/d.

[3] Basal glacial tills structured by geogenic processes have the same loading rates as structureless glacial till.

[4] This soil group is estimated to have very rapid permeability and exceeds the maximum established rate in Appendix G, Exhibit A.

[5] N/A means not applicable.

[6] These soil groups are estimated to have moderately slow to very slow permeability and are less than the minimum established rate in Appendix G, Exhibit A.

[7] N/R means not recommended. These soils have loading rates considered too low for conventional subsurface disposal.

[8] In some areas, lacustrine material may have physical properties similar to glacial till and should be placed in the glacial till columns.

[9] Non swelling (1:1 lattice) clays formed in bedrock residuum have a loading rate of 0.27 g/sq.ft/d. Swelling (2:1 lattice) clays are not recommended for subsurface disposal.

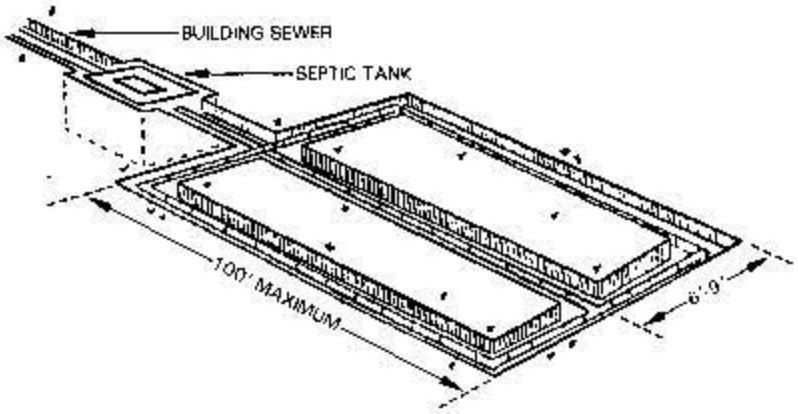
APPENDIX H

STANDARDS FOR SEEPAGE FIELD CONSTRUCTION	
Trench bottom, minimum width…….8 in.	
Trench bottom, maximum width……..36 in.	
Trench bottom, minimum depth……18 in.	
Trench bottom, maximum depth……...36 in.	
Trench bottom, slope……..level	
Distribution line, minimum diameter……..4 in.	
Distribution line, minimum earth cover……..6 in.	
Distribution line, maximum earth cover……24 in.	
Distribution line, maximum slope……..level	
Distribution line, maximum length……100 ft.	

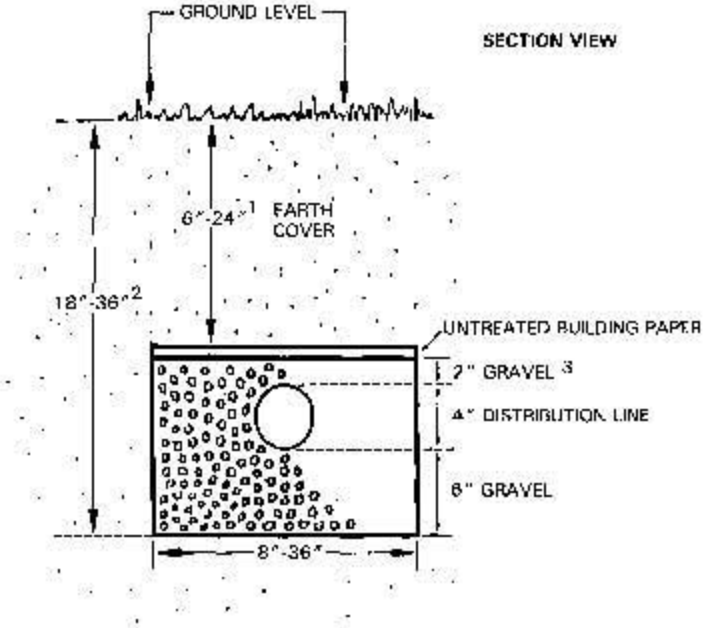
SIZE AND SPACING FOR SEEPAGE FIELD CONSTRUCTION		
Width Of Trench At Bottom	Minimum Center To Center Spacing Of Distribution Lines	Effective Absorption Area Per Linear Foot Of Trench
Inches	Feet	Square Feet
8	6.0	0.67
12	6.0	1.0
18	6.0	1.5
24	6.0	2.0
30	7.5	2.5
36	9.0	3.0

APPENDIX I

SEPTIC TANK AND SUBSURFACE SEEPAGE FIELD



PLAN VIEW



NOTES:

1. 12" 24" IS RECOMMENDED
2. 24" IS RECOMMENDED
3. 5" OR MORE IS RECOMMENDED

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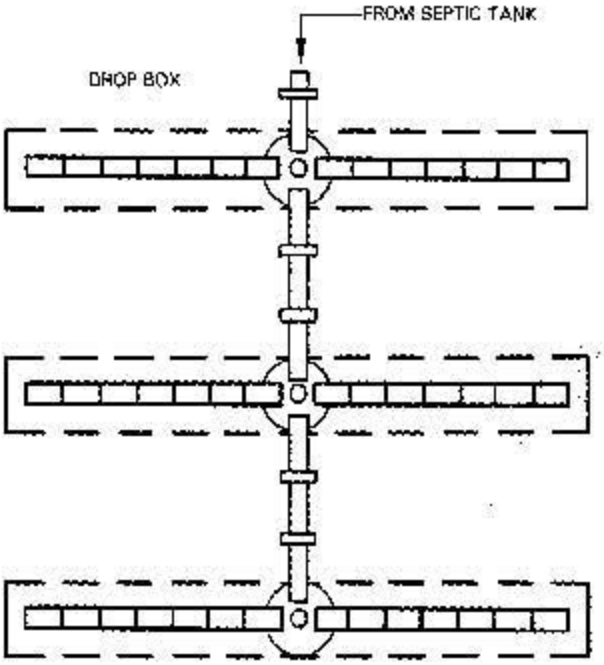
APPENDIX J
SERIAL DISTRIBUTION

APPENDIX J (cont.)
SERIAL DISTRIBUTION



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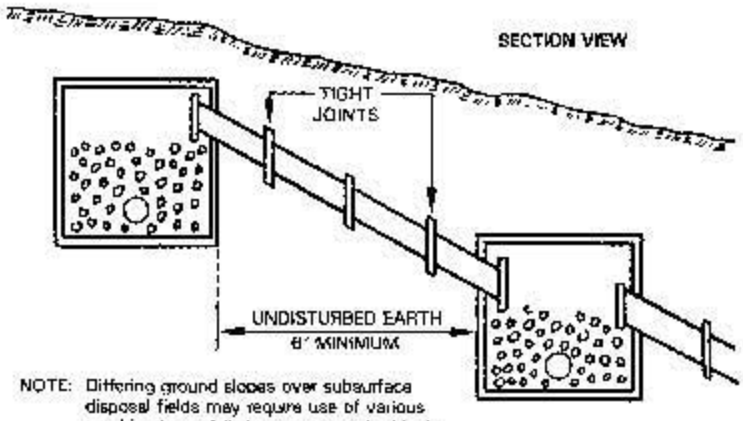
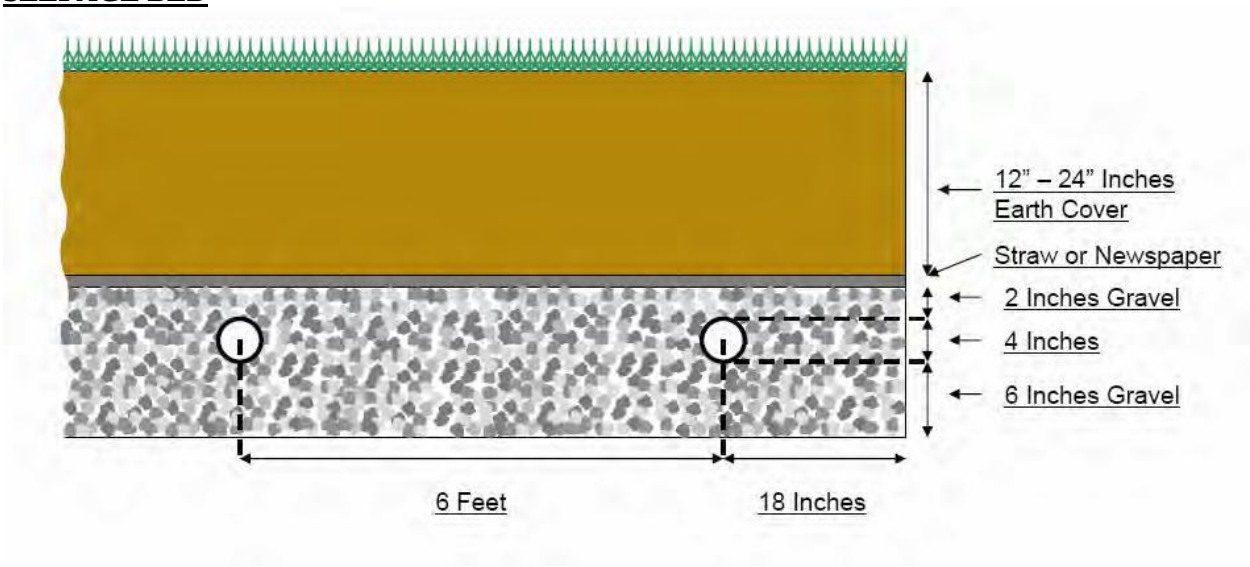
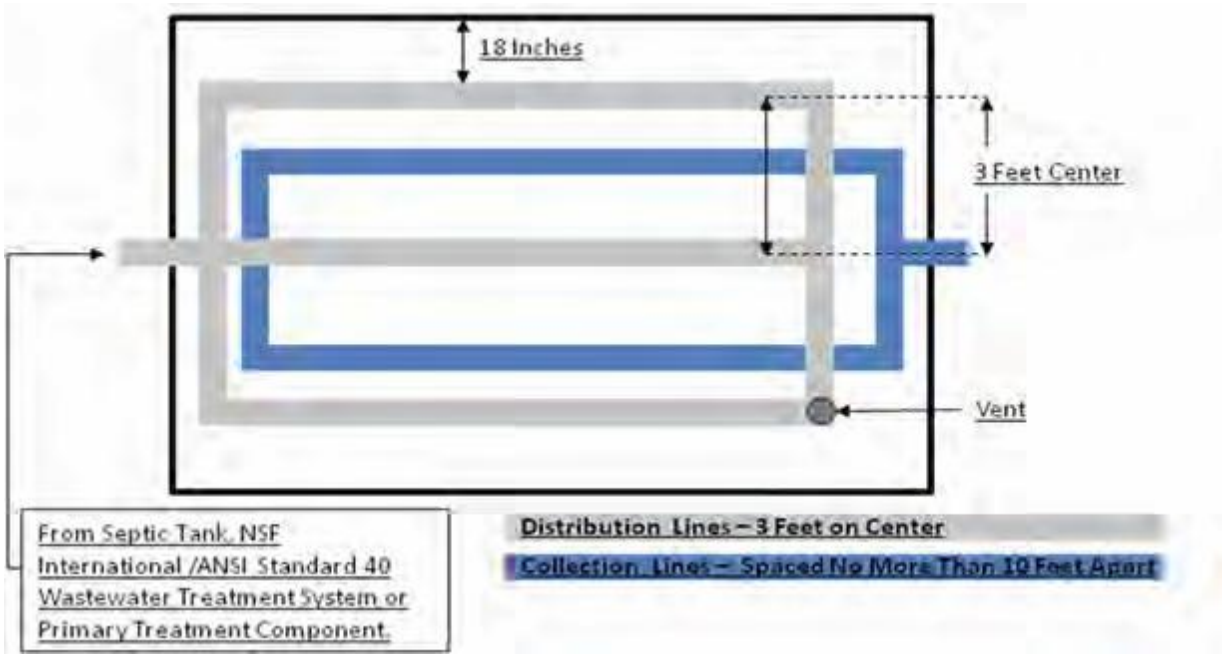


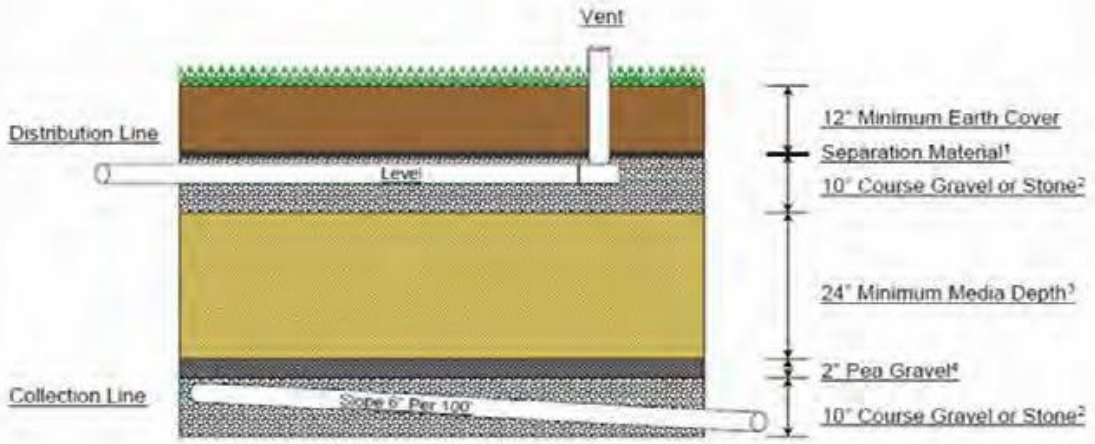
NOTE: Differing ground slopes over subsurface disposal fields may require use of various combinations of fittings connected with the minimum number of joints.

APPENDIX K
SEEPAGE BED

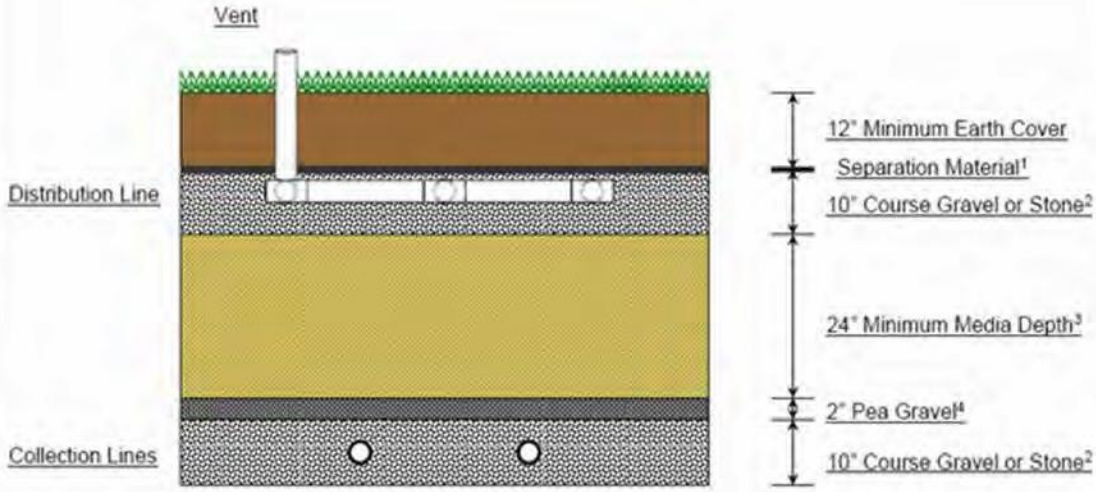


APPENDIX L
BURIED SAND FILTER



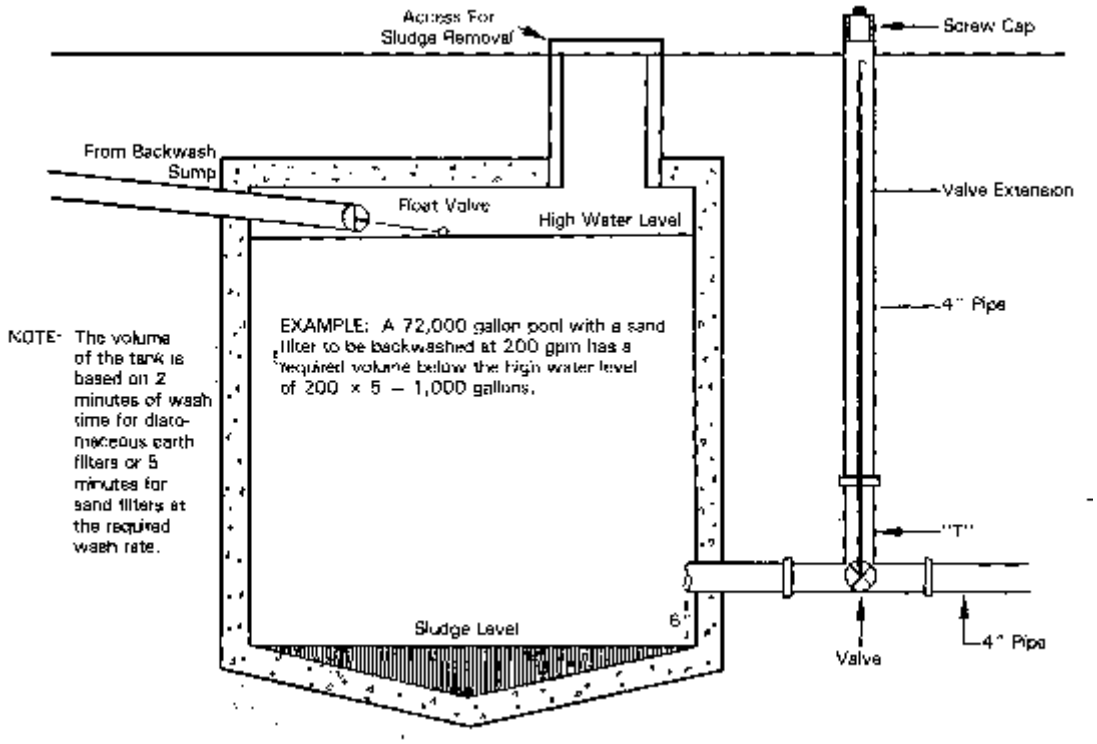


[1] Separation materials to support the backfill: straw, newspaper, untreated building paper, geotextile fabric or other permeable or biodegradable material.
[2] Course Gravel or Stone: 3/4" to 2 1/2" diameter.
[3] Sand Filter Media: The sand shall have an effective size of 0.5 to 2.0 millimeters and a uniformity coefficient of less then 3.5.
[4] Pea Gravel: 1/8" to 3/8"diamter.



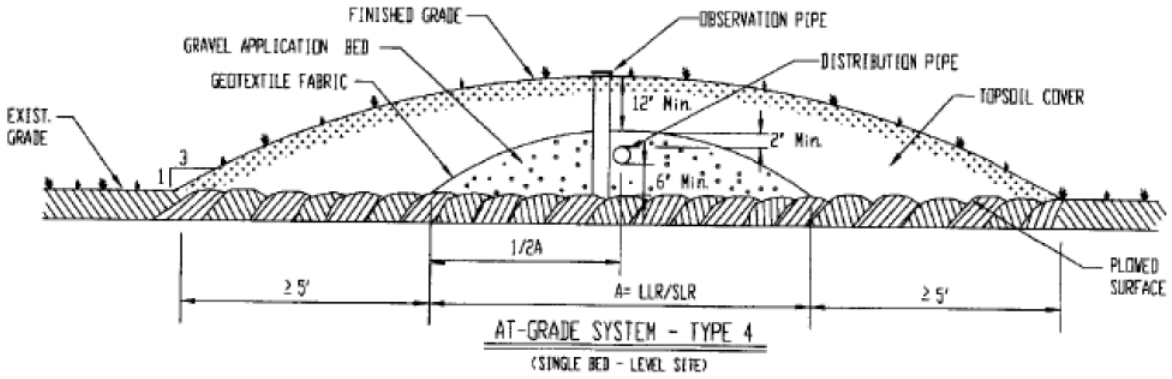
[1] Separation materials to support the backfill: straw, newspaper, untreated building paper, geotextile fabric or other permeable or biodegradable material.
[2] Course Gravel or Stone: 3/4" to 2 1/2" diameter.
[3] Sand Filter Media: The sand shall have an effective size of 0.5 to 2.0 millimeters and a uniformity coefficient of less then 3.5.
[4] Pea Gravel: 1/8" to 3/8"diamter.

APPENDIX M
SWIMMING POOL BACKWASH WATER HOLDING TANK



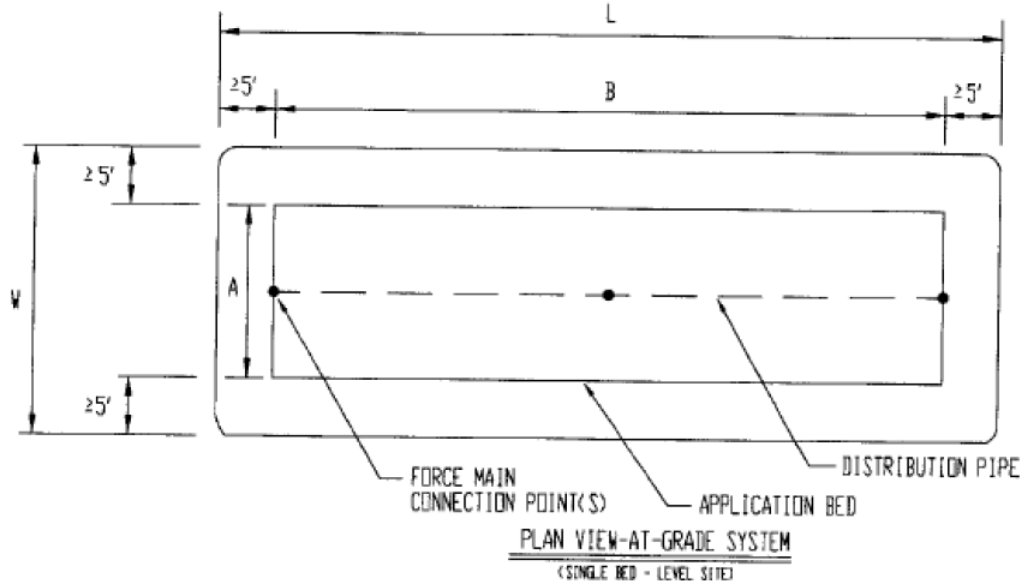
APPENDIX N

Figure N.1 At-Grade System: Single Bed, Level Site



AT-GRADE SYSTEM - TYPE 4

(SINGLE BED - LEVEL SITE)

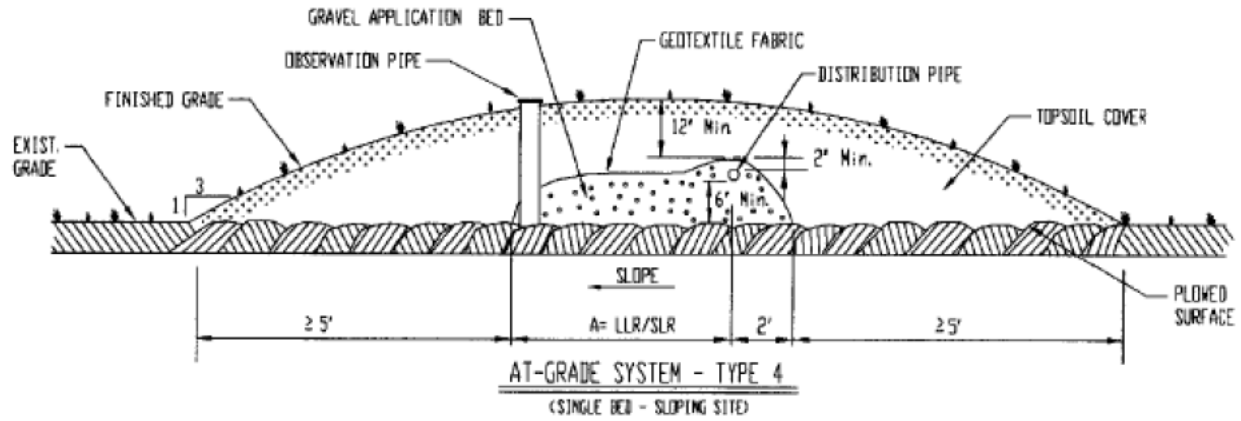


PLAN VIEW-AT-GRADE SYSTEM

(SINGLE BED - LEVEL SITE)

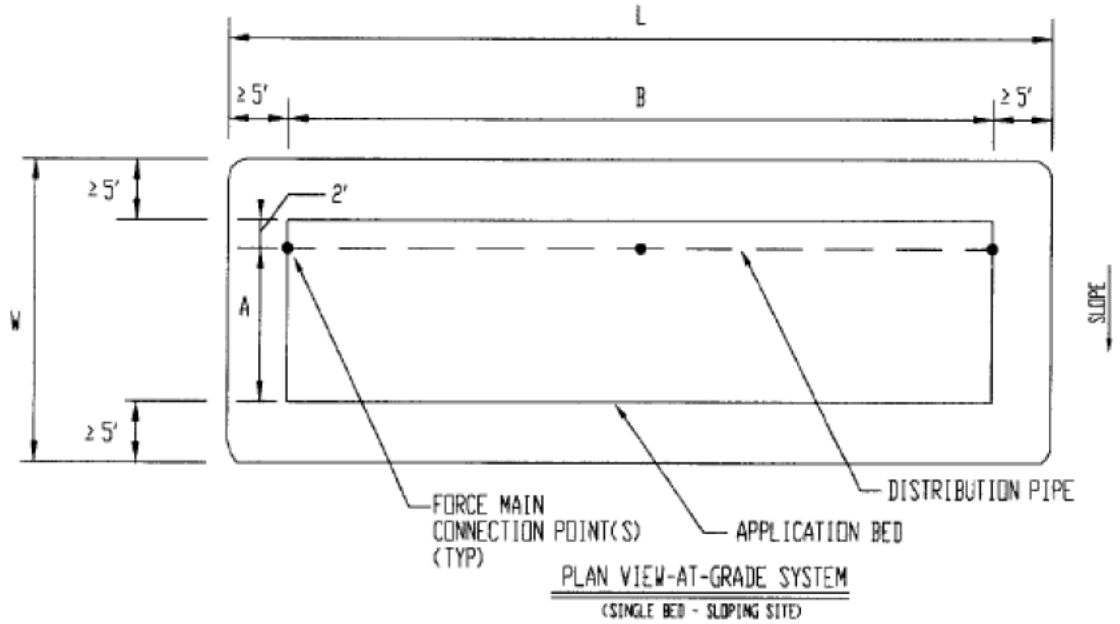
* Observation pipes may be installed in the application bed.

Figure N.2 At-Grade System: Single Bed, Sloping Site



AT-GRADE SYSTEM - TYPE 4

(SINGLE BED - SLOPING SITE)

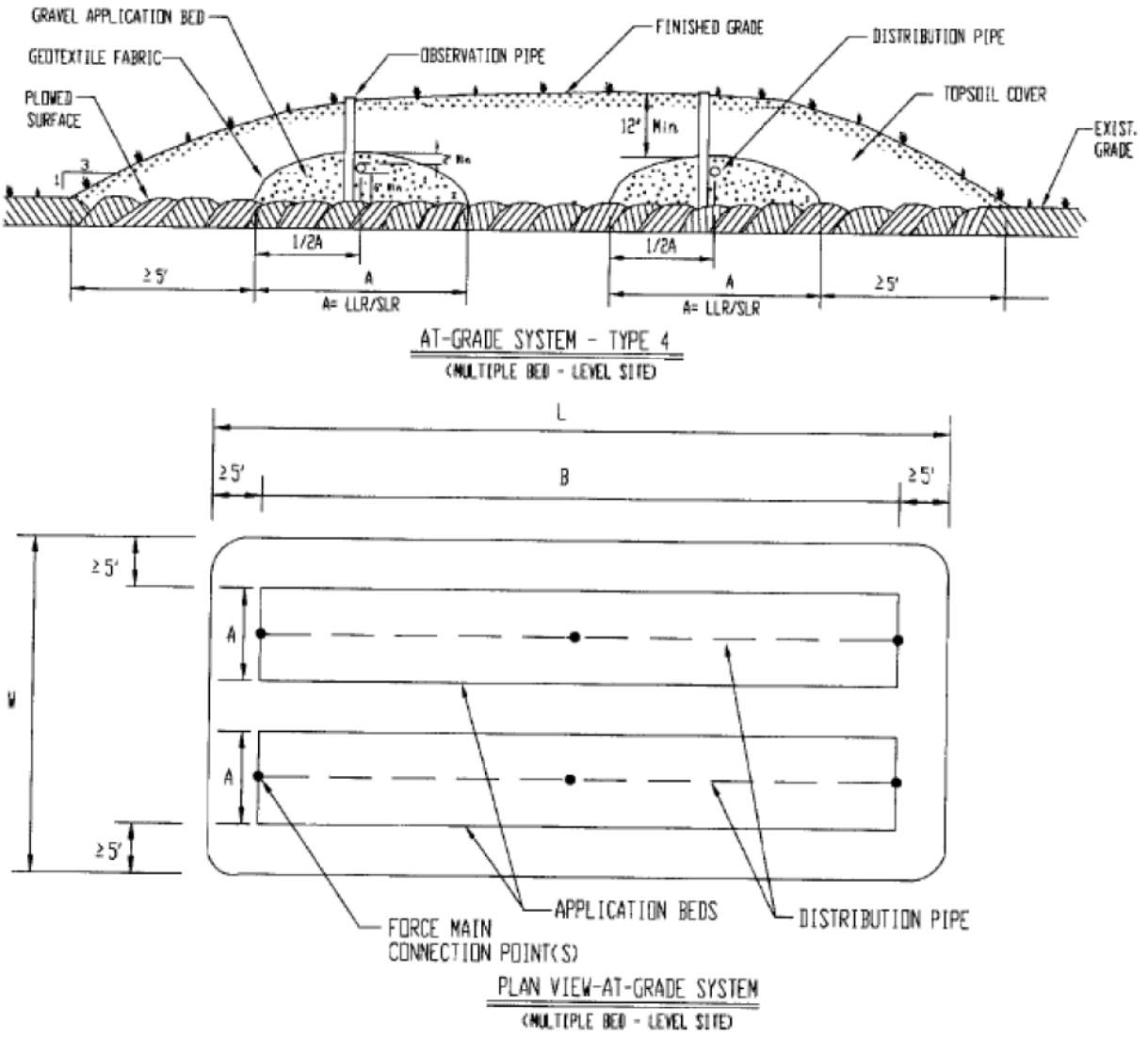


PLAN VIEW-AT-GRADE SYSTEM

(SINGLE BED - SLOPING SITE)

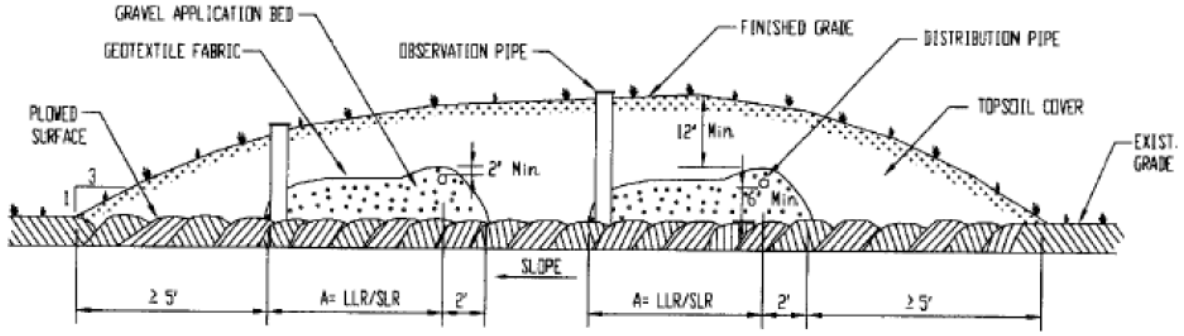
* Force main must connect to the distribution pipe from the upslope or the endslope. The force main cannot be located in the downslope area on landslopes of 2% or greater.
* Observation pipes may be installed in the application bed.

Figure N.3 At-Grade System: Multiple Bed, Level Site

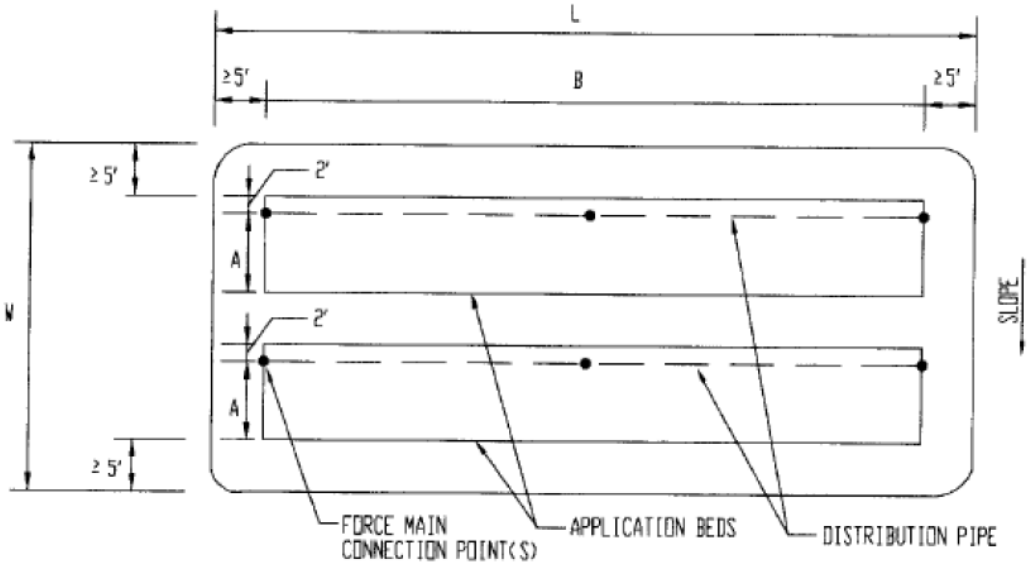


* Observation pipes may be installed in the application bed.

Figure N.4 At-Grade System: Multiple Bed, Sloping Site



AT-GRADE SYSTEM - TYPE 4
(MULTIPLE BEDS - SLOPING SITE)



PLAN VIEW-AT-GRADE SYSTEM
(MULTIPLE BEDS - SLOPING SITE)

* Force main must connect to the distribution pipe from the upslope or the endslope. The force main cannot be located in the downslope area on landslopes of 2% or greater.
* Observation pipes may be installed in the application bed.

Figure N.5 Mound System: Single Bed, Level Site

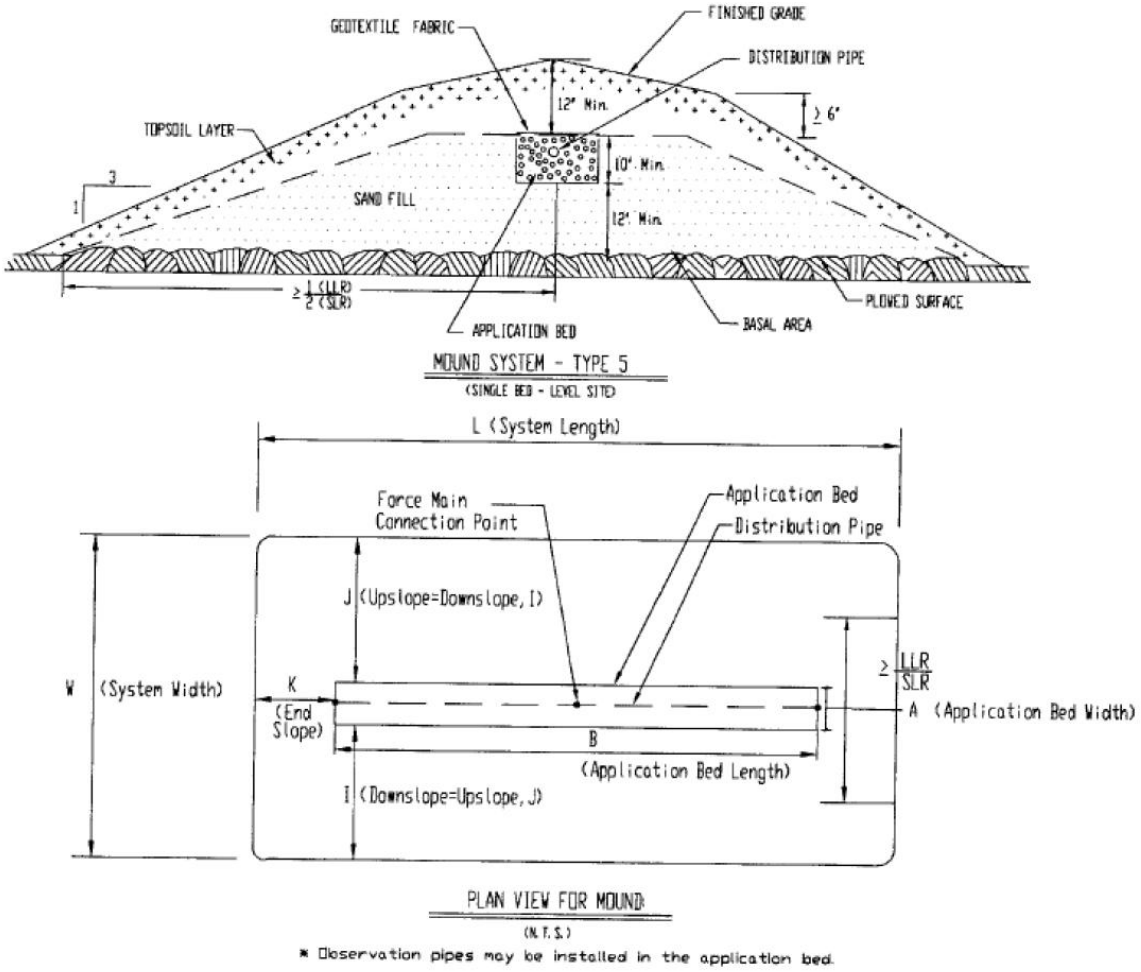
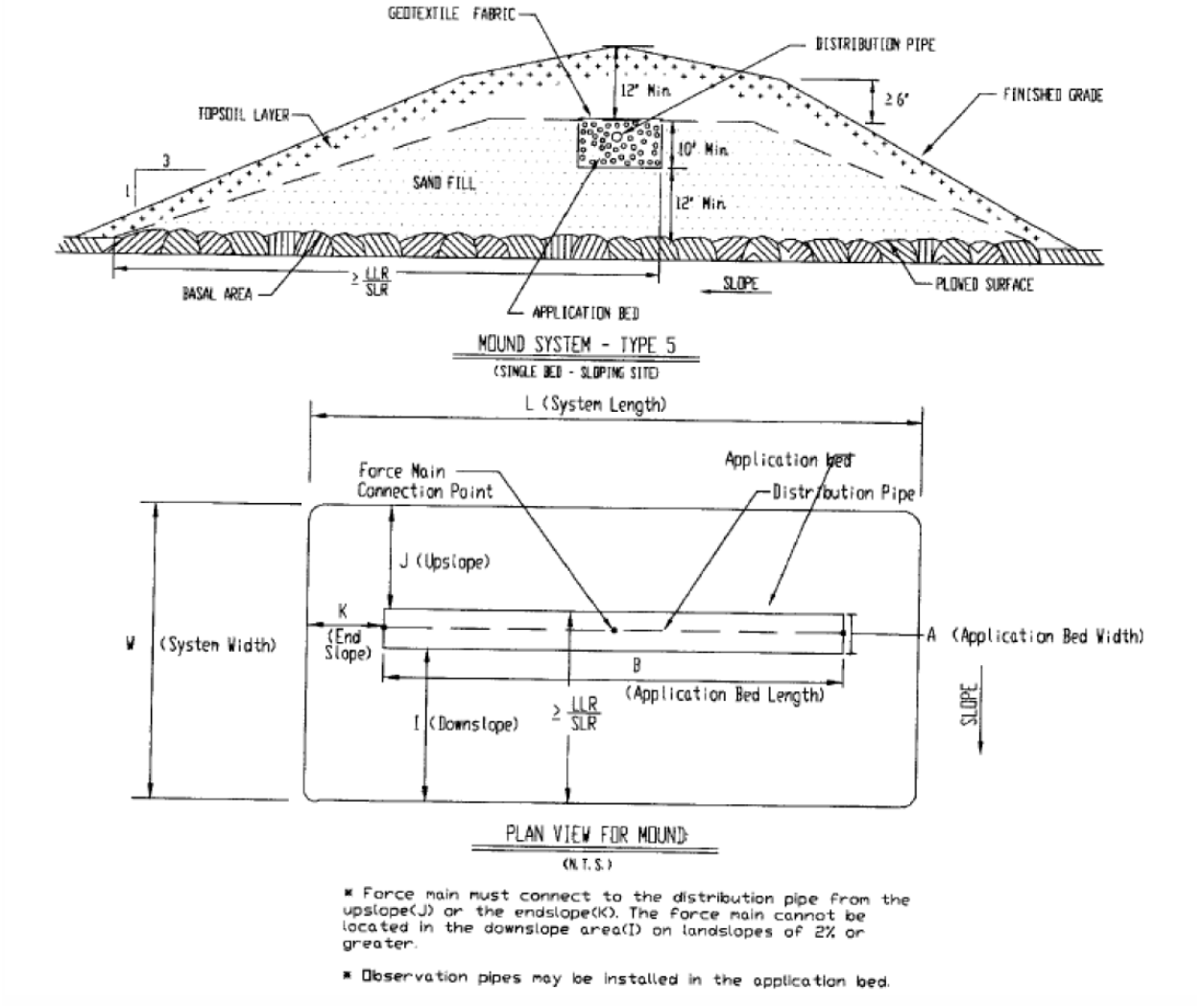


Figure N.6 Mound System: Single Bed, Sloping Site



* Force main must connect to the distribution pipe from the upslope(J) or the endslope(K). The force main cannot be located in the downslope area(I) on landslopes of 2% or greater.

* Observation pipes may be installed in the application bed.

Figure N.7 Mound System: Multiple Bed, Level Site

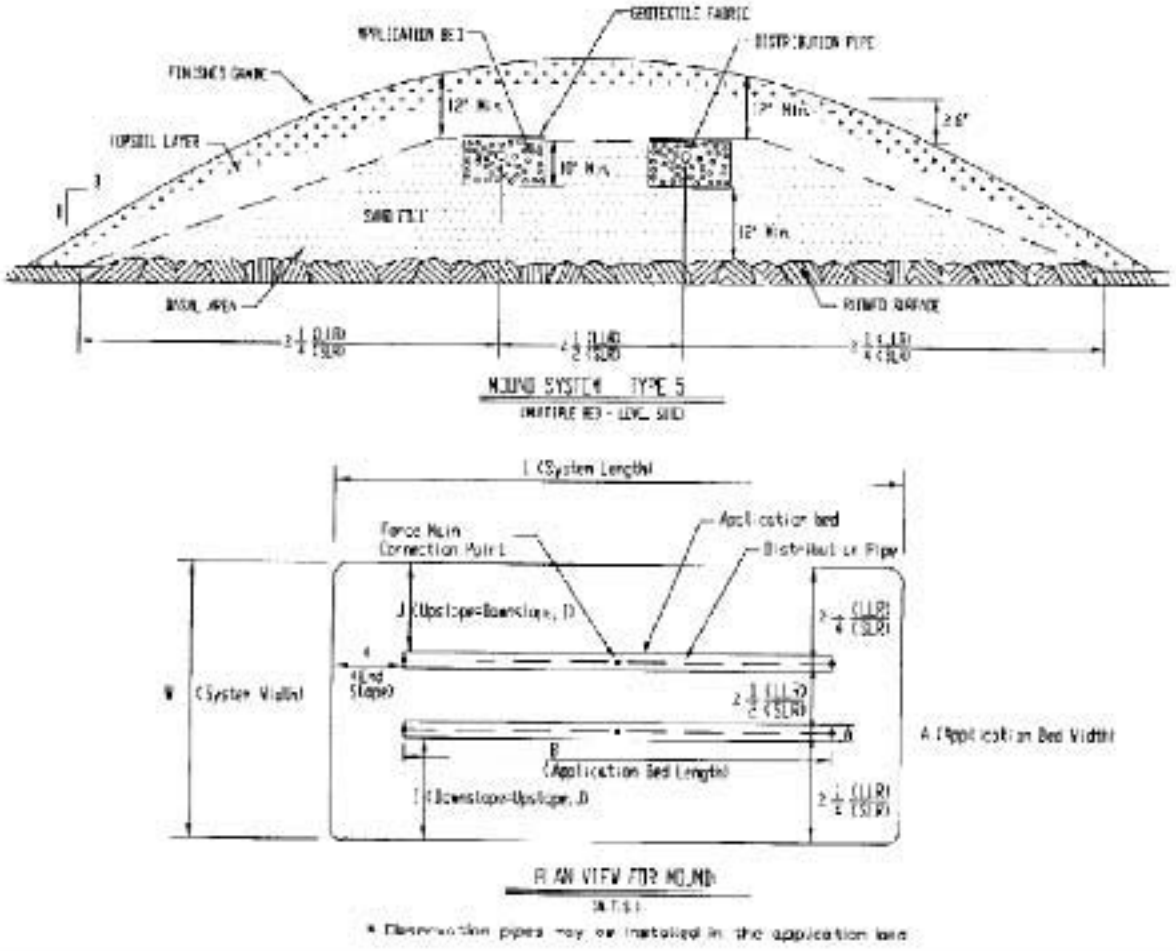
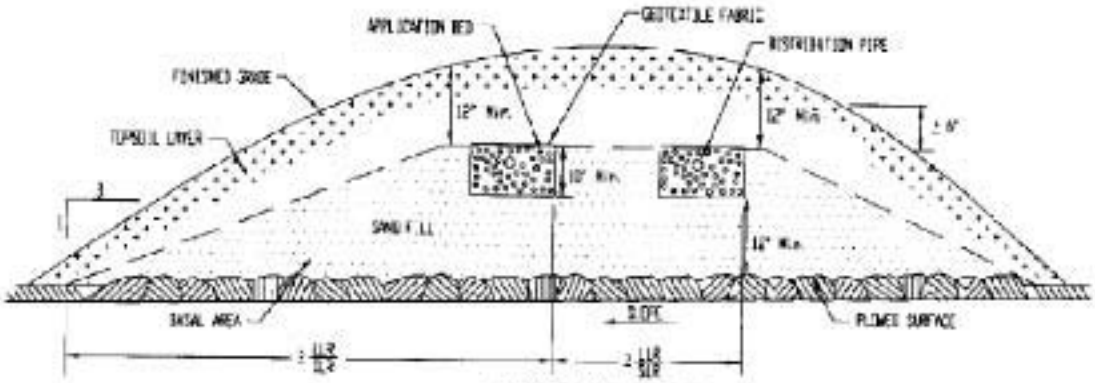
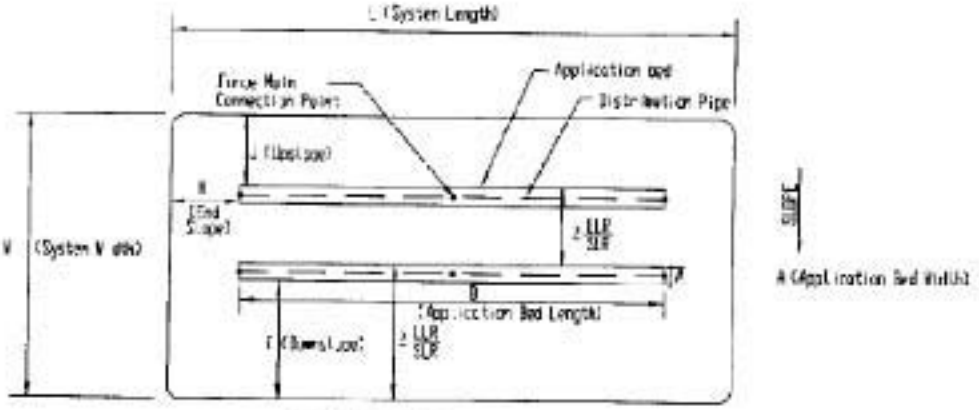


Figure N.8 Mound System: Multiple Bed, Sloping Site



MOUND SYSTEM - TYPE 5

MULTIPLE BED - SLOPING SITE



PLAN VIEW FOR MOUND

(TYP.)

* Force main must connect to the distribution pipe from the upslope(U) or the endslope(E). The force main cannot be located in the downslope area(D) on landslopes of 2% or greater.

* Observation pipes may be installed in the application bed.

MEMORANDUM

GHA GEWALT HAMILTON ASSOCIATES, INC.
CONSULTING ENGINEERS

625 Forest Edge Drive, Vernon Hills, IL 60061
TEL 847.478.9700 ■ FAX 847.478.9701
www.gha-engineers.com

To: Michael Harrington, Insurance, Health, Environment, Buildings & Grounds Chair
Robert Kosin, Village Administrator

From: Daniel J. Strahan, P.E., CFM
Gewalt Hamilton Associates

Date: December 12, 2014

Re: Board of Health Meeting- December 9, 2014
Horse Grazing Density

On Tuesday, December 12th, 2014 the Board of Health met to discuss details of a proposed groundwater quality monitoring plan. Board of Health members in attendance included Dr. Anne Majewski, Dr. Frank Konicek, and Dr. Gwynne Johnston.

After discussion, the Board asked questions regarding the status of the commercial boarding topic, particularly with regard to horse grazing density. Dr. Majewski made a motion, seconded by Dr. Konicek and passed unanimously, that in view of the conflicting evidence that has been presented to the Board of Health regarding grazing density and the public health concerns for potential surface and groundwater contamination, the Board of Health recommends that no specific grazing density value be made until an expert in the field can provide professional input and guidance regarding appropriate grazing density in the area of Barrington Hills. The Board of Health requested that this concern be communicated to the Village Board of Trustees.

cc: Board of Trustees

3600 I-70 Drive SE, Suite E, Columbia, MO 65201 ■ TEL 573.397.6900 ■ FAX 573.397.6901
The Monadnock Building, 53 W. Jackson Blvd., Suite 924, Chicago, IL 60604 ■ TEL 312.329.0577 ■ FAX 312.329.1942

Anna Paul <apaul@barringtonhills-il.gov>

Fwd: Horse Density

Dan Strahan <dstrahan@gha-engineers.com> Fri, Jan 9, 2015 at 4:23 PM
To: Robert Kosin <rkosin@barringtonhills-il.gov>, Anna Paul <apaul@barringtonhills-il.gov>, Dolores Trandel <clerk@barringtonhills-il.gov>

Email just received from Debra Hagstrom...

---------- Forwarded message ----------
From: **Hagstrom, Debra** <hagstrom@illinois.edu>
Date: Fri, Jan 9, 2015 at 4:15 PM
Subject: RE: Horse Density
To: Dan Strahan <dstrahan@gha-engineers.com>

Dan-

I have done extensive research on the topic of density standards for horses in semi-urban areas. I have yet to arrive at any logical recommendations that are based on the health and well-being of the horses, the perspective from which, in my role as an equine extension specialist, I must address this issue. As I stated in our phone conversation on Nov 21, 2014, the numbers that are tossed around in general discussion of how many horses per acre is one horse per two to three acres. This guideline is based on the minimum acreage required when pasture forage is the sole source of nutrition for the horse. This guideline does NOT apply to intensive-management systems in which a horse's primary source of nutrition is supplied through the feeding of hay and grain with time out on acreage being more for exercise than nutrition. Intensive management is the system under which most horse facilities in Illinois, including those in Barrington Hills, operate.

Moving forward with the understanding that the two to three acre guideline is not applicable to Barrington Hills, the question then becomes how many horses can be managed per acre to maintain the health and well-being of those animals. The answer is dependent, in part, on the specific facilities with which one has to work and how intensively one wants to manage the horses. For a horse's general health and well-being adequate food, water, shelter and exercise is required. In facilities with both stalls and paddocks more horses can be managed on the same space as a rotation can be developed such that all horses have stalled time balanced with time spent turned out in paddocks. Furthermore, in many facilities horses meet their daily exercise needs through the process of training and competition, thereby requiring less acreage for free-exercise. Aside from what the facilities themselves may allow and how much work the managers want to put into management of the horses, there are other factors that influence the number of horses than can be kept on a piece of land including soil type, vegetative cover, amount of rainfall, slope of the land, regional climate, etc. Best management practices such as pasture rotation and manure management help successfully sustain large numbers of horses are small amounts of land. Each horse operation, whether private or commercial, is different and these differences affect the number of horses that can be successfully housed on the property while providing an environment in which the horses are healthy and have all of their basic needs met at a high standard. As such, to simply make a blanket requirement of X amount of land per horse would be a severe oversimplification of a complex and multifaceted issue and undoubtedly be inappropriately, unnecessarily and detrimentally restrictive for many horse owners.

As I have researched this issue, I keep coming back to an example that Mr. Kosin shared with me about new neighbors of a Barrington Hills horse owner. He explained that at one time a relatively new resident of Barrington

Hill was appalled to discover that the horse-owning neighbors didn't prescribe to a daily routine of removing horse manure from the pastures as this new neighbor was accustom to doing for the waste her dogs left in the backyard. The new neighbor had the erroneous expectation that livestock waste is handled in the same manner as companion animal waste. To me this anecdote is a strong indication of a fundamental issue for many rural communities and perhaps is the underlying issue at play for Barrington Hills. People moving from city living into environs that are more pastoral are very often quite ignorant of the true nature and accompanying practices of rural life. They often have the misconception that the only difference between the two ways of life is population density. They fail to realize that, aside from a reduced human population, rural life has many differences with livestock being one of those that often creates contentious relationships in the rural community. One of the things that we (professionals in agriculture) hear routinely is that the city folks move into the country and then want to turn it into the city. I think Mr. Kosin's example is a classic illustration of this.

Barrington Hills advertises itself as "a unique rural equestrian community" and has horses prominently displayed on the Village website's history page. As such, one would think that people moving to Barrington Hill's would have their eyes wide open about the nature of the community into which they are choosing to move. However, as Mr. Kosin's story demonstrates that is clearly not the case. Lack of information and an incorrect understanding of horse husbandry on the part of a new resident should not translate into the undue burden of restrictions (through horse density limitations) on the hobbies, recreation or businesses of their horse-owning neighbors. Proper education of newcomers (or potential newcomers) could do a lot to reduce the unreasonable expectations of those unfamiliar with horse husbandry. Through developing a more informed non-horse owning population a more accepting population could be created. This practice of educating newcomers has worked well for issues in other rural communities and might do the same for Barrington Hills. I encourage the Village to look at problem-solving measures other than imposing horse density limitations to smooth relations between the horse owning and non-horse owning sectors of the Village.

In closing, in my professional opinion, from an animal health and well-being perceptive, no specific and logical horse density recommendations for the Village can be made. Furthermore, to impose arbitrary density restrictions would be an undue burden on many of the horse-owning residence of the Village that, from all indications, are a highly valued sector of Barrington Hills. I encourage exploration of other means of resolving neighbor disputes regarding horses than restricting equestrian hobbies, recreation or commercial endeavors.

Debra J. Hagstrom
Extension Specialist - Horse
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Urbana, IL 61801
217-333-1785 (phone)
217-333-8286 (fax)

http://www.livestocktrail.illinois.edu/horsenet/
http://horsefarm.illinois.edu

"Wear a helmet.....because your skull isn't as thick as your parents think it is" (seen on a billboard encouraging helmet use)

Robert Kosin <rkosin@barringtonhills-il.gov>

Response to Questions from Board of Health

Janet Agnoletti <j.agnoletti@bacog.org> Thu, Dec 11, 2014 at 12:45 PM
To: Bob Kosin <rkosin@barringtonhills-il.gov>, Dan Strahan <dstrahan@gha-engineers.com>

TO: Bob Kosin, Village Administrator

Dan Strahan, Village Engineer, Gewalt-Hamilton

RE: Response to the Board of Health

In response to questions from the Barrington Hills Board of Health at the meeting last night (12/9/14), I offer the following information.

- The Board asked about the frequency and conditions (water levels, time of year, temperatures, etc.) for doing Level 2 water quality testing.

Frequency. I spoke to Dr. Kurt Thomsen this morning; he recommends doing a baseline test of the nine locations or more locations in 2015, with subsequent tests every five years thereafter. This timing would be consistent with the water quality testing that will occur in surface waters throughout the BACOG area. The surface water testing will occur in June or July in the future.

More frequent testing is not necessary because for the most part we are measuring naturally-occurring groundwater quality. If there is concern about surface contamination reaching the aquifers, it might make sense to test targeted wells that are very near the potential sources of contamination. If the testing program is focusing on water quality conditions in the entire village and is measuring randomly-located wells throughout the village, then the once-per-five-year timeframe is more than adequate.

> Conditions. Dr. Thomsen said the conditions mentioned are not of concern to the well water quality testing that is proposed. Although bacteria growth in water distribution systems (wells and plumbing) can be sensitive to temperature, Level 2 testing does not test water quality parameters that are sensitive to temperature. Groundwater temperature locally is stable at approximately 54 degrees F. Water levels and other factors do not affect the parameters measured.

- The Board asked how the water quality data that is generated by the testing will be analyzed.

Dr. Thomsen confirmed that analysis of Level 2 test results would include mapping and that buffer area data would be needed. Contour maps would demonstrate where concentrations of specific water chemistry features such as chlorides or nitrates are higher or lower throughout the region. Concentrations of specific water chemistry features in individual wells can also be graphed over time. The BACOG office has examples of this

type of work; examples can be shown, if you wish.

Buffer area test results will be needed to tie into Barrington Hills' data for creating accurate contours on the maps. Dan Strahan mentioned after the meeting that the municipal supply wells in surrounding communities are required to test their treated water, not the raw water; the municipal well test results will not therefore generate suitable data. The locations in Algonquin, Carpentersville, Fox River Grove, Cary, South Barrington, and Barrington are ideal locations however.

The BACOG-ISGS monitoring wells would be suitable buffer area wells for water testing. Because these wells do not have pumps in them, testing has a different cost – which is why this activity is a future goal but not currently funded under the BACOG monitoring program. BACOG has agreements in place with the Illinois State Water Survey (ISWS) and Illinois State Geological Survey (ISGS) to access these wells for water measurements, which is an advantage to the village if you should wish to pursue this approach. The nearest of these wells to Barrington Hills are in Crabtree Nature Center and Lake Barrington. The cost to test one well is estimated in the range of $350-500.

- The Board discussed costs for testing the nine identified locations and potential additional private residents' locations, as well as privacy issues for the latter.

Costs. I established a partnership between the ISWS and BACOG in 2009 specifically for the Level 2 water testing, whereby the ISWS charges BACOG residents a fee of $35/50/65 for raw/water softener/reverse osmosis-treated water samples if the samples are sent from the BACOG program. Our partnership includes data sharing, a limited number of test samples per month, shipping arrangements, and other program agreements. This is a program for all residents of the BACOG area with regional benefits. We have a waiting list of approximately 80 residents currently, and we are limited to processing 6-10 residents' samples per month according to the ISWS preferred timeframe.

Depending on how often the village decides to run the Level 2 tests, BACOG may be able to accommodate the testing for the nine locations. If the village proceeds with Dr. Thomsen's recommendation of every five years, I anticipate being able to dedicate one Level 2 test event to Barrington Hills, where BACOG obtains kits and instructions, village staff makes contacts with property owners to obtain fees and water samples, BACOG ships, etc. This would be ideal.

If the village wishes to run the Level 2 tests every year, or more often, or if you expand the testing network to include more locations with private residential properties, BACOG probably would not be able to accommodate that frequency and number due to displacement of area residents on the waiting list. In that case, the village could make arrangements with a private company where the cost is likely to be in the range of $250 per test.

> Especially if you increase your number of locations, we may want to discuss with the ISWS laboratory their ability to process more test samples from the village, submitted independently from BACOG, for the purpose of this program. It would be of greater benefit to the region to have ***exactly*** the same tests, done by the same entity, in Barrington Hills as for residents of BACOG for future analysis and mapping purposes.
>
> Privacy. I spoke to Arnie Rapa, Lake County Environmental Health, who is my contact for our groundwater program about well drilling. In our experience at BACOG, some of the old driller well logs do not contain locational information such as accurate addresses or PIN numbers, almost all of the

newer well logs do contain addresses and latitude/longitude (or Lambert X/Y, a different coordinate system). Arnie Rapa confirmed that the State well code regulations have required for some years that the well logs contain PIN number, address, and GPS latitude/longitude. Where old well logs do not have this information, I know that recent efforts of the ISGS have used various methods to assign GPS coordinates to wells for their records.

If I understood the discussion at the meeting, I believe it would be very difficult if not impossible to test water samples through the Illinois State Water Survey using only Township/Range/Section/quarter section as a generalized location. I believe the State would want to know a more specific location, address, etc. for their own purposes, as they too use water quality data for analysis and mapping at the state level, and would require or assign a specific address or coordinate. I would surmize that residents' information would be available at some level, at some time, to the public.

Thank you for forwarding this information to the members of the Board of Health.

Janet L. Agnoletti, Executive Director

Barrington Area Council of Governments

112 Algonquin Road

Barrington Hills, Illinois 60010

Telephone: 847.381.7871

Facsimile: 847.381.7882

Email: *j.agnoletti@bacog.org*

Visit us on the web at www.bacog.org

Village of Barrington Hills

Memo

To: Dr. Gwynne Johnston
From: Robert Kosin, Director of Administration
CC: Board of Health, Trustee Harrington
Date: December 4, 2014 [Update 1/12/15]
Re: Ground Water Level 2 Program

A regular schedule of ground water quality testing has been an item of discussion by the Board of Health for which its' proposed to incorporate the statutory required test schedule of public wells in the Village. Specifically wells that supply potable water to a population group of 25 or more unrelated individuals are required to undertake an annual inspection of water quality otherwise known as a level I test. It is therefore proposed to use this schedule to cooperatively add a level 2 test and thereby obtain a regularly reported table of values. The public wells, arranged oldest to newest, are as follows:

- St. John Nepomucene Chapel and Cemetery [McHenry County]
- Wesleyan Korean Church [Cook County]
- Barrington Hills Country Club [Lake County]
- Bellarmine Hall [Cook County]
- St. Marks Church [Lake County]
- Presbyterian Church [Cook County]
- Barrington Hills Village Hall [Cook County]
- Barrington Hills Park District [Cook County]
- Countryside School [Cook County]
- Barrington United Methodist Church [Cook County]

Details as to participation, testing availability and testing components including cost from BACOG will be pursued upon further consideration by the Board of Health.