

SUBSURFACE WASTEWATER DISPOSAL SYSTEM APPLICATION

Maine Department of Human Services
 Division of Health Engineering, SHS 10
 (207) 287-5672 Fax (207) 287-3165

PROPERTY LOCATION

City, Town, or Plantation: Augusta
 Street, Road: 47 1/2 West River Road
 Subdivision, Lot #:

>> Caution Permit Required – Attach in Space Below <<

AUGUSTA Date of Permit Issued: 1/21/03 5191 TOWN COPY \$ 1000.00 FEE Double Fee Charged
 Local Plumbing Inspector Signature: Gary R. Jurek L.P.I. # 850

OWNER/APPLICANT INFORMATION

Name (last, first, MI): Cordts, John Owner Applicant
 Mailing Address of Owner/Applicant: 468 West River Road
Augusta, ME 04330
 Daytime Tel. #:

Municipal Tax Map # 6 Lot # 21A

Owner or Applicant Statement

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.

Signature of Owner or Applicant: [Signature] Date: 10/28/03

Caution: Inspection Required

I have inspected the installation authorized above and found it to be in compliance with the Subsurface Wastewater Disposal Rules Application.

Local Plumbing Inspector Signature: [Signature] (1st) Date Approved: 12/17/03
 (2nd) Date Approved:

PERMIT INFORMATION

TYPE OF APPLICATION	THIS APPLICATION REQUIRES	DISPOSAL SYSTEM COMPONENTS
<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"/> 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 Approval <input type="checkbox"/> 3. Replacement System Variance <input type="checkbox"/> a. Local Plumbing Inspector Approval <input type="checkbox"/> b. State & Local Plumbing Inspector Approval <input type="checkbox"/> 4. Minimum Lot Size Variance <input type="checkbox"/> 5. Seasonal Conversion Approval	<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
SIZE OF PROPERTY 1 <input type="checkbox"/> sq. ft. <input checked="" type="checkbox"/> acres	DISPOSAL SYSTEM TO SERVE <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	Proposed TYPE OF WATER SUPPLY <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: _____
SHORELAND ZONING <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No		

DESIGN DETAILS (SYSTEM LAYOUT SHOWN ON PAGE 3)

TREATMENT TANK	DISPOSAL FIELD TYPE & SIZE	GARBAGE DISPOSAL UNIT	DESIGN FLOW
<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> gallons	<input type="checkbox"/> 1. Stone Bed <input type="checkbox"/> 2. Stone Trench <input checked="" type="checkbox"/> 3. Proprietary Device <input type="checkbox"/> a. Cluster array <input checked="" type="checkbox"/> c. Linear <input checked="" type="checkbox"/> b. Regular load <input type="checkbox"/> d. H-20 load <input type="checkbox"/> 4. Other: _____ SIZE <u>12.00</u> <input checked="" type="checkbox"/> sq. ft. <input type="checkbox"/> lin. ft.	<input checked="" type="checkbox"/> 1. No <input type="checkbox"/> 2. Yes <input type="checkbox"/> 3. Maybe If Yes or 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	<u>270</u> gallons per day BASED ON: <input checked="" type="checkbox"/> 1. Table 501.1 (dwelling unit(s)) <input type="checkbox"/> 2. Table 502.2 (other facilities) SHOW CALCULATIONS – for other facilities –
SOIL DATA & DESIGN CLASS PROFILE CONDITION DESIGN <u>B IC 11</u> at Observation Hole # _____ Depth <u>18</u> " Elevation _____" OF MOST LIMITING SOIL FACTOR	DISPOSAL FIELD SIZING <input type="checkbox"/> 1. Small – 2.0 sq. ft./gpd <input type="checkbox"/> 2. Medium – 2.6 sq. ft./gpd <input type="checkbox"/> 3. Medium-Large – 3.3 sq. ft./gpd <input checked="" type="checkbox"/> 4. Large – 4.1 sq. ft./gpd <input type="checkbox"/> 5. Extra-Large – 5.0 sq. ft./gpd	EFFLUENT/EJECTOR PUMP <input checked="" type="checkbox"/> 1. Not Required <u>See Note Page 3</u> <input 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) ATTACH WATER-METER DATA

SITE EVALUATOR STATEMENT

I certify that on 8-8-03 (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).

Site Evaluator Signature: [Signature] SE #: 45 Date: 8-15-03
 Site Evaluator Name Printed: Darryl N. Brown Telephone #: 897-6752

Note: Changes to or deviations from the design should be confirmed with the Site Evaluator.

SUBSURFACE WASTEWATER DISPOSAL SYSTEM APPLICATION

Department of Human Services
Division of Health Engineering
(207) 287-5672 FAX (207) 287-4172

Town, City, Plantation

Street, Road, Subdivision

Owner's Name

Augusta

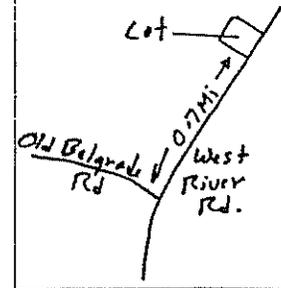
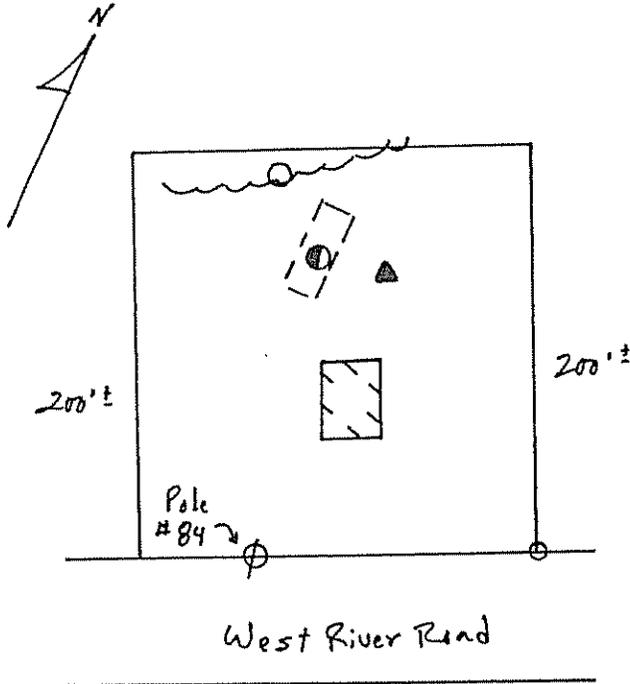
West River Road

John Cardts

SITE PLAN

Scale 1" = 100' Ft.
or as shown

SITE LOCATION PLAN
(See from Maine Atlas recommended)



- Test Pit
- ▲ Elev. Ref. Point
- 2nd Tie Point

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

Observation Hole _____ Test Pit Boring
0" Depth of Organic Horizon Above Mineral Soil

DEPTH BELOW MINERAL SOIL SURFACE (inches)	Texture	Consistency	Color	Mottling
0	Fine Sandy loam	friable	brown	
10	Fine Sandy loam	friable	yellowish brown	18"
20	V.F.S.I.	friable	olive	
30	Silt w/lenses of fine sand	firm	gray	
40				
50				

Soil Classification: **B C**
Slope: **12-15** %
Limiting Factor: **18** "
 Ground Water
 Restrictive Layer
 Bedrock
 Pit Depth

Observation Hole _____ Test Pit Boring
_____ " Depth of Organic Horizon Above Mineral Soil

DEPTH BELOW MINERAL SOIL SURFACE (inches)	Texture	Consistency	Color	Mottling
0				
10				
20				
30				
40				
50				

Soil Classification: _____
Slope: _____ %
Limiting Factor: _____ "
 Ground Water
 Restrictive Layer
 Bedrock
 Pit Depth

John M. Ben
Site Evaluator Signature

45
SE

8-15-03
Date

SUBSURFACE WASTEWATER DISPOSAL SYSTEM APPLICATION

Department of Human Services
Division of Health Engineering
(207) 287-5672 Fax (207) 287-4172

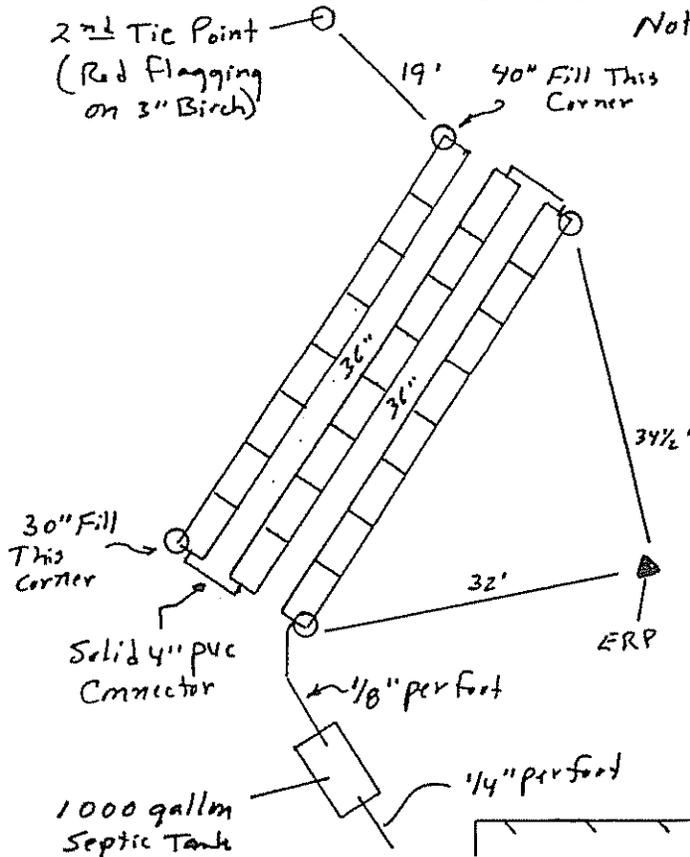
Town/City/Platation
Augusta

Street/Road/Subdivision
West River Road

Owner's Name
John Coedts

SUBSURFACE WASTEWATER DISPOSAL PLAN

SCALE 1" = 20' FT.



- Notes:
1. Disposal area shall consist of 24 High Capacity Infiltrators or 24 Standard Biodiffusers;
 2. To avoid pumping, the following minimum grades shall be established:
House to tank: 1/4" per foot
Tank to bed: 1/8" per foot
 3. Refer to attached copy of Chapter 8 of Wastewater Rules.

FILL REQUIREMENTS

Depth of Fill (Upslope) 24"
Depth of Fill (Downslope) 30-40"±

CONSTRUCTION ELEVATIONS

Finished Grade Elevation
Top of Distribution Pipe or Proprietary Device
Bottom of Disposal Area (Row 1)

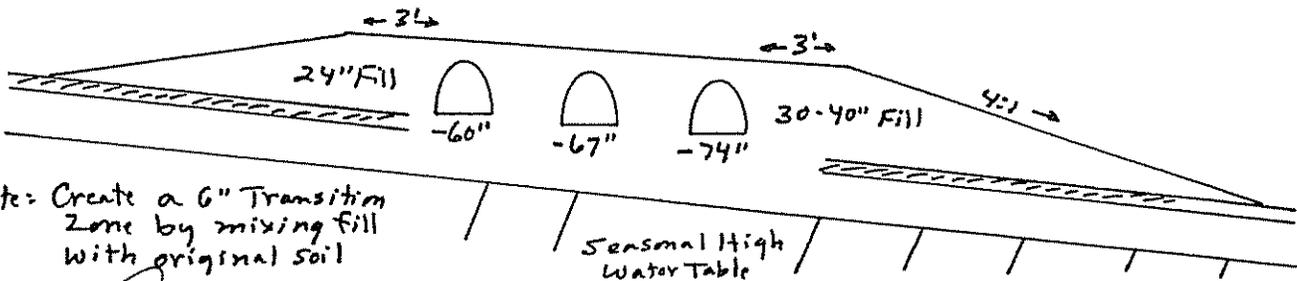
ELEVATION REFERENCE POINT

-36" Location & Description Red Flag
-45" wrapped round stake 16" up
-60" Reference Elevation 0"

DISPOSAL AREA CROSS SECTION

- Notes:
1. Fill material shall consist of gravelly coarse sand;
 2. Place 6" gravelly coarse sand beneath and around all chambers;
 3. Finished grade shall be seeded and mulched.

SCALE:
VERTICAL: 1" = 5'
HORIZONTAL: 1" = 10'



Note: Create a 6" Transition Zone by mixing fill with original soil

[Signature]
Site Evaluator Signature

45
SE =

8-15-03
Date

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 shall 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(D) 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. Tel.: 1-888-225-4977.

SECTION 801.0 SITE PREPARATION

801.1 Site preparation requirements: Prior to the placement of any backfill material, the ground surface shall 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 shall 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 shall be plowed or disked to produce a thoroughly roughened surface. Plowing shall 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 rototiller 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 rototilling) into the original soil to form a transitional horizon.

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

801.7 Surface water diversion: Surface water shall 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 shall comply with all the requirements in this Section.

802.2 Bottom of disposal field: The bottom of each disposal field shall be installed at the elevation specified on the permit. It shall 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 shall 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 shall 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 shall comply with the requirements of this section.

804.2 Backfill standards: The backfill material shall be a coarse sand to a gravelly coarse sand which meets the following requirements:

804.2.1 Coarse fragments: The upper limit of coarse fragments shall be 3 inches in diameter and approximately 5% by volume;

804.2.2 Textural analysis: The soil texture for backfill, unless otherwise authorized by this code, is coarse sand to gravelly coarse sand with approximately 4 to 8% of the sand, silt and clay fraction passing a #200 sieve. The upper limit of clay sized particles in the sand, silt, and clay fraction shall be approximately 2%. The backfill shall contain approximately 15% to 30% (by weight) coarse fragments (gravel 2 mm to 3 inches).

804.2.3 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.

804.2.4 Coarser material beneath or beside disposal system: Coarser material 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 coarser material is used beneath the disposal field it shall be considered part of the disposal field for determining the separation between the limiting factor and the bottom of the disposal system.

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

804.2.6 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, shall 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 shall completely cover the disposal fields. Fill material extensions shall be graded smoothly into the surrounding topography on all sides. The disposal field shall 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 shall meet the following requirements:

804.4.1 Extent of backfill material: The fill layer shall include any backfill beneath the disposal field, the shoulders, and the backfill material extensions surrounding the disposal field on all sides.

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

804.4.3 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 shall 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.

804.4.4 Backfill material extension: At the outside edge of the shoulder, the backfill material shall be terminated by sloping the top of the backfill layer downward at a slope specified in Tables 600.2 through 600.4.

SECTION 805.0 DISPOSAL FIELDS

805.1 Installation requirements: Disposal fields shall be installed in compliance with all the requirements in this Section and Section 1403.0.

805.1.1 Pitch of distribution pipes or proprietary disposal devices: Maximum tolerance of distribution pipes or proprietary disposal devices shall be no more than 2 inches in 100 feet.

805.1.2 Spacing between distribution pipes: The space between distribution pipes for low pressure distribution shall be from 75 to 80% of the hole spacing. Spacing shall be equal and uniform.

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

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

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

805.2.1 General: Where used, the stone shall cover the distribution pipes and extend the full width and length of the disposal field.

805.2.2 Minimum thickness: The disposal field stone depth shall extend at least 7 inches beneath the bottom of the distribution pipes and shall extend at least 1 inch above the top of the distribution pipes.

805.2.3 Stone requirements: The disposal field stone shall be clean, uniform in size and free of fines, dust, ashes, or clay. It shall be no smaller than $\frac{3}{4}$ inch and no larger than 2 $\frac{1}{2}$ inches in size.

805.2.3.1 Stone specifications: A site evaluator may define a more stringent standard for stone size for any particular system.

805.2.4 Placing stone: The disposal field stone may be loaded onto the disposal field site using a backhoe, front-end loader, or dump truck. This operation shall 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 shall not exert a ground pressure in excess of eight pounds per square inch. The disposal field stone shall 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 shall be covered with a layer of filter fabric or two (2) inches of compressed hay as the laying of the distribution pipes progresses. Filter fabric may be used, provided the following requirements are met:

805.3.1 Overlapping filter fabric sheets: Edges of adjacent sheets of fabric shall be overlapped by a minimum of 6 inches; and

805.3.2 Fabric requirements: The filter fabric specified in the system design shall 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 shall be 4.0 ounces/square yard (per ASTM D-3776).

805.3.3 Prohibited: The use of waterproof paper is prohibited.

SECTION 806.0 FINAL GRADING

806.1 General: Final grading for vegetatively stabilized disposal areas shall 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 shall be placed over the entire filled area including the fill material extensions.

806.3 Final grading: Final grading shall 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 shall be stabilized by mulching and seeding, or sodding, to establish a good vegetative cover to prevent erosion.

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

806.4.2 Woody shrubs and trees: Woody shrubs or trees are unacceptable on disposal field surfaces. They 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, shall be up-slope of the disposal field, approximately perpendicular to the flow of ground water, intercepting and diverting ground water away from the disposal field.

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

807.3 Setback up-slope: A minimum setback distance of 10 feet shall be maintained between a curtain drain and the up-slope edge of a disposal field. The curtain drain shall 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 underdrain of the disposal field.

807.4 Setback cross slope: A minimum setback distance of 15 feet shall 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 underdrain of the disposal field.

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

807.5.1 Discharge point: Outlets may empty into a drainage swale discharging to a surface water body, a ground water recharge basin, or a gravel bed;

807.5.2 Outlet design: Outlets shall 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 shall 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 shall 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 shall 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.

808.2 Setbacks for multiple disposal fields: When there are two or more disposal fields on a single property, separated by less than 100 feet from each other, each disposal field must meet the setbacks requirements for the total design flow (the sum of all disposal areas within 100 feet).