Form 1
General Information

Lot: _____ Block: _____

1. Type of Permit Needed (check applicable categories):
   _____ New Construction _____ Alteration/No Expansion or Change of Use
   _____ Alteration/Expansion or Change in Use
   _____ Alteration/Malfunctioning System
   _____ Deviation from Standards _____ Repairs to Existing System

2. Location of project:
   Municipality: _____
   Street Address: _____
   Zip Code:_____
   Block No.: _____
   Lot No.: _____
   New Jersey State Plane Feet Coordinates: (optional) X-Coord.: _____ Y-Coord: _____

3. Name of Applicant: _____
   Present Address: _____

4. Estimated Cost of Project: (optional) _____

5. Applicants Phone Number: _____ (second tel. no.) _____

6. Type of facility:
   _____ Residential
   _____ Commercial/Industrial
   Specify type of establishment: _____

7. Type of waste to be discharged:
   _____ Sanitary Sewage
   _____ Industrial Wastes
   _____ Other-(specify): _____

8. Other approvals/certification/waivers/exemptions (attach to application):
   _____Pinelands Commission
   _____U.S. Army Corps of Engineers
   _____NJDEP – Bureau of Flood Plain Management
   _____Other – (specify): _____

9. I hereby certify that the information furnished on Form 1 of this application (and the attachments thereto) is true. I am aware that false swearing is a crime in this State and subject to prosecution.

   Signature of Applicant: _____ Date:_____

County: _____ Municipality:_____

FOR AGENCY USE ONLY
_____ Application Denied – Reason for Denial/Citation of Rules Violated: _____
_____ Application Approved
_____ Application Approved Subject to Approval by NJDEP
Date of Action: _____
Signature of Authorized Agent: _____
Printed Name and Title: _____

Form 2a
General Site Evaluation Data

Lot: _____ Block: _____

1. Name of Site Evaluator: _____

2. Business Address of Site Evaluator: _____

3. Business Phone Number of Site Evaluator: _____

4. Special site limitations identified (check appropriate categories):

Flood Plains _____	Bedrock Outcrops _____	Wetlands _____
Excessively Stony _____	Disturbed Ground _____	Steep Slopes _____
Sand Dunes _____	Sink Holes _____	

5. Soil logs – Enter on Form 2b – Use one sheet for each soil log.

6. Considerations relating to disturbed ground:

a. Type of disturbance (check appropriate categories)

Filled Area _____	Excavated Area _____	Re-graded Area _____
Subsurface Drains _____	Other-Specify _____	

b. Pre-existing Natural Ground Surface
Elevation relative to existing ground surface _____
Method of identification _____

c. Suitability of disturbed ground:
Unsuitable, objects subject to disintegration or change in volume _____
Excessively course _____
Proctor text performed _____ % Standard proctor density = _____

7. Hydraulically head test:

a. Hydraulically restrictive horizon, Depth to bottom:
b. Piezometer A, Depth to bottom: _____ Depth of water level (24 hrs): _____
c. Piezometer B, Depth to bottom: _____ Depth of water level (24 hrs): _____
d. Witnessed by: _____ (signature) Date: _____

8. Attachments (check items included)

Site plan: _____
Key map showing location of site on U.S.G.S. Quadrangle or Other Accurate map: _____
Key map showing location of site on U.S.D.A. Soil Survey map: _____
Other – Specify _____

9. I hereby certify that the information furnished on Form 2a of this application (and the attachments thereto) is true and accurate. I am aware that falsification of data is a violation of the Water Pollution Control Act (N.J.S.A. 58:10A-1 et seq.) and is subject to penalties as prescribed in N.J.A.C. 7:14-8.

Signature of Soil Evaluator: _____ Date: _____
Signature of Professional Engineer: _____ License #: _____

County: _____ Municipality: _____

Form 2b
Soil Log and Interpretation

Lot: _____ Block: _____

1. Log Number: _____ Method (check one) : Profile Pit: _____ Boring: _____

2. Soil Log:
   Depth: (inches) _____
   Top-Bottom: _____
   _____
   _____
   _____
   _____
   _____
   _____
   _____
   _____

[Munsel color name and symbol; estimated textural class; estimated volume % coarse fragment, if present; structure; moist or dry consistence; mottling – abundance, size and contrast, if present]

3. Ground water observation:
   Seepage-indicate depth: _____
   Pit/Boring-depth flooded (y/n): _____ Depth: (inches) _____ Hours: _____

4. Soil limiting zones (check appropriate categories):

Fractured rock substratum – depth to top: _____
Massive rock substratum- depth to top: _____
Excessively coarse horizon – depth top to bottom: _____
Excessively coarse substratum – depth to top: _____
Hydraulically restrictive horizon – depth top to bottom: _____
Hydraulically restrictive substratum – depth to top: _____
Perched zone of saturation – depth top to bottom: _____
Regional zone of saturation – depth to top: _____

5. Soil Suitability Classification: _____

6. I hereby certify that the information furnished on Form 2b of this application (and the attachments thereto) is true and accurate. I am aware that falsification of data is a violation of the Water Pollution Control Act (N.J.S.A. 58:10A-1 et seq.) and is subject to penalties as prescribed in N.J.A.C. 7:14-8.

Signature of Soil Evaluator: _____ Date: _____
Signature of Professional Engineer: _____ License #: _____

County: _____ Municipality: _____

Form 3a
Soil Permeability Data

Lot: _____ Block: _____

Assign a number for each test and a letter for each test replicate. Show test data and calculations on Form 3d, 3c, 3d, 3f or 3g. Use one sheet for each separate test or test replicate.

1. Summary of data – Enter data for each test replicate on a separate line.

Type of Test	Test (number)	Replicate (letter)	Depth (inches)	Result*

*For tube permeameter, pit-balling and piezometer tests report results in inches per hour. For soil permeability class rating give soil permeability class number. For percolation test report result in minutes per inch. For basin flooding test report result as positive if basin drains completely within 24 hours after second filing, negative otherwise.

2. Design permeability/percolation rate: Specify test number: _____
   Average of text replicates _____
   Single replicate _____
   Slowest of replicates _____

3. Identification and classification

Type of Limiting Zone Identified	Test Number

4. Attachments (check items included):
____ Form 3b- Tube permeameter test data; Number of sheets. _____
____ Form 3c- Soil Permeability Class Rating Test Data; Number of sheets _____
____ Form 3d- Percolation Test Data; Number of sheets _____
____ Form 3e- Pit-Bailing Test Data; Number of sheets _____
____ Form 3f- Piezometer Test Data; Number of sheets _____
____ Form 3g- Basin Flooding Test Data; Number of sheets _____

6. I hereby certify that the information furnished on Form 3a of this application (and the attachments thereto) is true and accurate. I am aware that falsification of data is a violation of the Water Pollution Control Act (N.J.S.A. 58:10A-1 et seq.) and is subject to penalties as prescribed in N.J.A.C. 7:14-8.

Signature of Soil Evaluator: _____ Date:_____
Signature of Professional Engineer: _____ License #:_____

County: _____ Municipality:_____

Form 3b
Tube Permeameter Test Data

Lot: _____ Block: _____

1. Test Number: _____ Replicate (letter): _____ Date collected: _____

2. Material Tested: Fill: _____ Tested in native soil: _____ Indicate Depth: _____

3. Type of Sample: Undisturbed: _____ Disturbed: _____

4. Sample dimensions: Inside radius of sample tube, R, in cm ____ Length of sample, L, in inches ____

5. Bulk density determination (disturbed samples only):
   Sample weight (wt. tube containing sample-wt. of empty tube), grams
   Sample volume (L x 2.54cm./inch x 2.24²), cc _____
   Bulk density (sample Wt./Sample Volume), grams/cc

6. Standpipe used: No: ____ Yes: _____ Indicate internal radius, cm: _____

7. Height of water level above rim of test basin, in inches:
   At the beginning of each test interval, H1 _____
   At the end of each test interval, H2 _____

8. Rate of water level drop (add additional lines if needed):

Time, start of test interval, t1	Time, end of test, interval t2	Length of test interval, t, minutes

9. Calculation of permeability:
   K, (in/hr) = 60 min/hr x r^2/R^2 x L(in)/t(min) x in (H1/H2)
   = 60 min/hr x _____ / ____ x _____/ _____ x in (_____ / _____) = _____

10. Defects in the Sample (Check appropriate items):
   _____ None ____ Cracks _____ Worm Channels
   _____ Root Channels ____ Soil/Tube Contact
   _____ Large Gravel ____ Large Roots
   _____ Dry Soil ____ Smearing _____ Compaction
   Other (specify): _____

11. I hereby certify that the information furnished on Form 3b of this application (and the attachments thereto) is true and accurate. I am aware that falsification of data is a violation of the Water Pollution Control Act (N.J.S.A. 58:10A-1 et seq.) and is subject to penalties as prescribed in N.J.A.C. 7:14-8.

Signature of Soil Evaluator: _____ Date: _____
Signature of Professional Engineer: _____ License #: _____

County: _____ Municipality: _____

Form 3c
Soil Permeability Class rating Data

Lot: _____ Block: _____

1. Test Number: _____ Replicate (letter): _____

2. Sample Depth: _____ Boring Number: _____ Date Collected: _____

3. Course Fragment Content:
   Total weight of sample. W..T, grams _____
   Weight of material retained on 2mm sieve, W.C.F., grams _____
   Wt. % Coarse Fragment (W.C.F./ W.T. x 100, grams _____

4. Oven dry weight (24 hrs., 105º C) of 40 gram air dry sample, grams, Wt. _____

5. Hydrometer Calibration, Rc: _____

6. Hydrometer reading – 40 seconds, grams, R1: _____
   Temperature of suspension, ºF: _____

7. Corrected hydrometer reading, grams, R1': _____

8. Hydrometer reading – 2 hours, grams, R2: _____
   Temperature of suspensions, ºF: _____

9. Corrected hydrometer reading, grams, R2': _____

10. % sand = (Wt. – R1') / Wt. x 100 = (_____ - _____) / ____ x 100 = _____

11. % clay = R2'/Wt. x 100 = ____ / ____ x 100 = _____

12. Sieve Analysis:
    a. Oven dry Wt. (2hrs., 105ºC) Total sand fraction (soil retained in .047 mm sieve), grams: _____
    b. Wt. of fine plus very fine sand fraction (Sand passing .25 mm sieve), grams: _____
    c. % fine plus very fine sand (b/a): _____

13. Soil morphology (Natural soil samples only):
    Structure of soil horizon tested: _____
    Consistence of soil horizon tested: Dry: _____ Moist: _____

14. Soil permeability class rating (Based upon average textural analysis of this replicate and other replicate samples):
    K Value=_____

15. I hereby certify that the information furnished on Form 3c of this application (and the attachments thereto) is true and accurate. I am aware that falsification of data is a violation of the Water Pollution Control Act (N.J.S.A. 58:10A-1 et seq.) and is subject to penalties as prescribed in N.J.A.C. 7:14-8.

Signature of Soil Evaluator: _____ Date:_____
Signature of Professional Engineer: _____ License #:_____

County: _____ Municipality:_____

Form 3d
Percolation Test Data

Lot: _____ Block: _____

1. Test Number: _____ Replicate (letter): _____ Date Tested: _____

2. Depth: _____

3. Pre-soak: _____
_____ Sandy textured soil only, shortened pre-soak – Indicate time required for 12 inches of water to drain after second filling, minutes: _____

_____ Four hour pre-soak completed – Indicate results:
_____ Test hole drained within 16 to 24 hours after pre-soak
_____ Test hole did not drain within 24 hours after pre-soak

4. Rate of fall data:
   a. Time interval selected, minutes: _____
   b. Record the drop in water level during each time interval to the nearest $1/10^{th}$ – Inch on the lines below:

Depth of water, start of interval (inches)	Depth of water, end of interval (inches)	Drop in water level (inches)

5. Percolation Rate:
   a. Time, minutes, required for a six-inch drop in water level _____
   b. Percolation rate = a/6 = _____ min/in

6. I hereby certify that the information furnished on Form 3d of this application (and the attachments thereto) is true and accurate. I am aware that falsification of data is a violation of the Water Pollution Control Act (N.J.S.A. 58:10A-1 et seq.) and is subject to penalties as prescribed in N.J.A.C. 7:14-8.

Signature of Soil Evaluator: _____ Date:_____
Signature of Professional Engineer: _____ License #:_____

County: _____ Municipality:_____

Form 3e
Piezometer Test Date

Lot: _____ Block: _____

1. Test Number: _____ Reference Soil Log: _____ Date Tested: _____

2. Diameter of soil auger, in.: _____ Depth of test hole, in.: _____

3. Depth of apparent static water level, in. _____

4. Measure and record:

Water Depth, start of interval inches, d1:	Time at start of interval:	Water depth, end of interval inches, d1:	Time at end of interval:	Length of Intercal, min, t:

5. Depth to water level after 24 hours stabilization period, D_{static} in.: _____

6. Value of A-parameter: _____

7. Calculation of permeability:
   K, in/hr = [(3.14R^2) / (A x t)] x [In(d_1 -D_{stat} / d_2 – D_{stat})] x 60 min/hr
   = [(3.14 ____) / (____ x _____)] x [In (_____ - ____ / ____ - ___)] x 60 min/hr = ____

8. I hereby certify that the information furnished on Form 3e of this application (and the attachments thereto) is true and accurate. I am aware that falsification of data is a violation of the Water Pollution Control Act (N.J.S.A. 58:10A-1 et seq.) and is subject to penalties as prescribed in N.J.A.C. 7:14-8.

Signature of Soil Evaluator: _____ Date:_____
Signature of Professional Engineer: _____ License #:_____

County: _____ Municipality:_____

Form 3f
Pit-Balling Test Data

Lot: _____ Block: _____

1. Test Number: _____ Reference Soil Log: _____ Date Tested: _____

2. Using the reference level established, measure and record the following:
   a) Depth to bottom of pit, ft. D_{pit}: _____
   b) Depth to water level after 2hr. stabilization period, ft D_{water}: _____
   c) Depth to impermeable stratum, ft, $D_{stratum}$: _____ (if depth is unknown assume it to be 1.5 times the depth of the pit.)
   d) Height of water level above impermeable stratum, ft, H _____ (H _____ = $D_{stratum} - D_{water}$)
   e) Length of time interval, T, in minutes _____

3. At the interval chosen, record the following data in the table below:
   a) Time of measurement, t_n, minutes
   b) Depth of water level below reference level, d_n, inches
   c) Water surface dimensions, ft: l,w

4. Calculate the following values and enter in the table below:
   a) Water surface area, ft², A_n
   b) Water level rise h_{rise} (subtract current value of d_n from previous value)
   c) Average water surface area, ft², A_{av} (take average of A_n and previous A_n)
   d) Average height of water level above impermeable stratum, ft, h (take average of d_n and previous value of d_n, convert to ft., and subtract from $D_{stratum}$)
   e) Permeability, in/hr, K_a (calculate using formula): $K_a = [h_{rise} / T] \times [A_{av} / 2.27 (H^2 - h^2] \times 60$ min/hr

t_n	D_n (in.)	l, w (ft²)	H_{rise} (in.)	A_{av} (ft²)	H (ft)	K_a
T_0			XXXX	XXXX	XXXX	XXXX
T_1						
T_2						
T_3						
T_4						
T_0			XXXX	XXXX	XXXX	XXXX
T_1						
T_2						
T_3						
T_4						
T_0			XXXX	XXXX	XXXX	XXXX
T_1						
T_2						
T_3						
T_4						

5. Record the following data:
   a) Final depth of Pit, D_{pit}, ft: _____
   b) Depth to impermeable stratum, ft, $D_{stratum}$: _____ (if no impermeable stratum is encountered assume $D_{stratum} = D_{pit}$)
   c) Height of standpipe above reference level, ft., h_{pipe}: _____
   d) Depth to water level after 24 hr. stabilization period, ft, D_{water}: _____ (take measurement from top of standpipe subtract h_{pipe})
   e) Height of static water level above impermeable stratum, ft., H _____ ($H = D_{stratum} - D_{water}$)
   f) Average height of water level above impermeable stratum, ft, h _____ (take average of d_n from beginning and end of last time interval recorded in section 4, convert this to ft., subtract from $D_{stratum}$)
6. Re-calculation of K using data from section 5 above and from final time interval of section 4:

K = [h_{rise} / t] x [A_{av} / 2.27 (H_2 – h_2] x 60 min/hr = [_____ / _____] x 2.27 (_____ - ____)]
X 60 min/hr = _____

7. I hereby certify that the information furnished on Form 3f of this application (and the attachments thereto) is true and accurate. I am aware that falsification of data is a violation of the Water Pollution Control Act (N.J.S.A. 58:10A-1 et seq.) and is subject to penalties as prescribed in N.J.A.C. 7:14-8.

Signature of Soil Evaluator: _____ Date:_____
Signature of Professional Engineer: _____ License #:_____

County: _____ Municipality:_____

Form 3g
Basin Flooding Test Data

Lot: _____ Block: _____

1. Test Number: _____ Reference Soil Log: _____ Date Tested: _____

2. Depth of Pit, ft.: _____ _____

3. Area of Pit, ft² _____

4. Description of rock substratum within test zone:
   Type of rock: _____
   Name of formation: _____
   Average fracture spacing: _____

   Type of fractures (check appropriate category):
   _____ Open (wide), clean – width of openings, mm _____
   _____ Open (wide), infilled with fines – width of openings, mm _____
   _____ Tight (closed)

   Orientation of Fractures:
   _____ Horizontal (parallel to pit bottom) or nearly so
   _____ Inclined
   _____ Vertical (parallel to sides of pit) or nearly so

   Hardness of Rock:
   _____ Rippable with hand tools
   _____ Not rippable with hand tools, rippable by machine
   _____ Not rippable by machine, explosives used

5. Time of first basin Flooding: _____
   Volume of water added, Gal. _____

6. Result of first basin Flooding: _____
   _____ Basin drained within 24 hours – Indicate time _____
   _____ Basin not drained within 24 hours

7. Time of Second basin Flooding: _____
   Volume of water added, gallon: _____

8. Result of Second Basin Flooding:
   _____ Basin drained within 24 hours – Indicate time _____
   _____ Basin <u>not</u> drained within 24 hours

9. I hereby certify that the information furnished on Form 3g of this application (and the attachments thereto) is true and accurate. I am aware that falsification of data is a violation of the Water Pollution Control Act (N.J.S.A. 58:10A-1 et seq.) and is subject to penalties as prescribed in N.J.A.C. 7:14-8.

Signature of Soil Evaluator: _____ Date:_____
Signature of Professional Engineer: _____ License #:_____

County: _____ Municipality:_____

Form 4
General Design Data

Lot: _____ Block: _____

1. Volume of sanitary sewage, gal.: _____
   _____ Residential: number of dwelling units: _____ Total number if bedrooms: _____
   _____ Commercial/Institutional – indicate type of establishment and show method of calculation. If estimate is based on water meter data, indicate source of data, frequency of readings, average daily flow, and maximum recorded daily reading: _____

2. Alterations or Repairs
   a) Reason for alteration or repair (check appropriate categories):
   _____ Expansion or change in use _____ Upgrade existing facilities
   _____ Correct malfunctioning system _____ Other (specify): _____
   b) Describe nature of alteration or repairs: _____

3. System components:
   a) Grease trap capacity, gals: _____
   Show calculation used: _____
   b) Septic tank capacities, gals: _____ First compartment gals: _____ Second gals. _____ Third gals: _____
   c) Effluent distribution
   Method: _____ Gravity flow: _____ Gravity dosing: _____ Pressure dosing: _____
   Dosing device: Pump: ____ Siphon_____
   d) Dosing tank capacities, gals.: Total capacity: _____ Dose volume: _____ Reserve capacity: _____
   e) Laterals: Total length: _____ Pipe size: _____ Spacing: ____ Total Number: _____
   f) Connecting pipe: Size: _____ Length: _____
   g) Manifold: Size:_____ Length:_____
   h) Disposal field: Type of installation: _____
   Design permeability (percolation rate): _____
   Trenches: Width:_____ Total length: _____ Bed Area:_____
   i) Seepage pits: Design percolation rate: _____
   Number of pits: Total percolation area provided:_____

4. Attachments: (check items included):
   _____ General plan of system showing location of all system components
   _____ X-Sections of each system component including grease trap, septic tank, dosing tank, disposal field, seepage pits and interceptor drains
   _____Pump performance curve
   _____ Other (specify)_____

5. I hereby certify that the information furnished on Form 4 of this application (and the attachments thereto) is true and accurate. I am aware that falsification of data is a violation of the Water Pollution Control Act (N.J.S.A. 58:10A-1 et seq.) and is subject to penalties as prescribed in N.J.A.C. 7:14-8.

Signature of Soil Evaluator: _____ Date:_____
Signature of Professional Engineer: _____ License #:_____

County: _____ Municipality:_____

Form 5
Design of Pressure Dosing System

Lot: _____ Block: _____

1. Configuration of distribution network:
   Type of manifold: _____ End _____Central
   Distribution laterals: Number _____ Length, ft: _____ Spacing, ft: _____
   Hole diameter, inches: _____ Hole spacing, inches: _____
   Diameter of laterals, inches: _____

2. Lateral discharge rate:
   Design pressure head at supply end of laterals, Hp, ft: _____
   Hole discharge rate, Q, gpm: _____
   Number of holes per lateral, n: _____
   Lateral discharge rate, (Qxn) gpm: _____

3. Manifold length, ft: _____ Manifold diameter, inches: _____

4. System discharge rate, gpm: _____

5. Pump selection:
   Diameter of delivery pipe: _____ Length of delivery pipe: _____
   Friction loss in delivery pipe, H_f, ft: _____
   Elevation of dosing tank low water level: _____
   Elevation of lateral invert: _____
   Elevation head, H_e, ft: _____
   Total operating head, H_t ($H_p + H_f + H_e$), ft: _____
   Pump model: _____ Rated Horsepower: _____
   Pump discharge rate at total operation head, gpm: _____

6. Siphon Elevation:
   Diameter of delivery pipe: _____ Length of delivery pipe: _____
   Friction loss in delivery pipe, H_f, ft: _____
   Velocity head, H_v, ft: _____
   Total operating head, Ht ($H_p + H_f + H_v$), ft: _____
   Elevation of lateral invert: _____
   Elevation of siphon invert: _____

7. Dose Volume:
   Design volume of sewage, gal/day: _____
   Design permeability, in/hr: _____ or Percolation rate, min/in: _____
   Internal volume of distribution network: _____
   Dose volume: _____

8. I hereby certify that the information furnished on Form 5 of this application (and the attachments thereto) is true and accurate. I am aware that falsification of data is a violation of the Water Pollution Control Act (N.J.S.A. 58:10A-1 et seq.) and is subject to penalties as prescribed in N.J.A.C. 7:14-8.

Signature of Soil Evaluator: _____ Date:_____
Signature of Professional Engineer: _____ License #:_____

County: _____ Municipality:_____