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SUBSURFACE WASTEWATER DISPOSAL SYSTEM APPLICATION		Maine Department of Human Services Division of Health Engineering, 1D SHS (207) 287-5672 Fax: (207) 287-3165	
<b>PROPERTY LOCATION</b>		<b>CAUTION: PERMIT REQUIRED - ATTACH IN SPACE BELOW</b>	
City, Town, or Plantation <b>Augusta</b>	Street or Road <b>Ingraham Mtn. Rd. (will be a road)</b>	<b>AUGUSTA</b> Date Permit Issued: <u>8/16/11</u> Local Plumbing Inspector Signature: <u>[Signature]</u> PERMIT # <u>6589</u> TOWN COPY \$ <u>15.00</u> \$ <u>2510.00</u> FEE <input type="checkbox"/> Double Fee Charged L.P.I. # <u>850</u>	
Subdivision, Lot #			
<b>OWNER/APPLICANT INFORMATION</b>		<b>CAUTION: INSPECTION REQUIRED</b>	
Name (last, first, MI) <b>Dean, Stacy</b>	<input checked="" type="checkbox"/> Owner <input type="checkbox"/> Applicant	(I have inspected the installation authorized above and found it to be in compliance with the Subsurface Wastewater Disposal Rules Application.) Signature of Local Plumbing Inspector: <u>[Signature]</u> Date: <u>8/23/11</u> (1st) date approved: <u>8/23/11</u> (2nd) date approved:	
Mailing Address of Owner/Applicant <b>P.O. Box 843 Portland, ME 04104</b>		Municipal Tax Map # <u>9</u> Lot # <u>95E</u>	
Daytime Tel. # <b>207-671-8958</b>			
<b>OWNER OR APPLICANT STATEMENT</b> I state and acknowledge that the information submitted is correct to the best of my knowledge and understand that any falsification is reason for the Department and/or Local Plumbing Inspector to deny a Permit. <u>[Signature]</u> <u>8/12/11</u> Signature of Owner or Applicant Date			
<b>PERMIT INFORMATION</b>			
<b>TYPE OF APPLICATION</b>	<b>THIS APPLICATION REQUIRES</b>	<b>DISPOSAL SYSTEM COMPONENTS</b>	
<input checked="" type="checkbox"/> 1. First Time System <input type="checkbox"/> 2. Replacement System Type replaced: _____ Year installed: _____ <input type="checkbox"/> 3. Expanded System <input type="checkbox"/> a. Minor Expansion <input type="checkbox"/> b. Major Expansion <input type="checkbox"/> 4. Experimental System <input type="checkbox"/> 5. Seasonal Conversion	<input checked="" type="checkbox"/> 1. No Rule Variance <input type="checkbox"/> 2. First Time System Variance <input type="checkbox"/> a. Local Plumbing Inspector Approval <input type="checkbox"/> b. State & Local Plumbing Inspector <input type="checkbox"/> 3. Replacement System Variance <input type="checkbox"/> a. Local Plumbing Inspector Approval <input type="checkbox"/> b. State & Local Plumbing Inspector <input type="checkbox"/> 4. Minimum Lot Size Variance <input type="checkbox"/> 5. Seasonal Conversion Permit	<input checked="" type="checkbox"/> 1. Complete Non-engineered System <input type="checkbox"/> 2. Primitive System (graywater & alt. toilet) <input type="checkbox"/> 3. Alternative Toilet, specify: _____ <input type="checkbox"/> 4. Non-engineered Treatment Tank (only) <input type="checkbox"/> 5. Holding Tank, _____ gallons <input type="checkbox"/> 6. Non-engineered Disposal Field (only) <input type="checkbox"/> 7. Separated Laundry System <input type="checkbox"/> 8. Complete Engineered System (2000 gpd or more) <input type="checkbox"/> 9. Engineered Treatment Tank (only) <input type="checkbox"/> 10. Engineered Disposal Field (only) <input type="checkbox"/> 11. Pre-treatment, specify: _____ <input type="checkbox"/> 12. Miscellaneous Components	
<b>SIZE OF PROPERTY</b> <b>21+/-</b> <input type="checkbox"/> SQ. FT. <input checked="" type="checkbox"/> ACRES	<b>DISPOSAL SYSTEM TO SERVE</b> <input checked="" type="checkbox"/> 1. Single Family Dwelling Unit, No. of Bedrooms: <u>3</u> <input type="checkbox"/> 2. Multiple Family Dwelling, No. of Units: _____ <input type="checkbox"/> 3. Other: _____ (specify) Current Use <input type="checkbox"/> Seasonal <input type="checkbox"/> Year Round <input checked="" type="checkbox"/> Undeveloped	<b>TYPE OF WATER SUPPLY</b> <input checked="" type="checkbox"/> 1. Drilled Well <input type="checkbox"/> 2. Dug Well <input type="checkbox"/> 3. Private <input type="checkbox"/> 4. Public <input type="checkbox"/> 5. Other Proposed	
<b>SHORELAND ZONING</b> <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	<b>DESIGN DETAILS (SYSTEM LAYOUT SHOWN ON PAGE 3)</b>		
<b>TREATMENT TANK</b> <input checked="" type="checkbox"/> 1. Concrete <input checked="" type="checkbox"/> a. Regular <input type="checkbox"/> b. Low Profile <input type="checkbox"/> 2. Plastic <input type="checkbox"/> 3. Other: _____ CAPACITY: <u>1000</u> GAL	<b>DISPOSAL FIELD TYPE &amp; SIZE</b> <input checked="" type="checkbox"/> 1. Stone Bed <input type="checkbox"/> 2. Stone Trench <input type="checkbox"/> 3. Proprietary Device <input type="checkbox"/> a. cluster array <input type="checkbox"/> c. Linear <input type="checkbox"/> b. regular load <input type="checkbox"/> d. H-20 load <input type="checkbox"/> 4. Other: _____ SIZE: <u>900</u> sq. ft. <input type="checkbox"/> lin. ft.	<b>GARBAGE DISPOSAL UNIT</b> <input checked="" type="checkbox"/> 1. No <input type="checkbox"/> 2. Yes <input type="checkbox"/> 3. Maybe If Yes of Maybe, specify one below: <input type="checkbox"/> a. multi-compartment tank <input type="checkbox"/> b. _____ tanks in series <input type="checkbox"/> c. increase in tank capacity <input type="checkbox"/> d. Filter on Tank Outlet	<b>DESIGN FLOW</b> <u>270</u> gallons per day BASED ON: <input checked="" type="checkbox"/> 1. Table 501.1 (dwelling unit(s)) <input type="checkbox"/> 2. Table 501.1 (other facilities) SHOW CALCULATIONS _____ for other facilities _____
<b>SOIL DATA &amp; DESIGN CLASS</b> PROFILE <u>3</u> CONDITION <u>C</u> DESIGN <u>1</u> at Observation Hole # <u>TP-1</u> Depth <u>20</u> " of Most Limiting Soil Factor <u>Groundwater</u>	<b>DISPOSAL FIELD SIZING</b> <input type="checkbox"/> 1. Small—2.0 sq. ft. / gpd <input type="checkbox"/> 2. Medium—2.6 sq. ft. / gpd <input checked="" type="checkbox"/> 3. Medium—Large 3.3 sq. ft. / gpd <input type="checkbox"/> 4. Large—4.7 sq. ft. / gpd <input type="checkbox"/> 5. Extra Large—5.0 sq. ft. / gpd	<b>EFFLUENT/EJECTOR PUMP</b> <input type="checkbox"/> 1. Not Required <input checked="" type="checkbox"/> 2. May Be Required <input type="checkbox"/> 3. Required Specify only for engineered systems: DOSE: _____ gallons	<input type="checkbox"/> 3. Section 503.0 (meter readings) <b>ATTACH WATER METER DATA</b> <b>LATITUDE AND LONGITUDE</b> at center of disposal area Lat. <u>44</u> d <u>20</u> m <u>51.84</u> s Lon. <u>69</u> d <u>39</u> m <u>27.06</u> s if g.p.s. state margin of error: <u>20'</u>
<b>SITE EVALUATOR STATEMENT</b>			
I certify that on <u>7-26-11</u> (date) I completed a site evaluation on this property and state that the data reported are accurate and that the proposed system is in compliance with the State of Maine Subsurface Wastewater Disposal Rules (10-144A CMR 241).			
<u>[Signature]</u> Site Evaluator Signature		<u>SE # 096</u> SE #	<u>8/9/11</u> Date
<u>Gregory Perkins</u> Site Evaluator Name Printed		<u>207-843-6013</u> Telephone Number	<u>gregperkins096@yahoo.com</u> Email Address
Note: Changes to or deviations from the design should be confirmed with the Site Evaluator.			

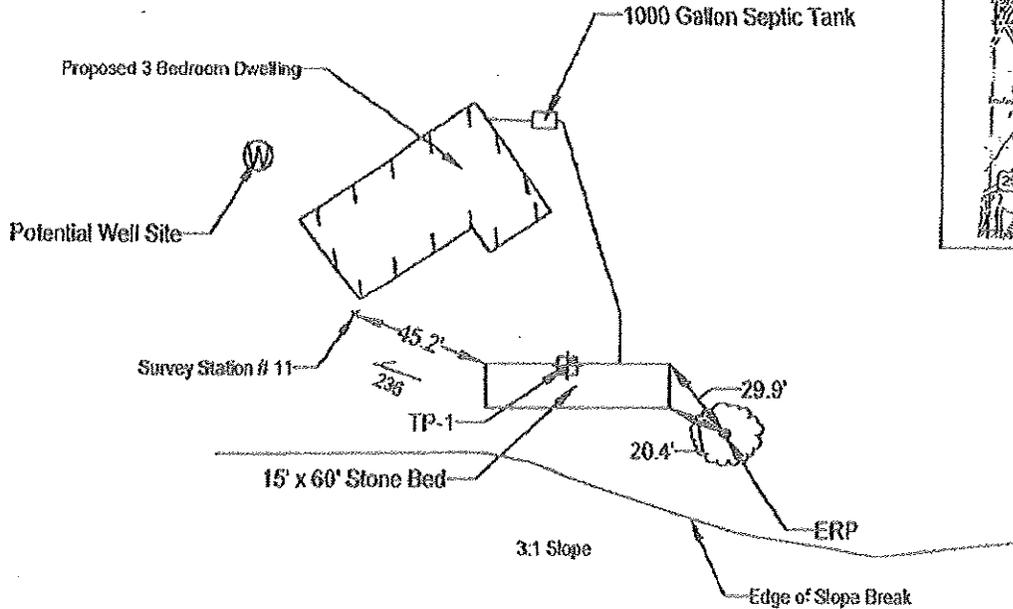
**SUBSURFACE WASTEWATER DISPOSAL SYSTEM APPLICATION**

MADE Department of Health Services  
Division of Health Engineering, Studio 10  
(207) 281-5672 Fax: (207) 287-3165

Town, City, Plantation: **Augusta** Street, Road, Subdivision: **Ingraham Mtn. Rd.** Owner or Applicant Name: **Stacy Dean**

**SITE PLAN** Scale 1" = 60 ft.

**SITE LOCATION PLAN**



**NOTES:**

1. This is not a survey. All property lines, building locations and site features have been approximately located, unless otherwise shown.
2. Septic tank and disposal field must be located at least 8' and 20' from a full foundation.
3. Scarify all ground to be filled.
4. Min. 1/4"/ft slope of pipe from building to septic tank.
5. Min. 1/8"/ft slope of pipe from septic tank to disposal field.



**SOIL PROFILE DESCRIPTION AND CLASSIFICATION (Location of Observation Holes Shown Above)**

Observation Hole # <u>TP-1</u>	<input checked="" type="checkbox"/> Test Pit	<input type="checkbox"/> Boring
<u>2</u> "	Depth of organic horizon above mineral soil	
Texture	Consistency	Color
0 Sandy Loam	Friable	Dark Brown
6		
12 Sandy Loam	Friable	Yellow Brown
18		
24		
30 Sandy Loam	Firm	Olive
36		
42	Limit of Excavation at 40 inches	
48		
Soil Profile	Classification Condition	Slope Percent
<u>3</u>	<u>C</u>	<u>6-15</u>
Limiting Factor	<input type="checkbox"/> Groundwater	<input type="checkbox"/> Restrictive Layer
<u>20"</u>	<input type="checkbox"/> Bedrock	

Observation Hole # _____	<input type="checkbox"/> Test Pit	<input type="checkbox"/> Boring
"	Depth of organic horizon above mineral soil	
Texture	Consistency	Color
0		
6		
12		
18		
24		
30		
36		
42		
48		
Soil Profile	Classification Condition	Slope Percent
Limiting Factor	<input type="checkbox"/> Groundwater	<input type="checkbox"/> Restrictive Layer
	<input type="checkbox"/> Bedrock	

*Greg Perkins*  
Site Evaluator Signature

096  
SE #

8/9/11  
Date

**SUBSURFACE WASTEWATER DISPOSAL SYSTEM APPLICATION**

Maine Department of Human Services  
Division of Health Engineering, Station 10  
(207) 287-5672 Fax: (207) 287-3163

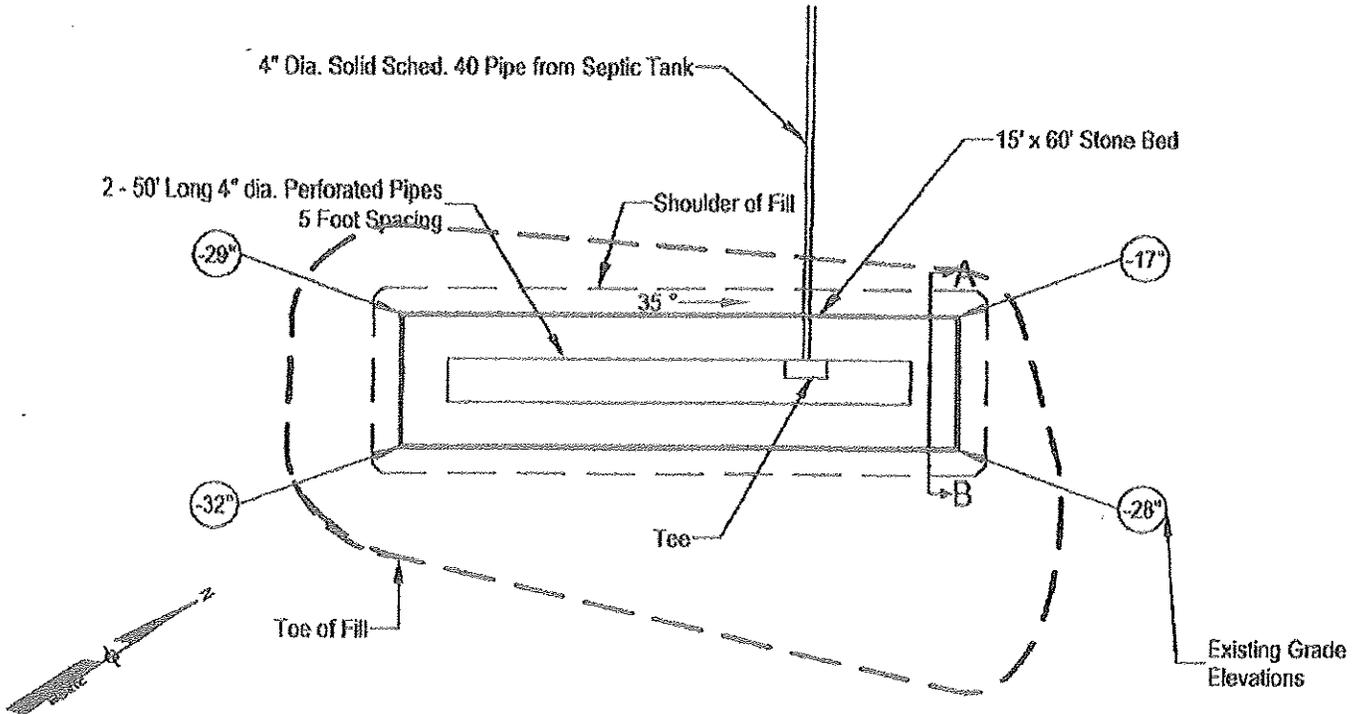
Town, City, Plantation  
Augusta

Street, Road, Subdivision  
Ingraham Mtn. Rd.

Owner or Applicant Name  
Stacy Dean

**SUBSURFACE WASTEWATER DISPOSAL PLAN**

Scale: 1" = 20 ft



**BACKFILL REQUIREMENTS**

**CONSTRUCTION ELEVATIONS**

**ELEVATION REFERENCE POINT**

Depth of Backfill (upslope) 24-12"  
Depth of Backfill (downslope) 27-23"

Finished Grade Elevation (at Row 1) -5"  
Top of Proprietary Device (at Row 1) -14"  
Bottom of Disposal Field (at Row 1) -25"

Location & Description: Nail 32" Up in 6" DBH Beech

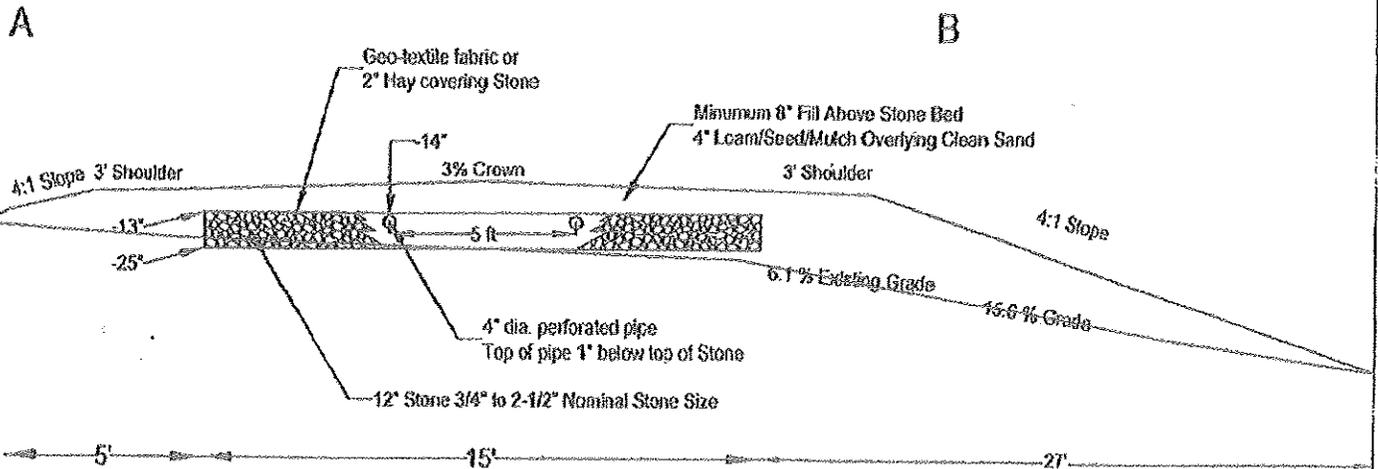
Reference Elevation is 0.0" or:

NOTE: SCARIFY ALL GROUND SURFACE TO BE FILLED.

**DISPOSAL FIELD CROSS SECTION**

APPROXIMATE ABOVE GRADE FILL REQUIRED  
89.5 cubic yards of LOAM  
188.2 cubic yards of SAND  
Volume of stone not considered

Scales:  
Vertical: 1" = 5'  
Horizontal: 1" = 5'



*Gregory Perkins*  
Site Evaluator/Signature

096  
SE #

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Date

Page 3 of 3  
HHE-200 Rev. 10/02



## Zabel Filter Model A1800

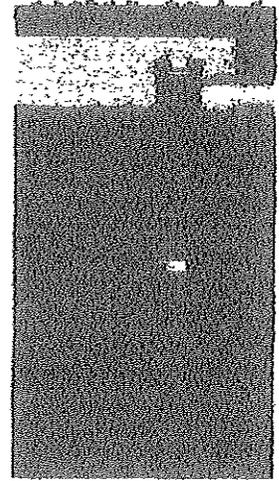
The New Zabel A1800 Residential Septic Filter™ is a true 1/16" filter that will fit in a 4" Sanitary Tee providing a real Residential Septic Filter™ at a very low cost.

**Effective:** A Zabel A1800 Residential Septic Filter™ installed in a 4" Sanitary Tee provides the protection and effectiveness of 1/16" filter slots, the same size as found in the Big A100 Commercial Septic Filter™. No other filter or screen has been proven more effective.

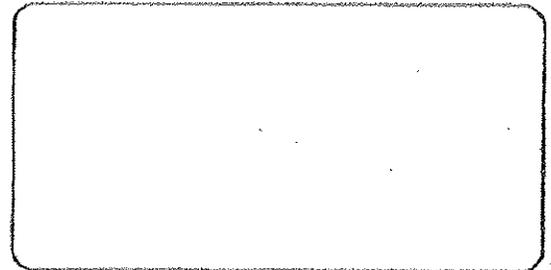
**No Increase in Servicing Frequencies:** Solids filtered out of the effluent stream attach to the vertical cylinder wall and drop to the bottom of the tank when the tank is in a resting state. The A1800 Filter may be serviced at the time the tank is normally inspected and pumped and does not increase the frequency of service.

**Easy to Install:** The A1800 fits a 4" Sanitary Tee.

**Easy to Service:** When the tank is normally inspected, pull the cartridge out by grasping the handle and pulling upward. Tap the cartridge on the inside of the inspection port or hose off into the tank if needed and reinstall.



**For more information contact:**



Manufactured by Zabel Wastewater Filter Systems • 3600 Chamberlain Lane • Suite 612 • Louisville, KY 40241

## CHAPTER 8

### DISPOSAL FIELD CONSTRUCTION TECHNIQUES

#### SECTION 800.0 GENERAL

**800.1 Intent:** This Chapter governs the installation of disposal fields.

**800.2 General:** On sites with fine soil textures, excavations that expose the bottom and sidewall area of the disposal field must not be carried out when the soil moisture content is above the plastic limit except when correcting a nuisance, there is no practical alternative, the plumbing inspector agrees and special construction techniques are used. The absolute plastic limit can be estimated by rolling the soil with the fingers. If the soil forms a wire or rod 1/8th of an inch in diameter and does not crumble when handled, the soil moisture content is too high to proceed with the excavation.

**800.3 Dig Safe Law:** The "Dig Safe Law" 23 MRSA §3360-A places certain notification requirements on any person doing excavations. Excavation is broadly defined to mean any operation in which earth, rock or other material on or below the ground is moved or otherwise displaced by means of power tools, power equipment or explosives and including grading, trenching, digging, ditching, drilling, auguring, tunneling, scraping and cable or pipe driving, except tilling of the soil and gardening or agricultural purposes.

For a free Dig Safe in Maine information kit, contact the Maine Public Utilities Commission: 1-800-452-4699  
[www.state.me.us/rpuc](http://www.state.me.us/rpuc) - email: [maine.puc@maine.gov](mailto:maine.puc@maine.gov).

#### SECTION 801.0 SITE PREPARATION

**801.1 Site preparation requirements:** Prior to the placement of any backfill material, the ground surface must be prepared as follows:

**801.2 Soil erosion and sediment control:** In areas adjacent to a water body or wetlands, preventative erosion and sediment control measures should be employed consistent with Section 1504.0.

**801.3 Clearing:** Vegetation must be cut and removed from the area where backfill material is to be placed.

**801.4 Scarify the site:** Where possible, the area under the disposal field and backfill extensions must be plowed or disked to produce a thoroughly roughened surface. Plowing must be done parallel to the topographic contour in such a direction that each plow furrow will be thrown up-slope. The soil should be broken up to a depth of 6 to 8 inches. Alternatively, a roto-tiller or the teeth of a backhoe may be used.

**801.5 Transitional horizon:** On sites where the backfill material is coarser than the original soil, a minimum of 4 inches of backfill materials must be mixed (by plowing, disking or roto-tilling) into the original soil to form a transitional horizon beneath the disposal area footprint and all side and down slope fill extensions.

**801.6 Fill large holes:** If large holes are left as a result of stump and/or stone removal, these holes must be filled with suitable backfill material that meets the requirements of Subsection 803.2.

**801.7 Surface water diversion:** Surface water must be diverted away from the disposal field site.

#### SECTION 802.0 EXCAVATION

**802.1 Excavation requirements:** Any excavation required for the installation of a disposal field must comply with all the requirements in this Section.

**802.2 Bottom of disposal field:** The bottom of each disposal field must be installed at the elevation specified on the permit. It must be maintained to a level grade no greater than 2 inches within 100 feet. Note: The bottom of a disposal field serves as the final stage of the distribution network.

**802.3 Avoid unnecessary compaction:** Excavation must be carried out in a manner that will avoid unnecessary compaction of both sidewalls and bottom area. Heavy equipment, especially rubber tired vehicles such as front-end loaders, should not be driven over the exposed bottom of the disposal field. Excavation should be carried out, when possible, by a back-hoe operating from outside the perimeter of the previously excavated portions of the disposal fields.

**802.4 Reopen smeared or compacted bottom or sidewall surfaces:** If any portion of the bottom or sidewalls becomes smeared or compacted, that portion must be scarified to reopen soil pores. Rototilling may be necessary to reach the limit of compacted soil depth.

**802.5 Weather conditions:** Work should be scheduled so that excavated areas are not exposed to rainfall or wind-blown silt. Any loose soil or debris that is washed or otherwise deposited within the excavation must be carefully removed prior to backfilling. Additionally, disposal fields should not be installed in frozen ground or when the ambient air temperature is below freezing, especially if construction will take place over several days.

#### SECTION 803.0 INSTALLATION

**803.1 Construction:** The installer of the system shall make certain that the system and all its component parts are installed in conformance with the requirements of this code, the plan prepared by the site evaluator, and with any special engineering design requirements approved or required by the Department under Chapter 19.

**803.2 Soil and backfill material:** The installer of the system shall make certain that the construction and installation are performed without adversely affecting the capacity of the soil or backfill material to adequately absorb or treat the septic tank effluent.

### SECTION 804.0 BACKFILL PLACEMENT FOR DISPOSAL AREAS INCLUDING FILL EXTENSIONS

**804.1 General:** Selection and placement of backfill must comply with the requirements of this section.

**804.2 Backfill standards:** The backfill material must be gravelly coarse sand which meets the following requirements:

Table 800.1 - Backfill Textural Gradation

Sieve Size	Percent Passing by Weight
3"	100
1.5"	95-100
0.75"	90-100
#4	75-100
#10	55-85
#20	30-65
#40	15-45
#60	10-25
#100	5-15
#200	2-8
Clay Fraction	0-2

(1) **Field Determination of backfill:** Due to the difficulty of obtaining sieve analyses and the variability of backfill material, the following procedures can be used in the field to determine the suitability of backfill material. The backfill is suitable if the soil texture is loose single grains, the individual sand grains can be readily seen (similar to salt or sugar grains) and felt, and the following conditions are observed: If squeezed in the hand when dry, it will fall apart when the pressure is released but has enough fines to stain the lines in the palm of the hand; or, if squeezed when moist, it will form a cast that will crumble when touched and bears very careful handling; and it does not form a ribbon between the thumb and forefinger but has enough fines to stain the lines in the palm of the hand.

(2) **Coarser material beneath or beside disposal system:** Stone meeting the requirements of Section 805.2 may be placed immediately adjacent to the disposal field provided that the rest of the backfill material meets the requirements of Subsection 804.2. If used beneath the disposal field, it must be considered part of the disposal field for determining the separation between the limiting factor and the bottom of the disposal system.

(3) **Fill material placement above disposal system:** Immediately above the filter fabric, hay or proprietary devices, fill is required as specified on the plans. It must be a minimum of 8 inches in thickness (including cover material).

(4) **Cover material:** Immediately above the backfill or fill material, at least 4" of soil or soil and soil amendment mix, suitable for establishment of a good vegetative cover, must be placed over the entire disturbed soil area, including fill extensions.

**804.3 Disposal fields installed completely in the original ground:** If the disposal field is completely installed in original ground, the backfill material must completely cover the disposal fields. Fill material extensions must be graded smoothly into the surrounding topography on all sides. The disposal field must be adequately crowned on level disposal fields (3% minimum grade) to allow for settling so that surface water will be allowed to drain from the site without ponding.

**804.4 Disposal fields installed partially in the original ground:** Disposal fields partially installed in the original ground must meet the following requirements:

(1) **Extent of backfill material:** The fill layer must include any backfill beneath the disposal field, the shoulders, and the backfill material extensions surrounding the disposal field on all sides.

(2) **Shoulder width and slope:** The minimum required shoulder width is 3 feet. The finished grade of the shoulder must be sloped at 3% away from the disposal field or conform to the slope of the finish grade of the disposal field.

(3) **Sloping sites:** On sloping sites, the width of the shoulder may be reduced on the up-slope side of the disposal field. In this case, the top surface of the backfill material must be kept level with or higher than the invert of the distribution pipes up to the point where the top surface of the fill material intersects with existing slope.

(4) **Backfill material extension:** At the outside edge of the shoulder, the backfill material must be terminated by sloping the top of the backfill layer downward at a slope specified in Tables 600.2 through 600.4 to the original ground if possible, or a man-made retaining wall, provided the retaining wall is no more than 24 inches in height and the horizontal distance from the outer edge of the fill shoulder to the retaining wall is at least ten feet.

### SECTION 805.0 DISPOSAL FIELDS

**805.1 Installation requirements:** Disposal fields, which include in a trench configuration, must be installed in compliance with all the requirements in this Section and Section 1403.0.

(1) **Pitch of distribution pipes or proprietary disposal devices:** Maximum tolerance of distribution pipes or proprietary disposal devices must be no more than 2 inches in 100 feet.

(2) **Spacing between distribution pipes:** The space between distribution pipes for low pressure distribution must be from 75 to 80% of the hole spacing. Spacing must be equal and uniform.

(3) Holes in low pressure distribution pipes: The holes in low pressure distribution pipes must be equal and uniform. The holes must be aligned so that holes in adjacent distribution pipes are offset by 50% of the hole spacing.

(4) Proprietary devices: Proprietary disposal devices approved by the Department as substitutes for disposal field stone and perforated distribution pipes must be installed per the manufacturer's instructions.

**805.2 Disposal field stone:** The stone used in disposal fields must meet the following requirements:

(1) **General:** Where used, the stone must cover the distribution pipes and extend the full width and length of the disposal field.

(2) **Minimum thickness:** The disposal field stone depth for beds must extend at least 7 inches beneath the bottom of the distribution pipes and must extend at least 1 inch above the top of the distribution pipes. For disposal trenches, disposal field stone depth must extend at least 12 inches beneath the bottom of the distribution pipes and must extend at least 1 inch above the top of the distribution pipes.

(3) **Stone requirements:** The disposal field stone must be clean, uniform in size and free of fines, dust, ashes, or clay. It must conform to one of the nominal stone sizes listed in Table 800.2.

**TABLE 800.2**  
Maximum Percent passing by weight

		Nominal Stone Size	
		1 1/2"	3/4"
Sieve Size	2"	100	100
	1 1/2"	95 - 100	100
	3/4"	0 - 40	90 - 100
	1/2"	0 - 20	0 - 55
	3/8"	0 - 8	0 - 25
	#4	0 - 5	0 - 10
	#200	0 - 2	0 - 2

(3)(1) **Stone specifications:** A site evaluator may define a more stringent standard for stone size for any particular system.

(4) **Placing stone:** The disposal field stone may be loaded onto the disposal field site using a back-hoe, front-end loader, or dump truck. This operation must be carried out from the sides of the disposal field rather than by driving onto the prepared area of the disposal field. In the case of large disposal fields, tracked equipment may be operated within the disposal field. This equipment must not exert a ground pressure in excess of eight pounds per square inch. The disposal field stone must be pushed in front of the vehicle such that a minimum of

track and the original soil surface.

**805.3 Covering the disposal field stone:** The disposal field stone must be covered with a layer of filter fabric or two (2) inches of hay as the laying of the distribution pipes progresses.

**805.4 Covering the stone with filter fabric:**

(1) **Overlapping filter fabric sheets:** Edges of adjacent sheets of fabric must be overlapped by a minimum of 6 inches; and

(2) **Fabric requirements:** The filter fabric specified in the system design must have: adequate tensile strength to prevent ripping during installation and backfilling, adequate air permeability to allow free passage of gases; and adequate particle retention to prevent downward migration of soil particles into the disposal field. The minimum physical properties for the fabric must be 4.0 ounces/square yard (per ASTM D-3776).

**805.5 Covering the stone with hay:** In order to prevent the movement of fine particles into the stone, hay must be evenly placed in 2" layers over the entire surface above the stone.

**805.6 Waterproof paper prohibited:** The use of waterproof paper is prohibited.

**SECTION 806.0 FINAL GRADING**

**806.1 General:** Final grading for vegetative stabilized disposal areas must be carried out in compliance with the requirements of this Section.

**806.2 Cover material:** At least 4 inches of soil or soil/soil amendment mix, suitable for establishment of a good vegetative cover must be placed over the entire filled area including the fill material extensions.

**806.3 Final grading:** Final grading must be completed in such a manner that surface water will not collect over the disposal field.

**806.4 Erosion control:** Immediately after completion of final grading, the fill material surface must be stabilized by mulching and seeding, or sodding, to establish a good vegetative cover to prevent erosion.

(1) **Vegetative covers:** Grass, clover, trefoil, vetch, perennial wild flowers, or other herbaceous perennials may be utilized for disposal field surfaces.

(2) **Other covers:** Bark chips, woodchips, and other organic materials may be used as cover material when specified by the designer.

(3) **Woody shrubs and trees:** Woody shrubs or trees are unacceptable on disposal field surfaces. Woody shrubs may be used in conjunction with a hardy perennial ground cover on backfill material extensions only.

(3) **Holes in low pressure distribution pipes:** The holes in low pressure distribution pipes must be equal and uniform. The holes must be aligned so that holes in adjacent distribution pipes are offset by 50% of the hole spacing.

(4) **Proprietary devices:** Proprietary disposal devices approved by the Department as substitutes for disposal field stone and perforated distribution pipes must be installed per the manufacturer's instructions.

**805.2 Disposal field stone:** The stone used in disposal fields must meet the following requirements:

(1) **General:** Where used, the stone must cover the distribution pipes and extend the full width and length of the disposal field.

(2) **Minimum thickness:** The disposal field stone depth for beds must extend at least 7 inches beneath the bottom of the distribution pipes and must extend at least 1 inch above the top of the distribution pipes. For disposal trenches, disposal field stone depth must extend at least 12 inches beneath the bottom of the distribution pipes and must extend at least 1 inch above the top of the distribution pipes.

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		1 1/2"	3/4"
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	3/4"	0 - 40	90 - 100
	1/2"	0 - 20	0 - 55
	3/8"	0 - 8	0 - 25
	#4	0 - 5	0 - 10
	#200	0 - 2	0 - 2

(3)(1) **Stone specifications:** A site evaluator may define a more stringent standard for stone size for any particular system.

(4) **Placing stone:** The disposal field stone may be loaded onto the disposal field site using a back-hoe, front-end loader, or dump truck. This operation must be carried out from the sides of the disposal field rather than by driving onto the prepared area of the disposal field. In the case of large disposal fields, tracked equipment may be operated within the disposal field. This equipment must not exert a ground pressure in excess of eight pounds per square inch. The disposal field stone must be pushed in front of the vehicle such that a minimum of

one foot of stone is maintained beneath the vehicle track and the original soil surface.

**805.3 Covering the disposal field stone:** The disposal field stone must be covered with a layer of filter fabric or two (2) inches of hay as the laying of the distribution pipes progresses.

**805.4 Covering the stone with filter fabric:**

(1) **Overlapping filter fabric sheets:** Edges of adjacent sheets of fabric must be overlapped by a minimum of 6 inches; and

(2) **Fabric requirements:** The filter fabric specified in the system design must have: adequate tensile strength to prevent ripping during installation and backfilling, adequate air permeability to allow free passage of gases; and adequate particle retention to prevent downward migration of soil particles into the disposal field. The minimum physical properties for the fabric must be 4.0 ounces/square yard (per ASTM D-3776).

**805.5 Covering the stone with hay:** In order to prevent the movement of fine particles into the stone, hay must be evenly placed in 2" layers over the entire surface above the stone.

**805.6 Waterproof paper prohibited:** The use of waterproof paper is prohibited.

#### SECTION 806.0 FINAL GRADING

**806.1 General:** Final grading for vegetative stabilized disposal areas must be carried out in compliance with the requirements of this Section.

**806.2 Cover material:** At least 4 inches of soil or soil/soil amendment mix, suitable for establishment of a good vegetative cover must be placed over the entire filled area including the fill material extensions.

**806.3 Final grading:** Final grading must be completed in such a manner that surface water will not collect over the disposal field.

**806.4 Erosion control:** Immediately after completion of final grading, the fill material surface must be stabilized by mulching and seeding, or sodding, to establish a good vegetative cover to prevent erosion.

(1) **Vegetative covers:** Grass, clover, trefoil, vetch, perennial wild flowers, or other herbaceous perennials may be utilized for disposal field surfaces.

(2) **Other covers:** Bark chips, woodchips, and other organic materials may be used as cover material when specified by the designer.

(3) **Woody shrubs and trees:** Woody shrubs or trees are unacceptable on disposal field surfaces. Woody shrubs may be used in conjunction with a hardy perennial ground cover on backfill material extensions only.

**SECTION 807.0 CURTAIN DRAINS**

**807.1 Requirements:** Curtain drains, when required, must be up-slope of the disposal field, approximately perpendicular to the flow of ground water, intercepting and diverting groundwater away from the disposal field.

**807.2 Setbacks:** The minimum distance between the disposal field and a curtain drain must be as follows;

**807.3 Setback up-slope:** A minimum setback distance of 10 feet must be maintained between a curtain drain and the up-slope edge of a disposal field. The curtain drain must be located beyond the toe of the uphill fill extension if the uphill extension is greater than 10 feet and constructed so that the curtain drain is located to prevent any under drain of the disposal field.

**807.4 Setback cross-slope:** A minimum setback distance of 15 feet must be maintained between a curtain drain and the ends of a disposal field and constructed so that the curtain drain is located to prevent any under drain of the disposal field.

**807.5 Free-flowing outlets:** Free-flowing outlets must be provided down-slope of the curtain drain extensions. Outlets must meet the following requirements:

(1) **Discharge point:** Outlets may empty into a drainage swale discharging to a surface water body, a groundwater recharge basin, or a gravel bed;

(2) **Outlet design:** Outlets must be designed, installed, located, and maintained in a manner that does not cause soil erosion, surface flooding, or damage to adjacent properties, does not create a public nuisance, and does not violate any applicable Federal, State, or local laws or regulations; and

**807.6 Rodent control:** Adequate measures must be taken to protect each outlet from the entry of rodents or other small animals.

**807.7 Fill requirements:** Fill material over the curtain drain discharge pipes must be of earth of a texture that is similar to or coarser than that found at the site and free of large stones, stumps, broken masonry, or other waste construction material.

**SECTION 808.0 SEPARATION DISTANCE BETWEEN DISPOSAL FIELDS**

**808.1 Minimum separation distance between disposal fields:** Disposal fields, whether part of a single system or two or more discrete systems, must be separated by a minimum of 5 feet, as measured along the contour, or one half the width of the widest adjacent disposal fields; whichever is greater. Disposal trenches consisting of disposal field stone must be separated by a minimum of 3 feet.

**808.2 Setbacks for multiple disposal systems:** When there are two or more disposal systems (includes trenches) on a single property, separated by less than 100 feet from each other, and the combined wastewater flow exceeds 1,000 gallons per day; each disposal system must meet the setback requirements for the total design flow.