

Welcome to the Basic Subsurface Wastewater Disposal System Installation



Spring 2011

Division of Environmental Health
Subsurface Wastewater Program

Maine Department of Health &
Human Services

Introduction - Background



- Maine is a rural state and relies on decentralized systems for drinking water and disposal of human waste
- DHHS and its predecessors have regulated on-site sewage disposal since 1926.
- Improper design or installation of a septic system can cost the homeowner tens of thousands of dollars and create disease and unsanitary conditions.

Rule Changes over the Years



- Setbacks to surface water and wells (60' and 100') – 1946
- Septic Tanks Required – 1970
- Soil “Perc” Test Required – 1970
- Cesspools or leaching pit illegal - 1970
- Soils Evaluation Required – 1974
- Setbacks to Wells and Waterbodies 100' - 1974

Voluntary Contractor Certification



All septic system installers are eligible for the program. Initial certification requires attendance at a basic installers training course and the submission to the Division of copies of the first pages of the designs for two systems installed.

To maintain certification a minimum of **6 hours continuing education course each five years** thereafter will be required.

A listing of Certified installers shall be maintained by the Division of Environmental Health. Copies of the list are distributed to all Local Plumbing Inspectors and Site Evaluators and to anyone from the general public requesting it. The list is also posted on the Division of Environmental Health's web site.



SITE EVALUATION PROCESS

SITE EVALUATION PROCESS



Section 11A.2 Dig Safe Law

The “Dig Safe Law” 23 MRSA §3360-A(D) places certain notification requirements on any person doing excavations, including 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, except tilling of the soil and gardening or agricultural purposes.



SITE EVALUATION PROCESS



Site Evaluation Process

The physical characteristics of a parcel of land must be fully evaluated in order to design a safe and effective disposal system. Each site has its own unique characteristics and limitations which must be observed and considered in the design.

Observations of the surrounding land and development are just as important as viewing the particular parcel of land under consideration.



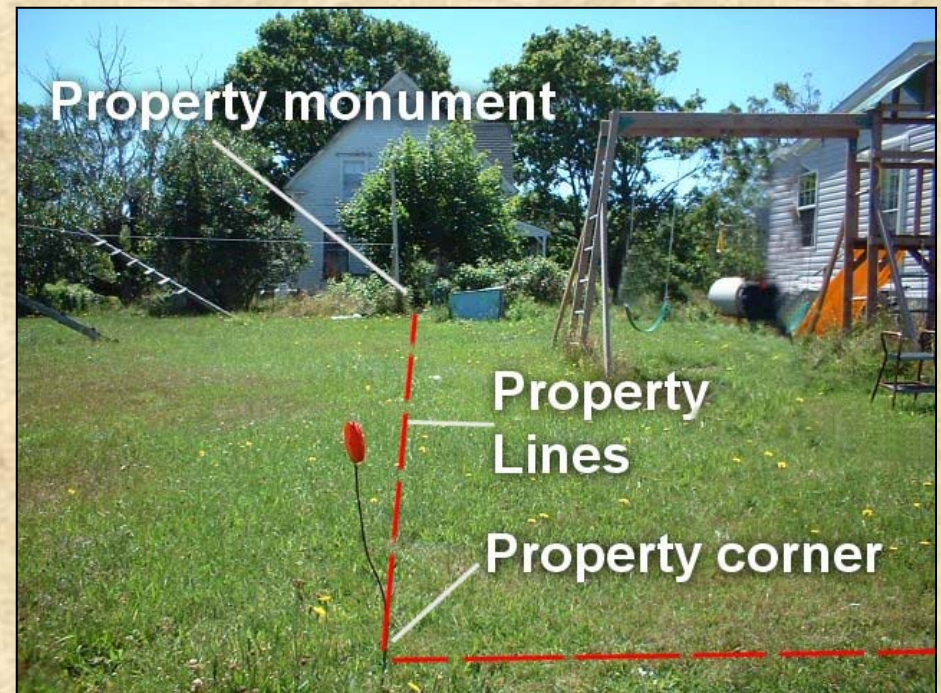
SITE EVALUATION PROCESS



Site Evaluation Process

Sometimes the applicant has a preference to where the system is to be placed if the soil conditions are accommodating. First considerations should be given to the desired locations if at all possible.

This site's potential locations for a replacement disposal area are limited by adjacent development and a small lot size.



SITE EVALUATION PROCESS



Site Evaluation Process

Existing ground slope beneath the disposal field shall not exceed 20 percent (20 feet in 100 feet). The disposal field is defined as the area under the stone bed or proprietary devices only.



SITE EVALUATION PROCESS



**Setback Requirements (Less than
1000 gpd)**

Waterbody setbacks

Major water body – 100 ft.

Minor water body - 50 ft.

Drainage ditch – 25 ft.

Toe of fill to wetlands - 25 ft.



SITE EVALUATION PROCESS



Setback Requirements (Less than 1000 gpd)

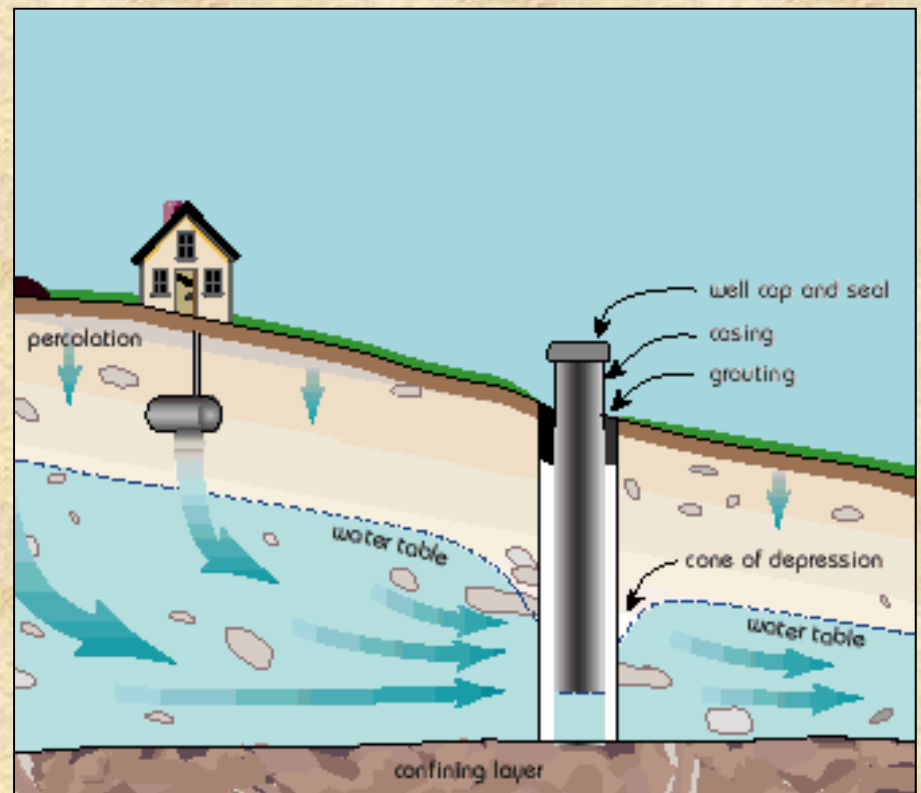
Well setbacks (without variances)

Owner's well – 100 ft.

Abutter's well – 100 ft.

Public supply well – 300 ft.

Water line (not main) – 10 ft.



Subsurface Wastewater Disposal Rules



Setback Requirements

Structures and property lines:

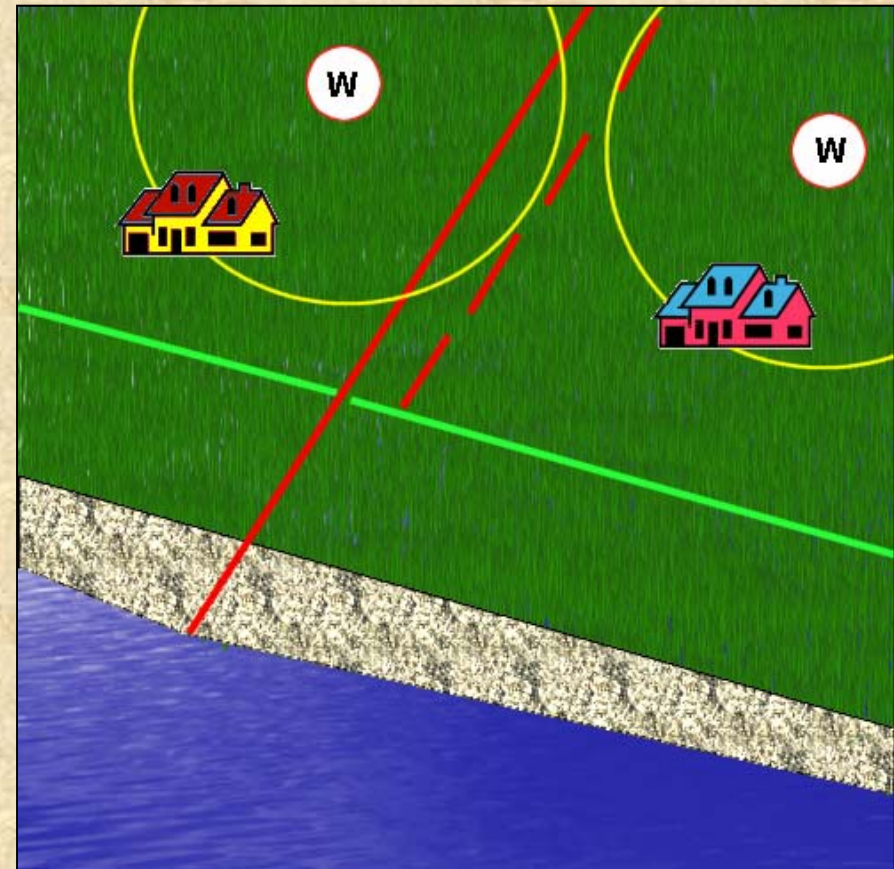
Property lines – 10 ft.

Slopes $> 3:1$ – 10 ft.

Slab, etc. foundation – 15 ft.

Full foundations – 20 ft.

Burial grounds – 25 ft. from toe of fill



Subsurface Wastewater Disposal Rules



Setback Requirements

Structures and property lines:

Property lines – 10 ft.

Slopes > 3:1 – 10 ft.

Slab, etc. foundation – 15 ft.

Full foundations – 20 ft.

Burial grounds – 25 ft. from toe of fill



Setbacks for Septic Tanks



- Full Basement – 8 feet
- Slab – 8 feet
- Both can be reduced to 5 feet for Replacement Systems
- Private Wells – 50 feet
- Public Wells – 150 feet
- Can be reduced to 25 feet for Private Wells, no reduction for Public Wells

SITE EVALUATION PROCESS



Site Evaluation Process

Disposal of liquids into the soil from a disposal area is through soil pores, between soil aggregates and through root channels. Soil texture, soil structure, moisture content, and root penetration also affect the liquid movement through the soil.





SITE EVALUATION PROCESS

Site Evaluation Process

Site evaluation combines on-site soil evaluation with consideration of site conditions.

Licensed Site Evaluators are required to have the skill and ability to properly identify and accurately report soil textures and limiting factors so they can adequately classify soils, recognize site limitations and properly size disposal systems.



Limiting Factors

Redoximorphic Features (Drainage Mottles)

Restrictive Horizon

Bedrock



SITE EVALUATION PROCESS

Site Evaluation Process

However, if limited soils are available or there are setback conflicts, the Site Evaluator may have to prepare a variance request, for as best a fit as possible when considering existing development.

This property abuts the site in the prior slide. Note the location of a non-potable dug well, and the drilled well casing under the oil tank.



Subsurface Wastewater Disposal Application (HHE-200 Form)



**Maine Department of Health and Human Services
Division of Environmental Health
Subsurface Wastewater Program**

Spring 2011

Division of Environmental Health
Subsurface Wastewater Program

Maine Department of Health &
Human Services



HHE-200 Form

Page One

This example of Page One is clear, concise, and legible.

All of the appropriate boxes have been completed.

| SUBSURFACE WASTEWATER DISPOSAL SYSTEM APPLICATION | | Maine Dept. Health & Human Services Division of Health Engineering, 10 SHS (207) 287-5672 Fax: (207) 287-0165 |
|---|---|---|
| PROPERTY LOCATION | | >> CAUTION: PERMIT REQUIRED - ATTACH IN SPACE BELOW << |
| City, Town, or Plantation | *** | The Subsurface Wastewater Disposal System <i>shall not</i> be installed until a Permit is attached HERE by the Local Plumbing Inspector. The Permit shall authorize the owner or installer to install the disposal system in accordance with this application and the Maine Subsurface Wastewater Disposal Rules. |
| Street or Road | *** | |
| Subdivision, Lot # | *** | |
| OWNER/APPLICANT INFORMATION | | |
| Name (last, first, MI) | *** Owner Applicant | |
| Mailing Address of Owner/Applicant | *** | |
| Daytime Tel. # | (207) ***-**** | Municipal Tax Map # _____ Lot # _____ |
| 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. | | CAUTION: INSPECTION REQUIRED I have inspected the installation authorized above and found it to be in compliance with the Subsurface Wastewater Disposal Rules Application. (1st) date approved |
| Signature of Owner or Applicant *** | | Date **/**/07 |
| Local Plumbing Inspector Signature | | (2nd) date approved |
| PERMIT INFORMATION | | |
| TYPE OF APPLICATION 1. First Time System 2. Replacement System Type replaced: Year installed: 3. Expanded System a. Minor Expansion b. Major Expansion 4. Experimental System 5. Seasonal Conversion | THIS APPLICATION REQUIRES 1. No Rule Variance 2. First Time System Variance a. Local Plumbing Inspector Approval b. State & Local Plumbing Inspector Approval 3. Replacement System Variance a. Local Plumbing Inspector Approval b. State & Local Plumbing Inspector Approval 4. Minimum Lot Size Variance 5. Seasonal Conversion Permit | DISPOSAL SYSTEM COMPONENTS 1. Complete Non-engineered System 2. Primitive System (graywater & alt. toilet) 3. Alternative Toilet, specify: _____ 4. Non-engineered Treatment Tank (only) 5. Holding Tank, _____ gallons 6. Non-engineered Disposal Field (only) 7. Separated Laundry System 8. Complete Engineered System (2000 gpd or more) 9. Engineered Treatment Tank (only) 10. Engineered Disposal Field (only) 11. Pre-treatment, specify: _____ 12. Miscellaneous Components |
| SIZE OF PROPERTY ± 4.5 SQ. FT. ACRES | DISPOSAL SYSTEM TO SERVE 1. Single Family Dwelling Unit, No. of Bedrooms: _____ 2. Multiple Family Dwelling, No. of Units: _____ 3. Other: <u>commercial business</u> (specify) Current Use <input type="checkbox"/> Seasonal <input checked="" type="checkbox"/> Year Round <input type="checkbox"/> Undeveloped | TYPE OF WATER SUPPLY 1. Drilled Well <input type="checkbox"/> 2. Dug Well <input type="checkbox"/> 3. Private 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 1. Concrete a. Regular b. Low Profile 2. Plastic 3. Other: _____ CAPACITY: <u>1,500</u> GAL. | DISPOSAL FIELD TYPE & SIZE 1. Stone Bed <input type="checkbox"/> 2. Stone Trench 3. Proprietary Device a. cluster array <input type="checkbox"/> c. Linear b. regular load <input type="checkbox"/> d. H-20 load type: <u>Eljen In-drain</u> 4. Other: _____ SIZE: <u>66</u> units <input type="checkbox"/> sq. ft. <input type="checkbox"/> lin. ft. | GARBAGE DISPOSAL UNIT 1. No <input type="checkbox"/> 2. Yes <input type="checkbox"/> 3. Maybe If Yes or Maybe, specify one below: a. multi-compartment tank b. _____ tanks in series c. increase in tank capacity d. Filter on Tank Outlet EFFLUENT/EJECTOR PUMP 1. Not Required 2. May Be Required 3. Required Specify only for engineered systems: DOSE: _____ gallons |
| SOIL DATA & DESIGN CLASS PROFILE <u>B</u> / <u>C</u> / <u>I</u> at Observation Hole # <u>1</u> Depth <u>16</u> " of Most Limiting Soil Factor | DISPOSAL FIELD SIZING 1. Small—2.0 sq. ft. / gpd 2. Medium—2.6 sq. ft. / gpd 3. Medium—Large 3.3 sq. ft. / gpd 4. Large—4.1 sq. ft. / gpd 5. Extra Large—5.0 sq. ft. / gpd | DESIGN FLOW <u>750</u> gal tons per day BASED ON: 1. Table 501.1 (dwelling unit(s)) 2. Table 501.2 (other facilities) SHOW CALCULATIONS for other facilities <u>50 employees @ 15 gpd each</u> ATTACH WATER METER DATA LATITUDE AND LONGITUDE at center of disposal area Lat. <u>044</u> d <u>24</u> m <u>01.8</u> s Lon. <u>069</u> d <u>33</u> m <u>25.2</u> s if g.p.s, state margin of error: |
| SITE EVALUATOR STATEMENT | | |
| I certify that on _____ (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 *** | SE # (207) ***-**** | Date **/**/07 |
| Site Evaluator Name Printed ***@****.*** | Telephone Number | E-mail Address HHE-200 Rev. 4/05 |
| Note: Changes to or deviations from the design should be confirmed with the Site Evaluator. | | |



HHE-200 Form

Page One

OWNER - APPLICANT

| SUBSURFACE WASTEWATER DISPOSAL SYSTEM APPLICATION | | Maine Dept. Health & Human Services Division of Health Engineering, 10 SHS (207) 287-5672 Fax: (207) 287-3165 |
|--|---|---|
| PROPERTY LOCATION | | >> CAUTION: PERMIT REQUIRED - ATTACH IN SPACE BELOW << |
| City, Town, or Plantation | * * * | The Subsurface Wastewater Disposal System shall not be installed until a Permit is attached HERE by the Local Plumbing Inspector. The Permit shall authorize the owner or installer to install the disposal system in accordance with this application and the Maine Subsurface Wastewater Disposal Rules. |
| Street or Road | * * * | |
| Subdivision, Lot # | * * * | |
| OWNER/APPLICANT INFORMATION | | |
| Name (last, first, MI) | * * * <input checked="" type="checkbox"/> Owner * * * <input type="checkbox"/> Applicant | |
| Mailing Address of Owner/Applicant | * * * * * * | |
| Daytime Tel. # | (207) * * * - * * * * | Municipal Tax Map # _____ Lot # _____ |
| 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 the Local Plumbing Inspector to deny a Permit. *** Signature of Owner or Applicant | | 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 |
| Date: **/**/07 | | _____ (1st) date approved |
| | | _____ (2nd) date approved |



HHE-200 Form

Page One

| PERMIT INFORMATION | | |
|---|---|---|
| <p>TYPE OF APPLICATION</p> <p><input checked="" type="checkbox"/> 1. First Time System</p> <p><input type="checkbox"/> 2. Replacement System</p> <p>Type replaced: _____</p> <p>Year installed: _____</p> <p><input type="checkbox"/> 3. Expanded System</p> <p><input type="checkbox"/> a. Minor Expansion</p> <p><input type="checkbox"/> b. Major Expansion</p> <p><input type="checkbox"/> 4. Experimental System</p> <p><input type="checkbox"/> 5. Seasonal Conversion</p> | <p>THIS APPLICATION REQUIRES</p> <p><input type="checkbox"/> 1. No Rule Variance</p> <p><input checked="" type="checkbox"/> 2. First Time System Variance</p> <p><input type="checkbox"/> a. Local Plumbing Inspector Approval</p> <p><input checked="" type="checkbox"/> b. State & Local Plumbing Inspector Approval</p> <p><input type="checkbox"/> 3. Replacement System Variance</p> <p><input type="checkbox"/> a. Local Plumbing Inspector Approval</p> <p><input type="checkbox"/> b. State & Local Plumbing Inspector Approval</p> <p><input type="checkbox"/> 4. Minimum Lot Size Variance</p> <p><input type="checkbox"/> 5. Seasonal Conversion Permit</p> | <p>DISPOSAL SYSTEM COMPONENTS</p> <p><input checked="" type="checkbox"/> 1. Complete Non-engineered System</p> <p><input type="checkbox"/> 2. Primitive System (graywater & alt. toilet)</p> <p><input type="checkbox"/> 3. Alternative Toilet, specify: _____</p> <p><input type="checkbox"/> 4. Non-engineered Treatment Tank (only)</p> <p><input type="checkbox"/> 5. Holding Tank, _____ gallons</p> <p><input type="checkbox"/> 6. Non-engineered Disposal Field (only)</p> <p><input type="checkbox"/> 7. Separated Laundry System</p> <p><input type="checkbox"/> 8. Complete Engineered System (2000 gpd or more)</p> <p><input type="checkbox"/> 9. Engineered Treatment Tank (only)</p> <p><input type="checkbox"/> 10. Engineered Disposal Field (only)</p> <p><input type="checkbox"/> 11. Pre-treatment, specify: _____</p> <p><input type="checkbox"/> 12. Miscellaneous Components</p> |
| <p>SIZE OF PROPERTY</p> <p>± 4.5 <input type="checkbox"/> SQ. FT.</p> <p><input checked="" type="checkbox"/> ACRES</p> | <p>DISPOSAL SYSTEM TO SERVE</p> <p><input type="checkbox"/> 1. Single Family Dwelling Unit, No. of Bedrooms: _____</p> <p><input type="checkbox"/> 2. Multiple Family Dwelling, No. of Units: _____</p> <p><input checked="" type="checkbox"/> 3. Other: <u>commercial business</u></p> <p>(specify)</p> <p>Current Use <input type="checkbox"/> Seasonal <input checked="" type="checkbox"/> Year Round <input type="checkbox"/> Undeveloped</p> | |
| <p>SHORELAND ZONING</p> <p><input type="checkbox"/> Yes <input checked="" type="checkbox"/> No</p> | <p>TYPE OF WATER SUPPLY</p> <p><input checked="" type="checkbox"/> 1. Drilled Well <input type="checkbox"/> 2. Dug Well <input type="checkbox"/> 3. Private</p> <p><input type="checkbox"/> 4. Public <input type="checkbox"/> 5. Other</p> | |



HHE-200 Form

Page One

| DESIGN DETAILS (SYSTEM LAYOUT SHOWN ON PAGE 3) | | | |
|--|---|--|---|
| <p>TREATMENT TANK</p> <p><input checked="" type="checkbox"/> 1. Concrete</p> <p> <input checked="" type="checkbox"/> a. Regular</p> <p> <input type="checkbox"/> b. Low Profile</p> <p><input type="checkbox"/> 2. Plastic</p> <p><input type="checkbox"/> 3. Other: _____</p> <p>CAPACITY: <u>1,500</u> GAL.</p> | <p>DISPOSAL FIELD TYPE & SIZE</p> <p><input type="checkbox"/> 1. Stone Bed <input type="checkbox"/> 2. Stone Trench</p> <p><input checked="" type="checkbox"/> 3. Proprietary Device</p> <p> <input type="checkbox"/> a. cluster array <input type="checkbox"/> c. Linear</p> <p> <input checked="" type="checkbox"/> b. regular load <input type="checkbox"/> d. H-20 load</p> <p> type: <u>Eljen In-drain</u></p> <p><input type="checkbox"/> 4. Other: _____</p> <p>SIZE: <u>66 units</u> <input type="checkbox"/> sq. ft. <input type="checkbox"/> lin. ft.</p> | <p>GARBAGE DISPOSAL UNIT</p> <p><input checked="" type="checkbox"/> 1. No <input type="checkbox"/> 2. Yes <input type="checkbox"/> 3. Maybe</p> <p>If Yes or Maybe, specify one below:</p> <p><input type="checkbox"/> a. multi-compartment tank</p> <p><input type="checkbox"/> b. ___ tanks in series</p> <p><input type="checkbox"/> c. increase in tank capacity</p> <p><input type="checkbox"/> d. Filter on Tank Outlet</p> | <p>DESIGN FLOW</p> <p><u>750</u> gal lons per day</p> <p>BASED ON:</p> <p><input checked="" type="checkbox"/> 1. Table 501.1 (dwelling unit(s))</p> <p><input type="checkbox"/> 2. Table 501.2 (other facilities)</p> <p>SHOW CALCULATIONS for other facilities</p> <p><u>50 employees @ 15 gpd each</u></p> |
| <p>SOIL DATA & DESIGN CLASS</p> <p>PROFILE CONDITION DESIGN</p> <p><u>8</u> / <u>C</u> / <u>1</u></p> <p>at Observation Hole # <u>1</u></p> <p>Depth <u>16</u> "</p> <p>of Most Limiting Soil Factor</p> | <p>DISPOSAL FIELD SIZING</p> <p><input type="checkbox"/> 1. Small—2.0 sq. ft. / gpd</p> <p><input type="checkbox"/> 2. Medium—2.6 sq. ft. / gpd</p> <p><input type="checkbox"/> 3. Medium—Large 3.3 sq. ft. / gpd</p> <p><input checked="" type="checkbox"/> 4. Large—4.1 sq. ft. / gpd</p> <p><input type="checkbox"/> 5. Extra Large—5.0 sq. ft. / gpd</p> | <p>EFFLUENT/EJECTOR PUMP</p> <p><input type="checkbox"/> 1. Not Required</p> <p><input type="checkbox"/> 2. May Be Required</p> <p><input checked="" type="checkbox"/> 3. Required</p> <p>Specify only for engineered systems:</p> <p>DOSE: _____ gallo ns</p> | <p><input type="checkbox"/> 3. Section 503.0 (meter readings)</p> <p>ATTACH WATER METER DATA</p> <p>LATITUDE AND LONGITUDE</p> <p>at center of disposal area</p> <p>Lat. <u>044</u> d <u>24</u> m <u>01.8</u> s</p> <p>Lon. <u>069</u> d <u>33</u> m <u>25.2</u> s</p> <p>if g.p.s, state margin of error: _____</p> |



HHE-200 Form

Page Two

This site plan shows all the prominent features in the vicinity of the proposed system.

Test pit logs are clear, complete, and accurate.

| SUBSURFACE WASTEWATER DISPOSAL SYSTEM APPLICATION | | Department of Human Services Division of Health Engineering (207) 287-5672 Fax: (207) 287-3165 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
|--|-------------|---|--|-------|----------|-----------------|--------|-------|------|--|--|-----------------|--|------------|------|------------|--|------------------------|--|--|--|--|--|---------|-------------|-------|----------|-----------------|--------|-------|------|--|--|-----------------|--|------------|------|------------|--|------------------------|--|--|--|
| Town, City, Plantation *** | | Street, Road, Subdivision *** | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Owner's Name *** | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| <p>SITE PLAN Scale 1" = 100 ft. or as shown</p> <p>THE SYSTEM CONSIST OF 6 ROWS OF 11 UNITS (TOTAL 66 UNITS) OF ELIEM IN-DRAIN 11' APART WITH A DISTRIBUTION BOX (THE END OF EACH ROW SHALL HAVE AN END CAP)</p> <p>DISTRIBUTION BOX WITH EQUALIZERS SET IN 4" LAYER OF COMPACTED SAND AND COVERED WITH 2" OF STYROFOAM INSULATION</p> <p>2" PRESSURE LINE (COVERED WITH 2" RIGID STYROFOAM AND SLEEVE AS NECESSARY)</p> <p>APPROXIMATE LOCATION OF EXISTING SEPTIC SYSTEM</p> <p>APPROXIMATE LOCATION OF PROPOSED BUILDING EXPANSION</p> <p>FORESTED WETLAND</p> <p>REF. PT. B.</p> <p>±40</p> <p>ERP</p> <p>PUMP STATION SET IN 4" LAYER OF COMPACT SAND OR GRAVEL</p> <p>4" SCH. 35 PIPE (½ DROP PER FOOT)</p> <p>1500 GAL. CONCRETE SEPTIC TANK SET IN 4" LAYER OF COMPACT SAND OR GRAVEL (8' MIN. FROM BUILDING)</p> <p>EXISTING BUILDING</p> <p>APPROXIMATE LOCATION OF WELL (PUBLIC WATER SUPPLY)</p> <p>4" SCH. 40 PIPE (½ DROP PER FOOT)</p> | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| <p>SOIL DESCRIPTION AND CLASSIFICATION (Location of Observation Holes Shown Above)</p> | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Observation Hole <input type="checkbox"/> Test Pit <input checked="" type="checkbox"/> Boring <input type="checkbox"/> 0" Depth of Organic Horizon Above Mineral Soil | | Observation Hole <u>2-5</u> <input checked="" type="checkbox"/> Test Pit <input type="checkbox"/> Boring <input type="checkbox"/> 0" Depth of Organic Horizon Above Mineral Soil | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| <table border="1"> <thead> <tr> <th>Texture</th> <th>Consistency</th> <th>Color</th> <th>Mottling</th> </tr> </thead> <tbody> <tr> <td>Fine sandy loam</td> <td>Frable</td> <td>Brown</td> <td>None</td> </tr> <tr> <td></td> <td></td> <td>Yellowish brown</td> <td></td> </tr> <tr> <td>Silty clay</td> <td>Firm</td> <td>Olive gray</td> <td>Common medium distinct light olive brown</td> </tr> <tr> <td colspan="4">Bottom of Back Hoe Pit</td> </tr> </tbody> </table> | | Texture | Consistency | Color | Mottling | Fine sandy loam | Frable | Brown | None | | | Yellowish brown | | Silty clay | Firm | Olive gray | Common medium distinct light olive brown | Bottom of Back Hoe Pit | | | | <table border="1"> <thead> <tr> <th>Texture</th> <th>Consistency</th> <th>Color</th> <th>Mottling</th> </tr> </thead> <tbody> <tr> <td>Fine sandy loam</td> <td>Frable</td> <td>Brown</td> <td>None</td> </tr> <tr> <td></td> <td></td> <td>Yellowish brown</td> <td></td> </tr> <tr> <td>Silty clay</td> <td>Firm</td> <td>Olive gray</td> <td>Common medium distinct light olive brown</td> </tr> <tr> <td colspan="4">Bottom of Back Hoe Pit</td> </tr> </tbody> </table> | | Texture | Consistency | Color | Mottling | Fine sandy loam | Frable | Brown | None | | | Yellowish brown | | Silty clay | Firm | Olive gray | Common medium distinct light olive brown | Bottom of Back Hoe Pit | | | |
| Texture | Consistency | Color | Mottling | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Fine sandy loam | Frable | Brown | None | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
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| Bottom of Back Hoe Pit | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
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| Bottom of Back Hoe Pit | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Soil Classification <u>C</u> Slope <u>11</u> % Limiting Factor <u>16</u> " Profile Condition | | Soil Classification <u>C</u> Slope <u>11</u> % Limiting Factor <u>16</u> " Profile Condition | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| <input type="checkbox"/> Ground Water <input type="checkbox"/> Restrictive Layer <input type="checkbox"/> Bedrock <input type="checkbox"/> Pit Depth | | <input type="checkbox"/> Ground Water <input type="checkbox"/> Restrictive Layer <input type="checkbox"/> Bedrock <input type="checkbox"/> Pit Depth | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Site Evaluator Signature *** | | SE # *** | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | | Date **/**/07 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | | Page 2 of 3 HHE-200 Rev. 8/01 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |



HHE-200 Form

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| | | |
|---|---|--|
| SUBSURFACE WASTEWATER DISPOSAL SYSTEM APPLICATION | | Department of Human Services Division of Health Engineering (207) 287-5672 Fax: (207) 287-3165 |
| Town, City, Plantation *** | Street, Road, Subdivision *** | Owner's Name *** |
| SITE PLAN Scale 1" = 100 ft. or as shown | | |
| <p>THE SYSTEM CONSIST OF 6 ROWS OF 11 UNITS (TOTAL 66 UNITS) OF ELJEN IN-DRAIN 1" APART WITH A DISTRIBUTION BOX (THE END OF EACH ROW SHALL HAVE AN END CAP)</p> <p>DISTRIBUTION BOX WITH EQUALIZERS SET IN 4" LAYER OF COMPACTED SAND AND COVERED WITH 2" OF STYROFOAM INSULATION</p> <p>2" PRESSURE LINE (COVERED WITH 2" RIGID STYROFOAM AND SLEEVE AS NECESSARY)</p> <p>APPROXIMATE LOCATION OF EXISTING SEPTIC SYSTEM</p> <p>APPROXIMATE LOCATION OF PROPOSED BUILDING EXPANSION</p> <p>FORESTED WETLAND</p> <p>REF. PT. B.</p> <p>ERP</p> <p>EXISTING BUILDING</p> <p>PUMP STATION SET IN 4" LAYER OF COMPACT SAND OR GRAVEL</p> <p>4" SCH. 35 PIPE (1/8" DROP PER FOOT)</p> <p>1500 GAL. CONCRETE SEPTIC TANK SET IN 4" LAYER OF COMPACT SAND OR GRAVEL (8' MIN. FROM BUILDING)</p> <p>APPROXIMATE LOCATION OF WELL (PUBLIC WATER SUPPLY)</p> <p>4" SCH. 40 PIPE (1/8" DROP PER FOOT)</p> | | |



HHE-200 Form

Page Two

| SOIL DESCRIPTION AND CLASSIFICATION (Location of Observation Holes Shown Above) | | | | | | | | |
|--|----|------------------------|-------------|---|--|--|------------------------|--|
| Observation Hole <u> </u> <input checked="" type="checkbox"/> Test Pit <input type="checkbox"/> Boring <u> </u> " Depth of Organic Horizon Above Mineral Soil | | | | Observation Hole <u>2-5</u> <input checked="" type="checkbox"/> Test Pit <input type="checkbox"/> Boring <u> </u> " Depth of Organic Horizon Above Mineral Soil | | | | |
| Depth Below Mineral Soil Surface (inches) | 0 | Texture | Consistency | Color | Mottling | 0 | Texture | |
| | 10 | Fine sandy loam | Friable | Brown | None | 10 | Fine sandy loam | |
| | 20 | Silty clay | Firm | Yellowish brown | Common medium distinct light olive brown | 20 | Silty clay | |
| | 30 | | | Olive gray | | 30 | | |
| | 40 | Bottom of Back Hoe Pit | | | | 40 | Bottom of Back Hoe Pit | |
| | 50 | | | | | 50 | | |
| Soil Classification <u>8</u> <u>C</u> Profile Condition | | Slope <u>11</u> % | | Limiting Factor <u>16</u> " | | <input checked="" type="checkbox"/> Ground Water <input type="checkbox"/> Restrictive Layer <input type="checkbox"/> Bedrock <input type="checkbox"/> Pit Depth | | |
| | | | | | | Soil Classification <u>8</u> <u>C</u> Profile Condition | | |
| | | | | | | Slope <u>11</u> % | | |
| | | | | | | Limiting Factor <u>16</u> " | | |
| | | | | | | <input checked="" type="checkbox"/> Ground Water <input type="checkbox"/> Restrictive Layer <input type="checkbox"/> Bedrock <input type="checkbox"/> Pit Depth | | |
| *** | | *** | | **/**/07 | | Page 2 of 3 | | |
| Site Evaluator Signature | | SE # | | Date | | HHE-200 Rev. 8/01 | | |

HHE-200 Form

Page Three

Page three of this example contains all the necessary construction data for installation of the disposal area.

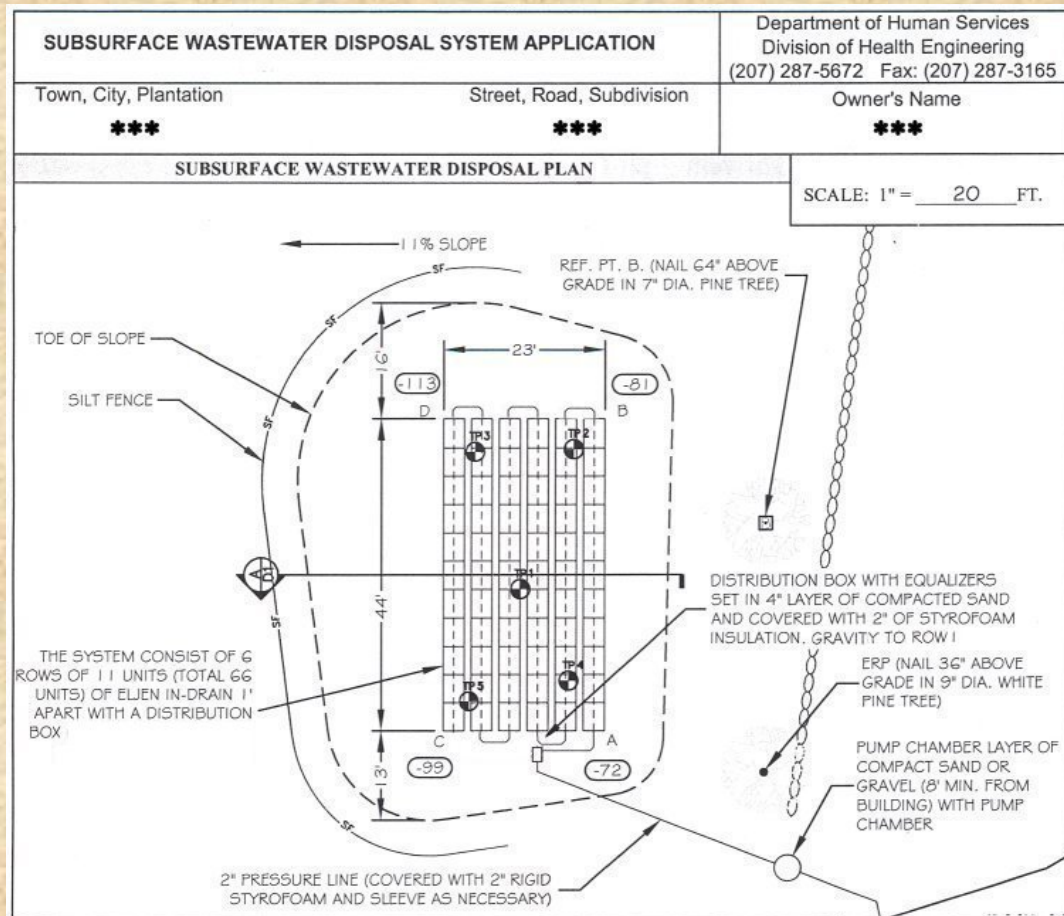
(If something doesn't make sense call the site evaluator for clarification)



| SUBSURFACE WASTEWATER DISPOSAL SYSTEM APPLICATION | | Department of Human Services Division of Health Engineering (207) 287-5672 Fax: (207) 287-3165 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
|--|--|--|----------------------|--------|-------------------------------|--------|-------|--|--|-------|-------|-------|-------|-------|-------|----------------|-------|--------|-------|-------|-------|-------|----------------------|-------|--------|-------|--------|-------|-------|----------------------|-------|--------|-------|--------|--------|--------|
| Town, City, Plantation *** | Street, Road, Subdivision *** | Owner's Name *** | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| SUBSURFACE WASTEWATER DISPOSAL PLAN | | SCALE: 1" = 20' FT. | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| FILL REQUIREMENTS | CONSTRUCTION ELEVATIONS | ELEVATION REFERENCE POINT | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Depth of Fill (Upslope) 20"-29" | Finished Grade Elevation SEE D-1 | Location & Description: NAIL 36" ABOVE GRADE IN 8" DIA. WHITE PINE TREE | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Depth of Fill (Downslope) 20"-34" | Top of Distribution Pipe or Proprietary Device SEE D-1 | Reference Elevation: 0' | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | Bottom of Disposal Area SEE D-1 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| DISPOSAL AREA CROSS SECTION | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | | Scale Horizontal 1" = N/A ft. Vertical 1" = N/A ft. | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| <table border="1"> <thead> <tr> <th rowspan="2">ELEV. REF. PT. (ERP)</th> <th rowspan="2">0'</th> <th colspan="5">6 ROWS OF 11 TYPE B IN-DRAINS</th> </tr> <tr> <th>ROW 1</th> <th>ROW 2</th> <th>ROW 3</th> <th>ROW 4</th> <th>ROW 5</th> <th>ROW 6</th> </tr> </thead> <tbody> <tr> <td>FINISHED GRADE</td> <td>-5.1'</td> <td>-5.25'</td> <td>-4.2'</td> <td>-4.5'</td> <td>-7.3'</td> <td>-7.6'</td> </tr> <tr> <td>TOP OF IN-DRAIN UNIT</td> <td>-6.3'</td> <td>-6.55'</td> <td>-5.4'</td> <td>-5.75'</td> <td>-8.5'</td> <td>-8.8'</td> </tr> <tr> <td>BOTTOM OF SAND LAYER</td> <td>-7.2'</td> <td>-8.15'</td> <td>-6.9'</td> <td>-7.25'</td> <td>-10.5'</td> <td>-10.8'</td> </tr> </tbody> </table> | | | ELEV. REF. PT. (ERP) | 0' | 6 ROWS OF 11 TYPE B IN-DRAINS | | | | | ROW 1 | ROW 2 | ROW 3 | ROW 4 | ROW 5 | ROW 6 | FINISHED GRADE | -5.1' | -5.25' | -4.2' | -4.5' | -7.3' | -7.6' | TOP OF IN-DRAIN UNIT | -6.3' | -6.55' | -5.4' | -5.75' | -8.5' | -8.8' | BOTTOM OF SAND LAYER | -7.2' | -8.15' | -6.9' | -7.25' | -10.5' | -10.8' |
| ELEV. REF. PT. (ERP) | 0' | 6 ROWS OF 11 TYPE B IN-DRAINS | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | | ROW 1 | ROW 2 | ROW 3 | ROW 4 | ROW 5 | ROW 6 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| FINISHED GRADE | -5.1' | -5.25' | -4.2' | -4.5' | -7.3' | -7.6' | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| TOP OF IN-DRAIN UNIT | -6.3' | -6.55' | -5.4' | -5.75' | -8.5' | -8.8' | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| BOTTOM OF SAND LAYER | -7.2' | -8.15' | -6.9' | -7.25' | -10.5' | -10.8' | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| *** Site Evaluator Signature | *** SE # | ***/**/07 Date | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |

HHE-200 Form

Page Three



HHE-200 Form

Page Three



| FILL REQUIREMENTS Depth of Fill (Upslope) <u>20"-29"</u> Depth of Fill (Downslope) <u>20"-34"</u> | CONSTRUCTION ELEVATIONS Finished Grade Elevation <u>SEE D-1</u> Top of Distribution Pipe or Proprietary Device <u>SEE D-1</u> Bottom of Disposal Area <u>SEE D-1</u> | ELEVATION REFERENCE POINT Location & Description: NAIL 36" ABOVE GRADE IN 9" DIA. WHITE PINE TREE Reference Elevation: <u>0"</u> | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
|--|--|---|------------|--------|-------|-------|--|--|--|----------------------|----|--------------------------------|--|--|--|--|--|-------|-------|-------|-------|-------|-------|----------------|------|--------|------|--------|------|------|----------------------|------|--------|------|--------|------|------|----------------------|------|--------|------|--------|------|-------|
| DISPOSAL AREA CROSS SECTION | | Scale Horizontal 1" = <u>N/A</u> ft. Vertical 1" = <u>N/A</u> ft. | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| <table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th colspan="7">ELEVATIONS</th> </tr> <tr> <th>ELEV. REF. PT. (ERP)</th> <th>0"</th> <th colspan="5">6 ROWS OF 1:1 TYPE B IN-DRAINS</th> </tr> <tr> <th></th> <th>ROW 1</th> <th>ROW 2</th> <th>ROW 3</th> <th>ROW 4</th> <th>ROW 5</th> <th>ROW 6</th> </tr> </thead> <tbody> <tr> <td>FINISHED GRADE</td> <td>-51"</td> <td>-56.5"</td> <td>-62"</td> <td>-67.5"</td> <td>-73"</td> <td>-78"</td> </tr> <tr> <td>TOP OF IN-DRAIN UNIT</td> <td>-63"</td> <td>-68.5"</td> <td>-74"</td> <td>-79.5"</td> <td>-85"</td> <td>-90"</td> </tr> <tr> <td>BOTTOM OF SAND LAYER</td> <td>-76"</td> <td>-81.5"</td> <td>-87"</td> <td>-92.5"</td> <td>-98"</td> <td>-103"</td> </tr> </tbody> </table> | | | ELEVATIONS | | | | | | | ELEV. REF. PT. (ERP) | 0" | 6 ROWS OF 1:1 TYPE B IN-DRAINS | | | | | | ROW 1 | ROW 2 | ROW 3 | ROW 4 | ROW 5 | ROW 6 | FINISHED GRADE | -51" | -56.5" | -62" | -67.5" | -73" | -78" | TOP OF IN-DRAIN UNIT | -63" | -68.5" | -74" | -79.5" | -85" | -90" | BOTTOM OF SAND LAYER | -76" | -81.5" | -87" | -92.5" | -98" | -103" |
| ELEVATIONS | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| ELEV. REF. PT. (ERP) | 0" | 6 ROWS OF 1:1 TYPE B IN-DRAINS | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | ROW 1 | ROW 2 | ROW 3 | ROW 4 | ROW 5 | ROW 6 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| FINISHED GRADE | -51" | -56.5" | -62" | -67.5" | -73" | -78" | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| TOP OF IN-DRAIN UNIT | -63" | -68.5" | -74" | -79.5" | -85" | -90" | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| BOTTOM OF SAND LAYER | -76" | -81.5" | -87" | -92.5" | -98" | -103" | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| *** | *** | **/**/07 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Site Evaluator Signature | SE # | Date | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | | Page 3 of 3 HHE-200 Rev. 8/01 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |



SYSTEM TYPES

Subsurface Wastewater Disposal Rules



SYSTEM TYPES

Cesspools, Clay Agricultural Drainage Tiles and Vee-Notched Plank trenches – still legal to operate as long as they are not Malfunctioning.

Primitive systems --consist of an alternate toilet such as a pit privy and a small greywater disposal area to accommodate up to 25 gallons per day a hand carried or hand pumped water supply

Limited System – an alternative toilet and a larger greywater system capable of handling up to 100 gallons per day and not more than 3 greywater fixtures.

A Combined System -- typically comprised of a septic tank and/or an Advanced Treatment unit, and a disposal area sized to accommodate a pressurized water supply with full plumbing fixture loads.

Not a Primitive System



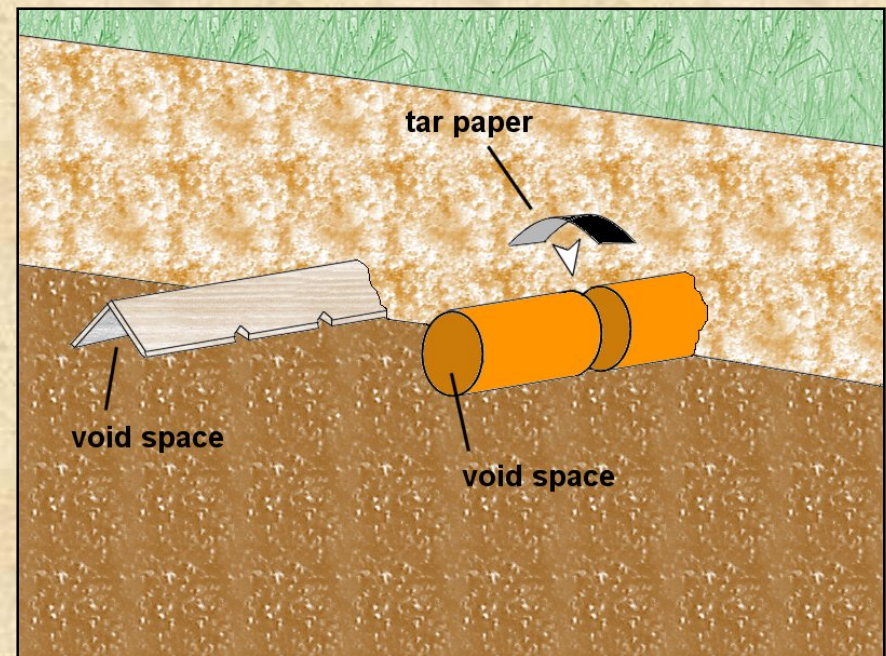
Subsurface Wastewater Disposal Rules



Disposal Areas

By the late 1940's clay agricultural drainage tiles and vee-notched plank trenches were in common use.

These systems provided a void space in the soils into which effluent could be introduced, and then absorbed by the soil. These were the forebears of most modern proprietary disposal devices.



Subsurface Wastewater Disposal Rules

System Types: Primitive



To install a primitive system, a completed HHE-200 Form is required which includes a test pit for both the pit privy (if used) and the grey wastewater disposal area.

The primitive greywater disposal area would be sized at 25 gpd supplied by hand carried or pumped wastewater.

Limited Systems (1000 gallon storage tank) require 100 gpd and portable pump.

A maximum of 3 greywater fixtures allowed.

Any type of disposal area can be used for the grey wastewater disposal area.



Subsurface Wastewater Disposal Rules



System Types: Primitive

The greywater disposal area would be sized at 25 gpd, with a maximum of 3 fixtures (sink, shower, bathtub) allowed.

Any type of disposal area can be used for the greywater disposal area.

No septic tank is required for a primitive system.

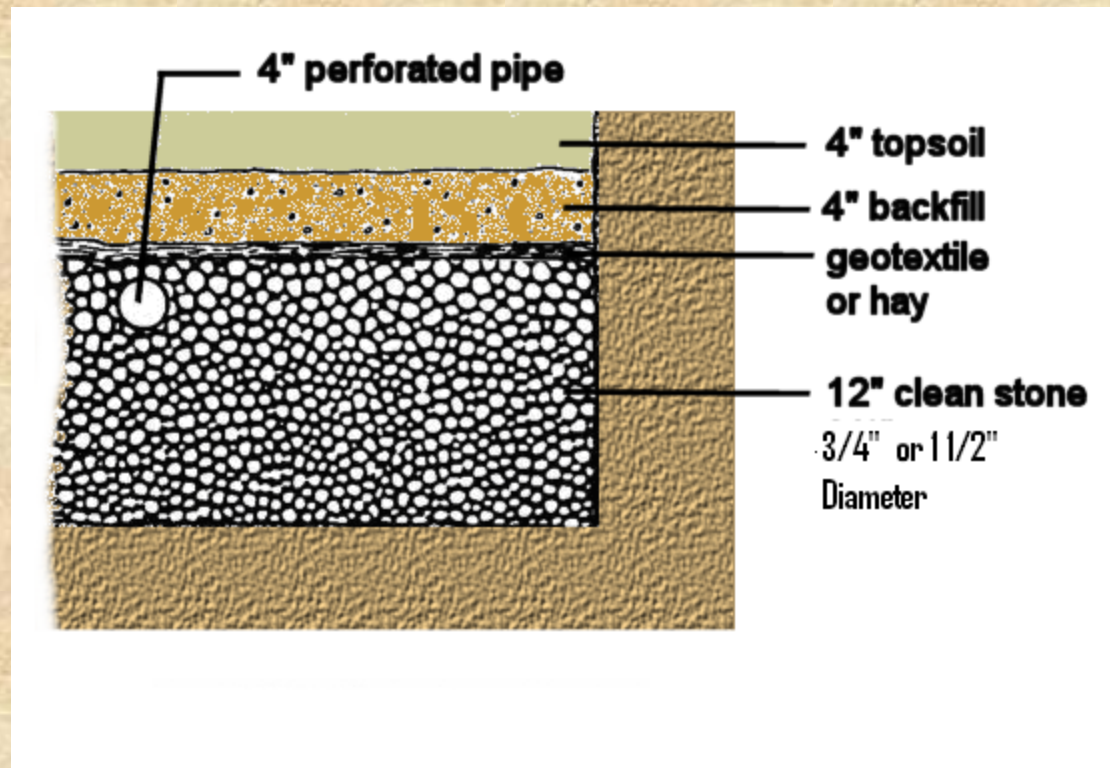
Subsurface Wastewater Disposal Rules



System Types: Combined

A disposal bed acts as an underground retention area. Stone (3/4 or 1 1/2 inches in diameter) is used in the construction of a bed to provide void space for the storage of effluent and to allow it to drain slowly through the soil.

The disposal bed size is calculated by multiplying the expected volume of wastewater by the size rating of the original soil.

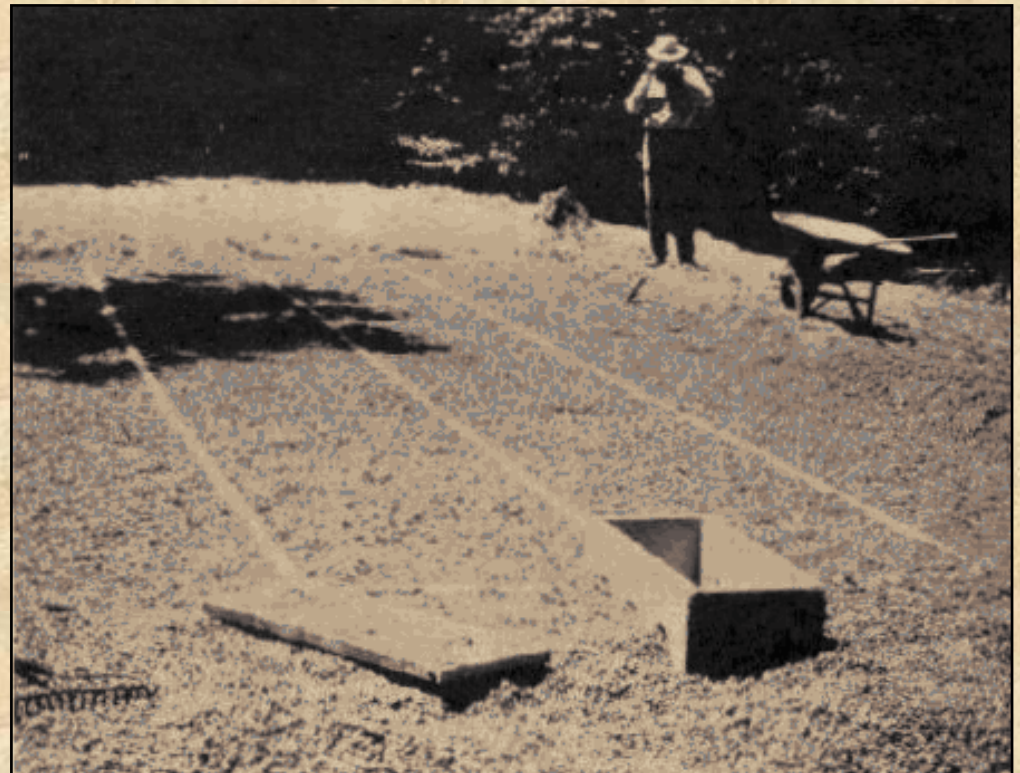


Subsurface Wastewater Disposal Rules



System Types: Combined

Bed widths usually vary from 3 feet to 20 feet. Narrow beds are more advantageous than wide beds because they increase the sidewall area relative to the bottom area which promotes longevity of the disposal area. The advantages of wide beds are that they are more easily installed with mechanical equipment and require less over-all area for installation than narrow beds.



Subsurface Wastewater Disposal Rules



Disposal Areas

Concrete chambers are available in H-20 load ratings, and in 4' x 8' and 8' x 8' sizes.

Chambers are sized upon their footprints in cluster configurations.

Sidewall allowances are included for chamber sizing, when installed in trench configuration with one foot of stone along the long sides.



Concrete Chambers



- Each 4' by 8' chamber in trench configuration with 8' sidewalls has an infiltration area of 90sqft
- Infiltration area of 77 sqft for 4' sidewall.
- The 8' by 8' chamber has an infiltration area of 128 sqft in cluster configuration and 154 sqft in trench configuration.
- Any approved manufacturer of concrete chambers can substitute for another as long as the size is the same.

Subsurface Wastewater Disposal Rules



Disposal Areas

Plastic chambers are sized upon their footprints in cluster configurations and are available in a variety of heights and widths.

Sidewall allowances are included for sizing when installed in trench configuration.

Some designers include stone along the sides and beneath plastic chambers. In such cases, separations are measured from the stone, not the chambers.



Plastic Chambers



- Chambers are used in the trench or cluster configuration. Permitted substitutions can be found on Page 60, Table 6H of the new rules.
- Just remember, you can substitute a High Capacity for a High Capacity of another manufacturer but not a High Capacity for a Standard, Quick 4 or Low Profile.

Subsurface Wastewater Disposal Rules



Disposal Areas

Fabric wrapped tubes consist of perforated corrugated plastic pipe, wrapped in non-woven filter fabric. The fabric is separated from the pipe by a layer of random weave plastic fibers or a layer of expanded plastic mesh.



Subsurface Wastewater Disposal Rules



Disposal Areas

Fabric wrapped tubes are sized at the equivalent of 5 square feet per linear foot, due to their increased surface area and unobstructed void space.

Fabric wrapped tubes are most often installed in serial distribution for non-engineered systems (e.g., they zigzag along the slope of the site).



Subsurface Wastewater Disposal Rules



Disposal Areas

Cusped plate systems are presently available only in the form of the Eljen GSF (formerly, In-Drain) and the Eljen Mini-Max.

The devices consist of egg crate shaped plastic plates through which non-woven filter fabric is interwoven, resulting in increased surface area for biological growth.



Subsurface Wastewater Disposal Rules



Disposal Areas

The Eljen GSF system requires a specific grade of coarse sand to function properly, specifically meeting ASTM C-33 standards.

Flow for flow, the Eljen GSF system would have the smallest footprint of any device disposing of septic tank effluent, due to the high ratio of surface area to footprint.



Subsurface Wastewater Disposal Rules



Disposal Areas

Geo-synthetic aggregate pipe systems consist of a perforated pipe, surrounded by textured polystyrene cubes, within a netting tube.

They are available with and without surrounding nonwoven geotextile fabric.

They can be installed in either trench or cluster configuration.



Subsurface Wastewater Disposal Rules



Disposal Areas

Drip irrigation systems have been used in Maine for several years. The major differences between conventional systems and drip irrigation systems are uniform distribution of effluent and shallow placement of trenches.

Drip irrigation systems must be preceded by pretreatment to avoid or minimize clogging of the disposal lines.



Subsurface Wastewater Disposal Rules



Disposal Areas

The drip emitter system uses small diameter piping with integral drip emitters, installed in a grid. A series of valves are used to regulate flow and flush the system for prevention of solids accumulation.



Subsurface Wastewater Disposal Rules



Disposal Areas

Installation of porous hose drip irrigation is minimally invasive, and can include covering at-grade installations with bark mulch, as is about to take place in this picture. This is best suited for seasonal use due to lack of frost protection.



Receiving the HHE-200 Form



- IS IT PERMITTED?
- ESTABLISH THE ERP
- SITE LOCATION

3A.1 PERMIT REQUIRED



- WORK MUST NOT BE STARTED UNTIL THE PLUMBING INSPECTOR HAS ISSUED A DISPOSAL SYSTEM PERMIT FOR THE WORK



| SUBSURFACE WASTEWATER DISPOSAL SYSTEM APPLICATION | | Maine Dept. Health & Human Services Division of Health Engineering, 10 SHS (207) 287-5672 Fax: (207) 287-3165 |
|--|--|---|
| PROPERTY LOCATION | | >> CAUTION: PERMIT REQUIRED - ATTACH IN SPACE BELOW << |
| City, Town, or Plantation | *** | The Subsurface Wastewater Disposal System shall not be installed until a Permit is attached HERE by the Local Plumbing Inspector. The Permit shall authorize the owner or installer to install the disposal system in accordance with this application and the Maine Subsurface Wastewater Disposal Rules. |
| Street or Road | *** | |
| Subdivision, Lot # | *** | |
| OWNER/APPLICANT INFORMATION | | |
| Name (last, first, MI) | *** | |
| Mailing Address of Owner/Applicant | *** | |
| Daytime Tel. # | (207) ***-**** | Municipal Tax Map # _____ Lot # _____ |
| OWNER OR APPLICANT STATEMENT | | CAUTION: INSPECTION REQUIRED |
| 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. | | I have inspected the installation authorized above and found it to be in compliance with the Subsurface Wastewater Disposal Rules Application. (1st) date approved _____ |
| Signature of Owner or Applicant: *** Date: **/**/07 | | Local Plumbing Inspector Signature: _____ (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"/> b. Major Expansion <input type="checkbox"/> 4. Experimental System <input type="checkbox"/> 5. Seasonal Conversion | <input type="checkbox"/> 1. No Rule Variance <input checked="" type="checkbox"/> 2. First Time System Variance <input type="checkbox"/> a. Local Plumbing Inspector Approval <input checked="" 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 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 |
| SIZE OF PROPERTY | DISPOSAL SYSTEM TO SERVE | TYPE OF WATER SUPPLY |
| ± 4.5 <input type="checkbox"/> SQ. FT. <input checked="" type="checkbox"/> ACRES | <input type="checkbox"/> 1. Single Family Dwelling Unit, No. of Bedrooms: _____ <input type="checkbox"/> 2. Multiple Family Dwelling, No. of Units: _____ <input checked="" type="checkbox"/> 3. Other: <u>commercial business</u> (specify) Current Use <input type="checkbox"/> Seasonal <input checked="" type="checkbox"/> Year Round <input type="checkbox"/> Undeveloped | <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 | DESIGN DETAILS (SYSTEM LAYOUT SHOWN ON PAGE 3) | |
| <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No | TREATMENT TANK | 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>1,500</u> GAL. | <u>750</u> gal/lons per day BASED ON: <input checked="" type="checkbox"/> 1. Table 501.1 (dwelling unit(s)) <input type="checkbox"/> 2. Table 501.2 (other facilities) SHOW CALCULATIONS for other facilities <u>50 employees @ 15 gpd each</u> |
| | DISPOSAL FIELD TYPE & SIZE | GARBAGE DISPOSAL UNIT |
| | <input type="checkbox"/> 1. Stone Bed <input type="checkbox"/> 2. Stone Trench <input checked="" type="checkbox"/> 3. Proprietary Device <input checked="" type="checkbox"/> a. cluster array <input type="checkbox"/> c. Linear <input checked="" type="checkbox"/> b. regular load <input type="checkbox"/> d. H-20 load type: <u>Eljen In-drain</u> <input type="checkbox"/> 4. Other: _____ SIZE: <u>66 units</u> <input 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 |
| | DISPOSAL FIELD SIZING | EFFLUENT/EJECTOR PUMP |
| | <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 | <input type="checkbox"/> 1. Not Required <input type="checkbox"/> 2. May Be Required <input checked="" type="checkbox"/> 3. Required Specify only for engineered systems: DOSE: _____ gallons |
| SOIL DATA & DESIGN CLASS | SITE EVALUATOR STATEMENT | |
| PROFILE CONDITION DESIGN <u>B / C / I</u> at Observation Hole # <u>1</u> Depth <u>16"</u> of Most Limiting Soil Factor | I certify that on _____ (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: _____ SE # _____ Date: **/**/07 *** Site Evaluator Name Printed: _____ Telephone Number: (207) ***-**** E-mail Address: ***@****.*** Note: Changes to or deviations from the design should be confirmed with the Site Evaluator. HHE-200 Rev. 4/05 | |



DIVISION OF ENVIRONMENTAL HEALTH
SUBSURFACE WASTEWATER PROGRAM

AFFIDAVIT OF SITE PREPARATION

This affidavit is to be completed by a certified system installer and submitted to the Local Plumbing Inspector to document compliance with Section 111.5.1 of the Maine Subsurface Wastewater Disposal Rules, 144 CMR 241. *Permission to utilize this document in lieu of a site preparation inspection by the Local Plumbing Inspector must be verified when the permit is issued.* This affidavit is *not* to be utilized in place of the system inspection described in Section 111.5.2 of the Rules.

INSTALLER NAME: _____
(Please Print)

CERTIFICATION NUMBER: _____

SSWD PERMIT NUMBER: _____

PERMIT ISSUE DATE: _____

PROPERTY OWNER NAME: _____

PROPERTY ADDRESS: _____

MUNICIPALITY: _____

By signing and submitting this document to the Local Plumbing Inspector, I certify that all construction activities noted in Section 111.5.1 including removal of all vegetation from the disposal field area and fill extensions as specified in Section 801.3; roughening of the ground surface as specified in Section 801.4; establishment of a transitional horizon as specified in Section 801.5; and placement of erosion control devices as specified in Section 801.2 have been completed in full compliance with the Maine Subsurface Wastewater Disposal Rules, 144 CMR 241 for the referenced SSWD permit.

INSTALLER SIGNATURE: _____

DATE SUBMITTED: _____

By signing and accepting this document from the Certified Installer, I acknowledge that a site preparation inspection was not conducted for the referenced SSWD permit.

LPI SIGNATURE: _____

ACCEPTANCE DATE: _____



**THIS FORM
ONLY TO
BE USED
AFTER THE
LPI'S
APPROVAL**



Subsurface Wastewater Disposal Rules



**Maine Department of Health and Human Services
Division of Environmental Health
Subsurface Wastewater Program**

Spring 2011

Division of Environmental Health
Subsurface Wastewater Program

Maine Department of Health &
Human Services

Construction Related Rules



Section 11A.2 Dig Safe Law

The “Dig Safe Law” 23 MRSA §3360-A(D) places certain notification requirements on any person doing excavations, including 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, except tilling of the soil and gardening or agricultural purposes.



11D.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 HHE-200 FORM AND ANY OTHER SPECIAL ENGINEERING REQUIREMENTS.



11D.2

SOIL AND BACKFILL MATERIAL

**THE INSTALLER OF THE SYSTEM
SHALL MAKE CERTAIN THAT THE
CONSTRUCTION AND INSTALLATION
ARE PERFORMED WITHOUT EFFECTING
THE SOIL AND BACKFILL MATERIAL.**

CONSTRUCTION TECHNIQUES



SOIL EROSION & SEDIMENT CONTROL

CLEARING OF THE SITE

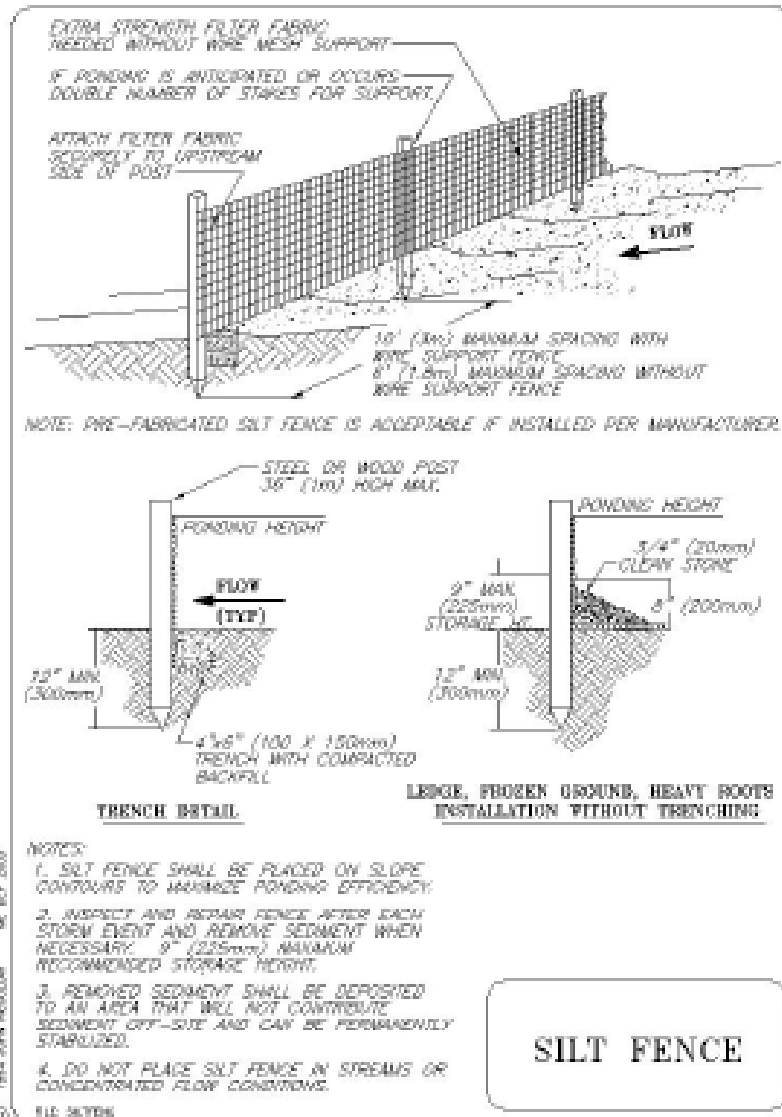
SCARIFICATION

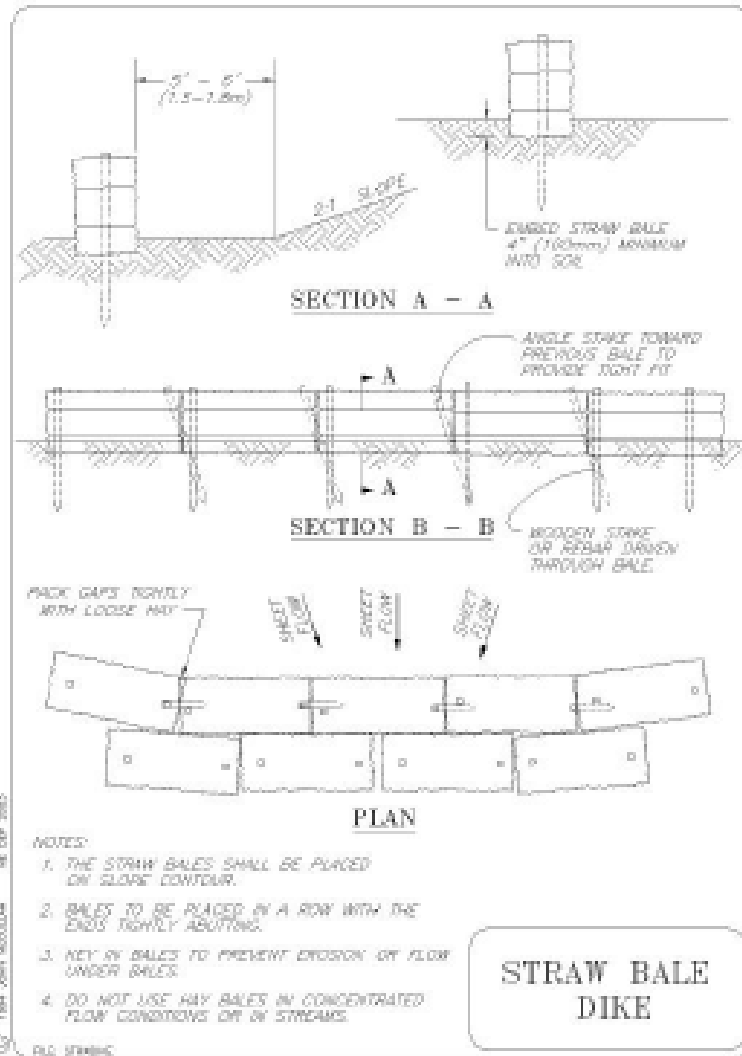
TRANSITION HORIZON

Site Preparation



- 11B.1a Soil Erosion And Sediment Control
IN AREAS ADJACENT TO A WATER BODY OR
WETLANDS, PREVENTATIVE EROSION AND
SEDIMENT CONTROL MEASURES SHOULD BE
EMPLOYED CONSISTANT WITH SECTION 11M.



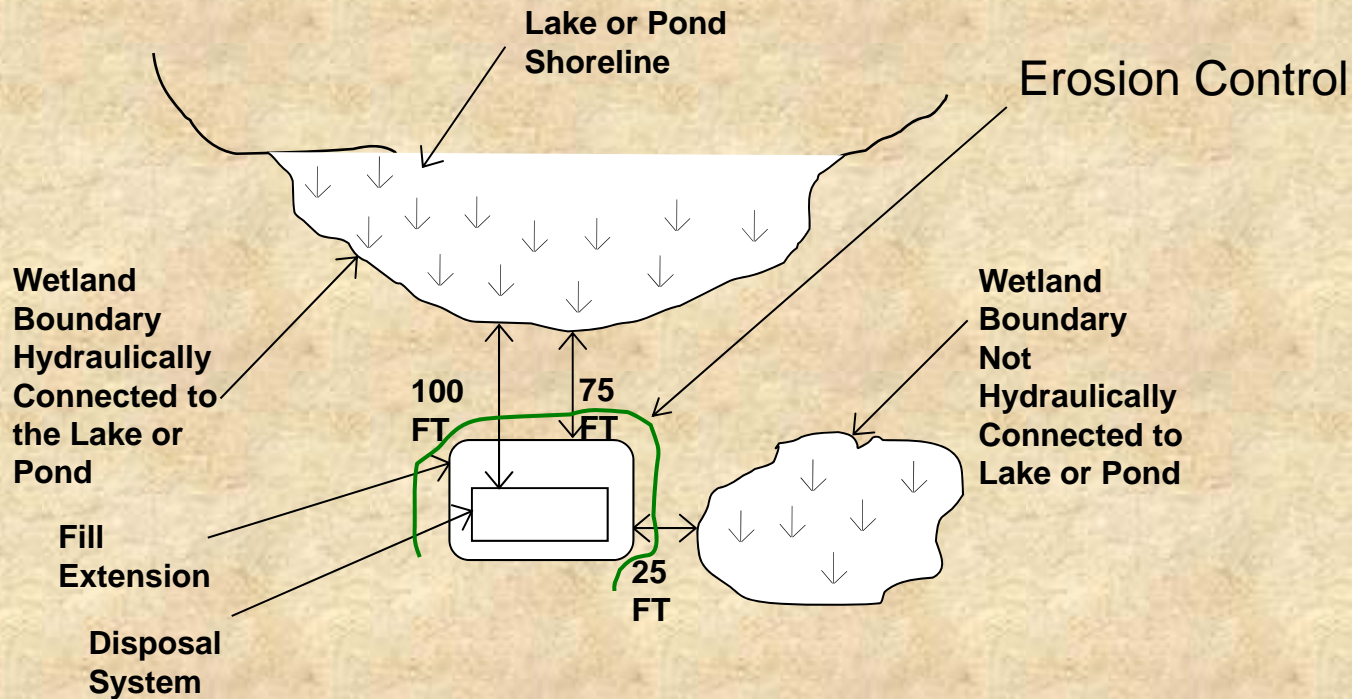


Site Preparation



Chapter 11 - Disposal Field Construction Techniques

Section 11B.1a & 11M Placement of Erosion Control Devices



11B.2 CLEARING OF THE SITE



VEGETATION MUST BE CUT AND
REMOVED FROM THE AREA
WHERE BACKFILL IS PLACED

DOES THIS INCLUDE
THE FILL EXTENSIONS?



SCARIFICATION

11B.3 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 UPSLOPE. THE SOIL SHOULD BE BROKEN UP TO A DEPTH OF 6-8 INCHES.

ALTERNATIVELY, A ROTO-TILLER OR THE TEETH OF A BACKHOE MAY BE USED.



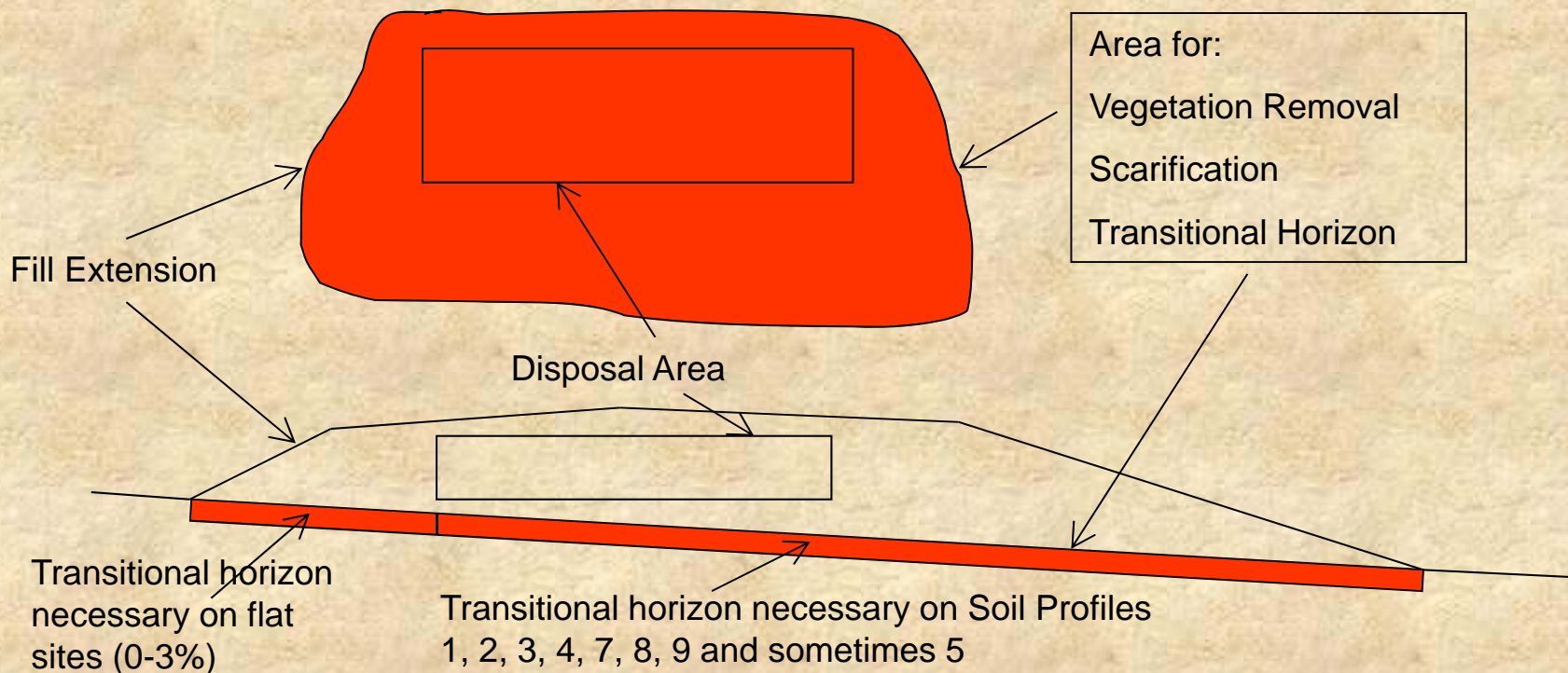
11B.4 TRANSITIONAL HORIZON

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, DISCING OR ROTO-TILLING) INTO THE ORIGINAL SOIL TO FORM A TRANSITIONAL HORIZON BENEATH THE DISPOSAL AREA FOOTPRINT AND ALL SIDE AND DOWNHILL FILL EXTENSIONS.

Site Preparation

Chapter 11 - Disposal Field Construction Techniques

Section 11B.1b Clearing Section 11B.3 Scarify the site Section 11B.4 Transitional horizon



DEEP SCARIFICATION MAYBE REQUIRED BY A FROST TOOTH OR OTHER ATTACHMENT



Spring 2011

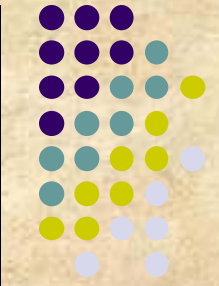
Division of Environmental Health
Subsurface Wastewater Program

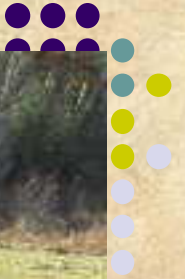
Maine Department of Health &
Human Services





Maine Department of Health &
Human Services











11B.5 FILL LARGE HOLES

- LEFT AS A RESULT OF STUMP AND STONE REMOVAL, MUST BE FILLED WITH BACKFILL MATERIAL THAT MEETS THE REQUIREMENTS OF 11E

11G.3 SURFACE WATER DIVERSION

SURFACE WATER MUST BE DIVERTED AWAY FROM THE DISPOSAL FIELD SITE



Maine Department of Health &
Human Services



EXCAVATION

11C.2

BOTTOM OF DISPOSAL FIELD



- THIS SERVES AS THE FINAL STAGE OF THE DISTRIBUTION NETWORK
- MUST BE INSTALLED AT THE ELEVATION SPECIFIED ON THE PERMIT.
- MUST MAINTAIN A LEVEL GRADE.
(2" WITHIN 100')

11C.3

AVOID UNNECESSARY COMPACTION



- RUBBER TIRED VEHICLES SHOULD NOT BE DRIVEN OVER THE EXPOSED BOTTOM OF THE DISPOSAL FIELD
- SHOULD BE CARRIED OUT BY A BACKHOE OPERATING OUTSIDE THE PERIMETER OF THE DISPOSAL AREA

Which looks like.....



**And if not corrected could look
like.....**

Maine Department of Health &
Human Services



Which would result in.....



Maine Department of Health & Human Services

11C.4 REOPEN SMEARED OR COMPACTED BOTTOM OR SIDEWALL SURFACES



- THIS PORTION MUST BE SCARIFIED TO RE-OPEN SOIL PORES.
- ROTO-TILLING MAY BE NECESSARY TO REACH THE LIMIT OF COMPACTED SOIL DEPTH.

11C.5 WEATHER CONDITIONS



WORK SHOULD BE SCHEDULED SO THAT EXCAVATED AREAS ARE NOT EXPOSED TO RAINFALL OR WIND BLOWN SILT

DEBRIS MUST BE REMOVED BEFORE BACKFILLING

DISPOSAL FIELDS SHOULD NOT BE INSTALLED IN FROZEN GROUND OR WHEN THE AMBIENT AIR TEMP. IS BELOW FREEZING

11I INSPECTIONS



REQUIRED:

IT SHALL BE THE DUTY OF THE PLUMBING INSPECTOR TO ENFORCE THE PROVISIONS OF THIS CODE AND TO MAKE SUCH INSPECTIONS AS MAY BE REQUIRED BY THIS CODE



11I.5 INSPECTION REQUIRED :

**THE LPI SHALL MAKE TWO
INSPECTIONS, FIRST INSPECTION AT
THIS TIME.**

AFTER SITE PREPARATION:

**TO MAKE SURE VEGETATION HAS BEEN CUT &
REMOVED IN THE DISPOSAL FIELD AREA.**

TO MAKE SURE THE AREA HAS BEEN SCARIFIED.

**TO MAKE SURE A TRANSITIONAL HORIZON HAS BEEN
ESTABLISHED**

**TO MAKE SURE EROSION CONTROL MEASURES
HAVE BEEN ESTABLISHED**



BACKFILL



STANDARDS

11E Backfill standards: The backfill material must be gravelly coarse sand which meets the following requirements:

Table 11A – 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 |

Construction Related Rules

How to Check Sand Spec:



0 10 20 mm 30 40 50

| | | |
|--|-----------------------------|--|
| | v. coarse sand 1.0-2.0mm | granules 2-4mm cobbles 64-256mm pebbles 4-64mm boulders > 256mm |
| | coarse sand 1/2-1.0mm | very thickly bedded 1m thickly bedded 30-100cm medium bedded 10-30cm thinly bedded 3-10cm very thinly bedded 1-3cm thickly laminated 3-10mm thinly laminated 3mm |
| | medium sand 1/4-1/2mm | |
| | fine sand 1/8-1/4mm | well-rounded sub-rounded sub-angular |
| | v. fine sand 1/16-1/8mm | |
| | silt < 1/16mm | |

FIELD CHECKLIST
 location, Formation name
 Composition
 Texture (shape, sorting, color)
 Structure (on and within bed)
 Form (geometry of the bed)
 Sequence (trends, cycles, repetitions)
 Fossils

Sand-gauge
 © 1984 by W.F. McCollough

Construction Related Rules



Table 1. Soil Separates

| <u>Name of Separate</u> | <u>Diameter (range) mm.</u> |
|-------------------------|-----------------------------|
| Very coarse sand | 2.00 - 1.00 |
| Coarse sand | 1.00 - 0.50 |
| Medium sand | 0.50 - 0.25 |
| Fine sand | 0.25 - 0.10 |
| Very fine sand | 0.10 - 0.05 |
| Silt | 0.05 - 0.002 |
| Clay | less than 0.002 |

Gravel / Sand / Fines



- Gravels are between # 4 sieve and 3”
- Sands are between # 200 sieve and # 4 sieve
- Fines are smaller than # 200 sieve



- Particle Sizes
 - Gradation or Mechanical Analyses
 - Sieves for larger particles
 - Hydrometer for fine particles



Sieve Analyses

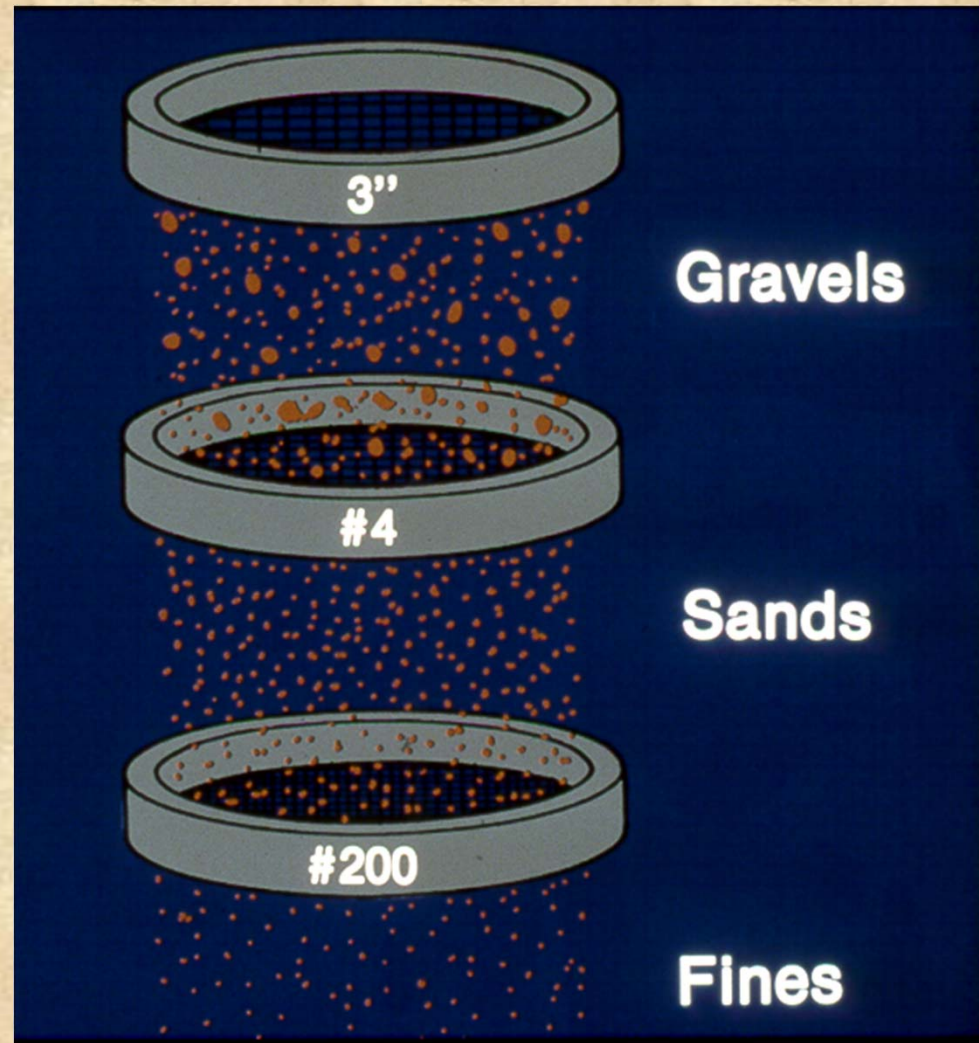


11/28/2012 Spring 2009

Division of Environmental Health
Subsurface Wastewater Program

Maine Department of Health &
Human Services

Sieve Analyses





Sieve Designation - Large

Sieves larger than the #4 sieve are designated by the size of the openings in the sieve



Review Activity 2



- Commonly used larger size sieves

- 3 inch

- 2 inch

- 1-1/2 inch

- 1 inch

- 3/4 inch

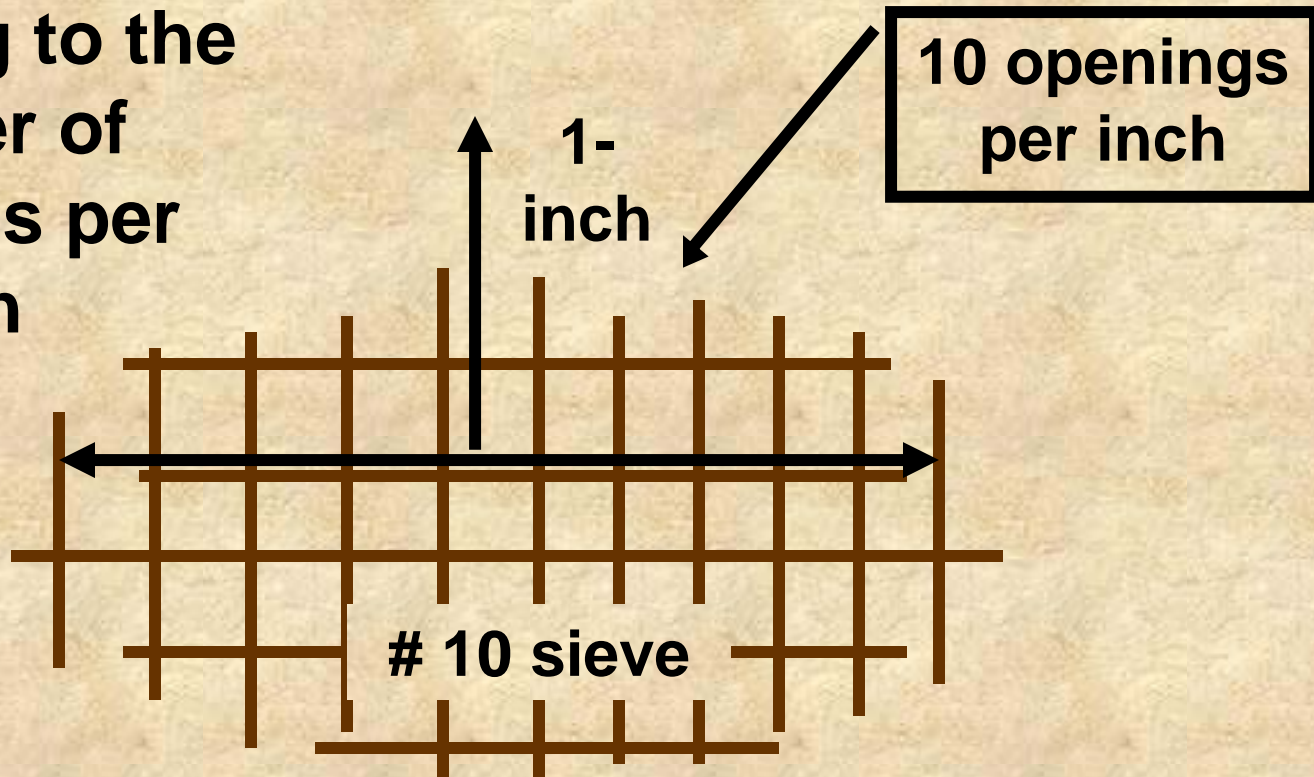
- 1/2 inch

- 3/8 inch



Sieve Designation - Smaller

Smaller sieves
are numbered
according to the
number of
openings per
inch



Review Activity 3

- Commonly used smaller size sieves

- # 4

- # 10

- # 20

- # 40

- # 60

- # 140

- # 200



Construction Related Rules



Report of Gradation

ASTM C-117 & C-136

Test Name TUPPER PIT TESTING
 Client CONSTRUCTION CONSULTANTS
 Material Type IN DRAIN SAND
 Material Source

Project Number 04-0426
 Lab ID 1664G
 Date Received 5/6/2004
 Date Completed 5/7/2004
 Tested By CRAIG TURCOTTE

| <u>STANDARD DESIGNATION (mm/μm)</u> | <u>SIEVE SIZE</u> | <u>AMOUNT PASSING (%)</u> | <u>SPECIFICATIONS (%)</u> |
|-------------------------------------|-------------------|---------------------------|---------------------------|
| 150 mm | 6" | 100 | |
| 100 mm | 4" | 100 | |
| 75 mm | 3" | 100 | |
| 50 mm | 2" | 100 | |
| 38.1 mm | 1-1/2" | 100 | |
| 25.0 mm | 1" | 100 | |
| 19.0 mm | 3/4" | 100 | |
| 12.5 mm | 1/2" | 100 | |
| 9.5 mm | 3/8" | 94 | 100 |
| 4.75 mm | No. 4 | 89 | 95 - 100 |
| 2.36 mm | No. 8 | 82 | 80 - 100 |
| 1.18 mm | No. 16 | 71 | 50 - 85 |
| 600 μm | No. 30 | 51 | 25 - 60 |
| 300 μm | No. 50 | 26 | 5 - 30 |
| 150 μm | No. 100 | 10 | 0 - 10 |
| 75 μm | No. 200 | 3.9 | |

Construction Related Rules



Washed concrete sand meeting the ASTM C-33 specification.

| Sieve Designation | | Percentage by Weight Passing Square Mesh Sieves |
|-------------------|----------|--|
| Metric | English | |
| 9.5 mm | 3/8 inch | 100 |
| 4.75 mm | No. 4 | 95-100 |
| 2.36 mm | No. 8 | 80-100 |
| 1.18 mm | No. 16 | 50-85 |
| 600 µm | No. 30 | 25-60 |
| 300 µm | No. 50 | 10-30 |
| 150 µm | No. 100 | 2-10 |
| 75 µm | No. 200 | 0-5.0 maximum |

COARSE SAND

MEDIUM SAND



WET SITES on 9 INCH SOILS

PLASTIC LIMIT



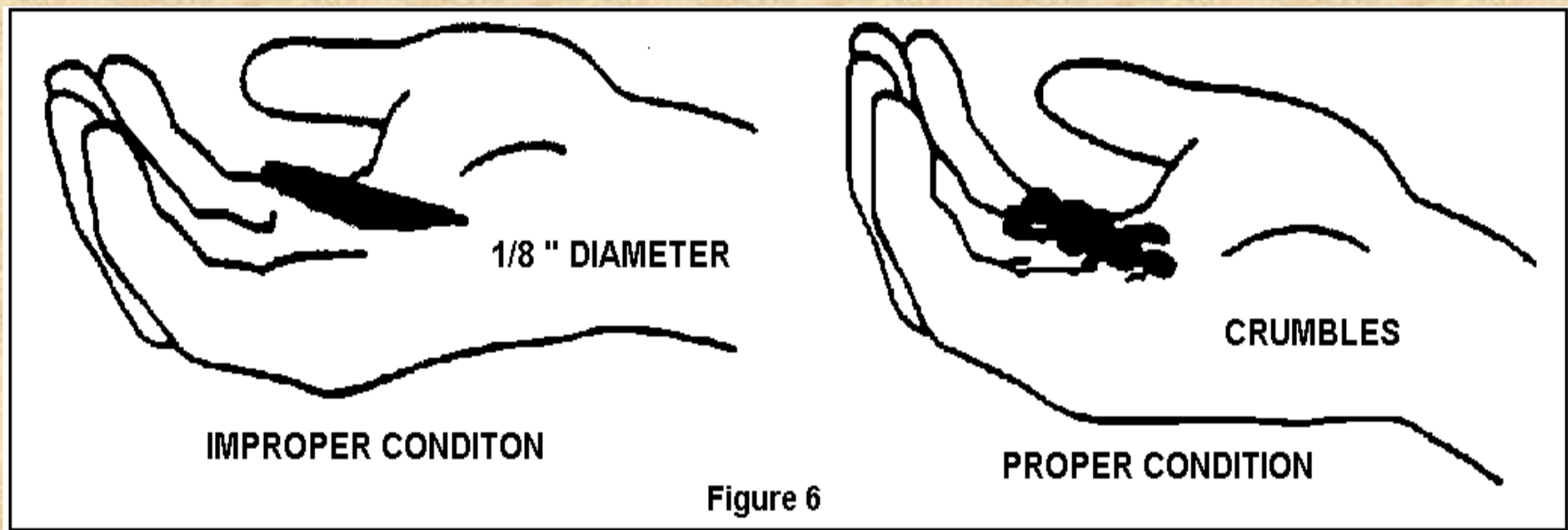
11A.1 General: On sites with fine soil textures, excavations that expose the bottom and sidewall area of the disposal field must not be carried out when the soil moisture content is above the plastic limit except when correcting a nuisance, there is no practical alternative, the plumbing inspector agrees 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.



PLASTIC LIMIT

The soil must be dry and friable when site prep is started.

Smearing and compaction due to construction in a wet soil decrease the soil's ability to absorb wastewater. If a sample of the soil at the trench bottom depth forms a ribbon (e.g. 1/8-inch diameter) when rolled between the palms of the hands, the soil is too wet to excavate. If the soil crumbles into its natural structure, excavation may proceed. This pre-scarification examination is essential to help ensure proper operation of the system.





INSTALLATIONS

TANK INSTALLATIONS



**FILL MUST BE FREE OF LARGE STONES,
ROOTS OR FOREIGN OBJECTS**

**MUST BE PLACED IN LAYERS AND EXTEND 4
INCHES BEYOND THE BASE AND FULLY
TAMPED**

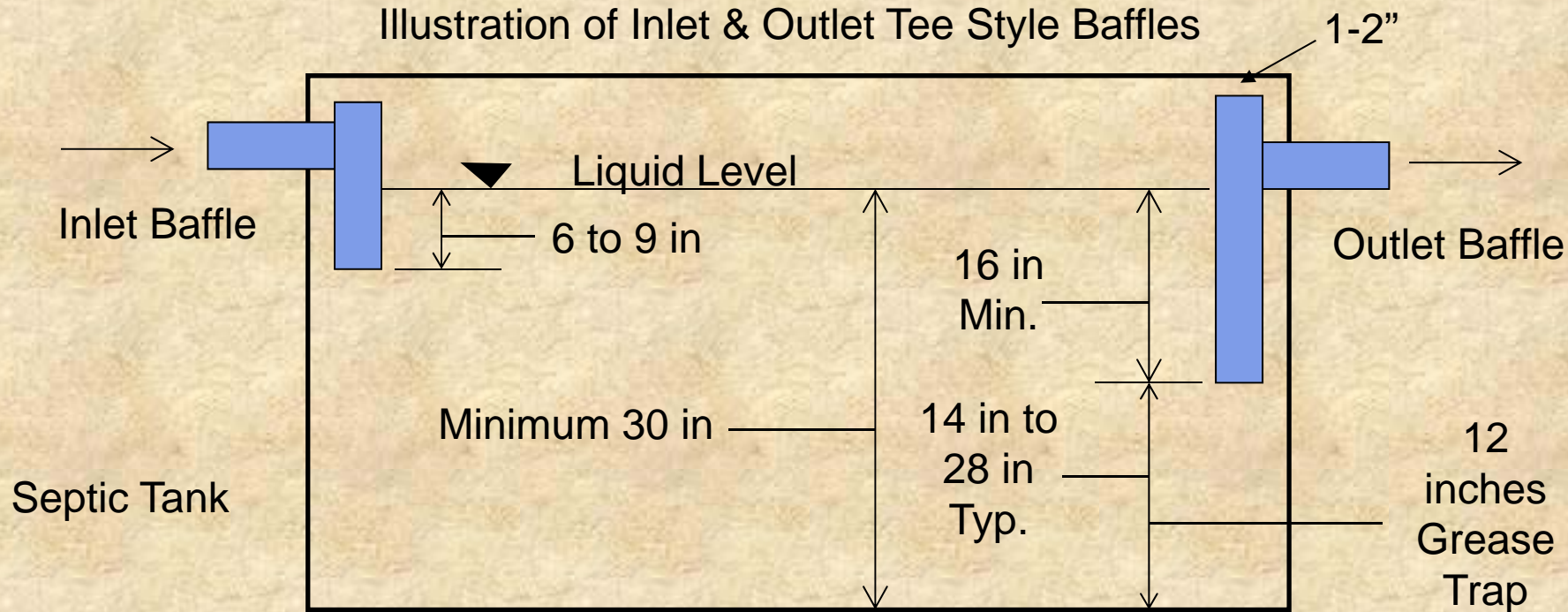
LEVEL

Construction Related Rules



Chapter 6 – Septic Tanks, Dosing Tanks & Grease Interceptors

Illustration of Inlet & Outlet Tee Style Baffles



Construction Related Rules



Chapter 6 – Septic Tanks, Dosing Tanks & Grease Interceptors

Section 6E Inlet & Outlet Connections

Sets the following requirements for the septic tank baffles:

Inlet Baffle: 4” if PVC
Extends 6” to 9” below liquid level
Watertight seal with tank wall

Outlet Baffle: 4” if PVC
Extends 16” below liquid level
Extends to within 1-2” of tank top
Watertight seal with tank wall

Construction Related Rules

Chapter 6 – Septic Tanks, Dosing Tanks & Grease Interceptors

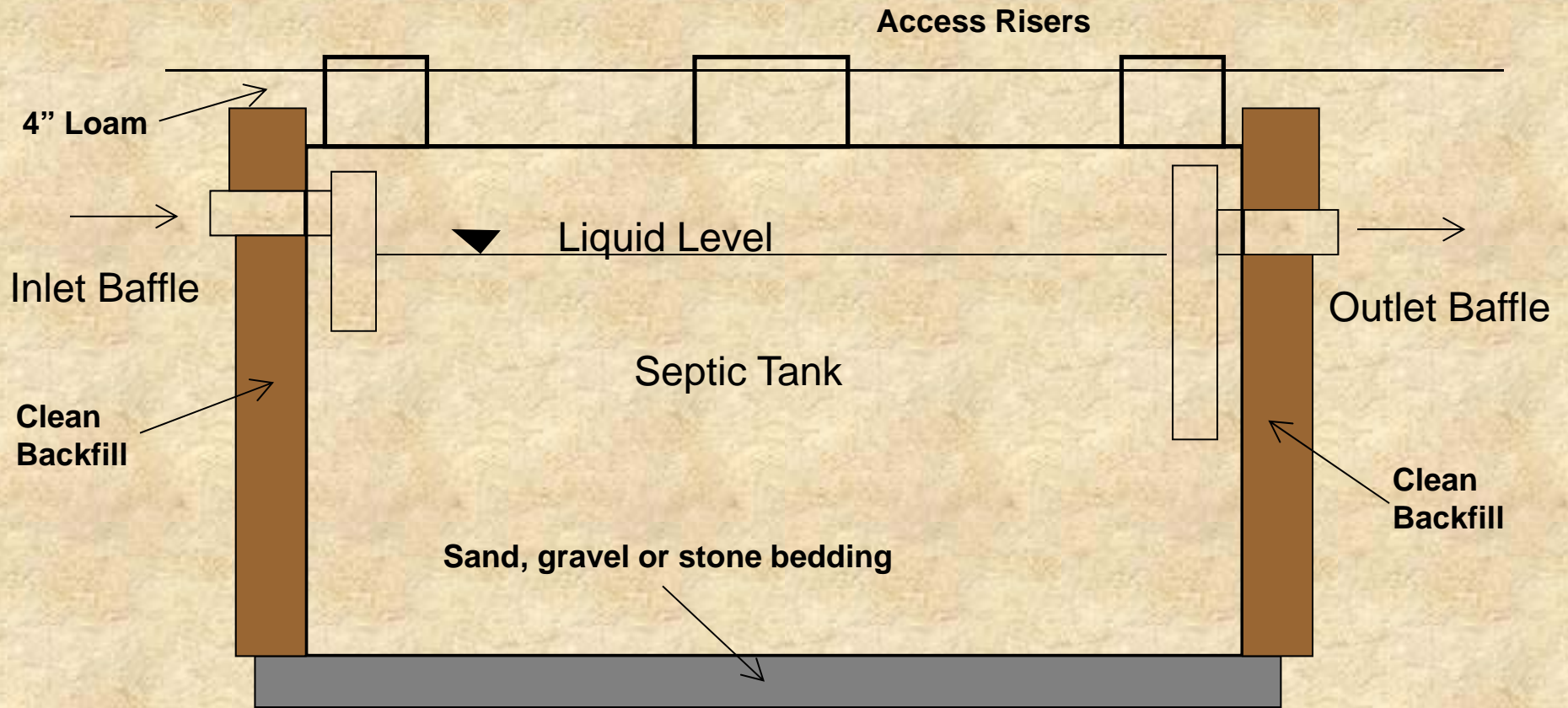


Illustration of Tank Installation

Subsurface Wastewater Disposal Rules

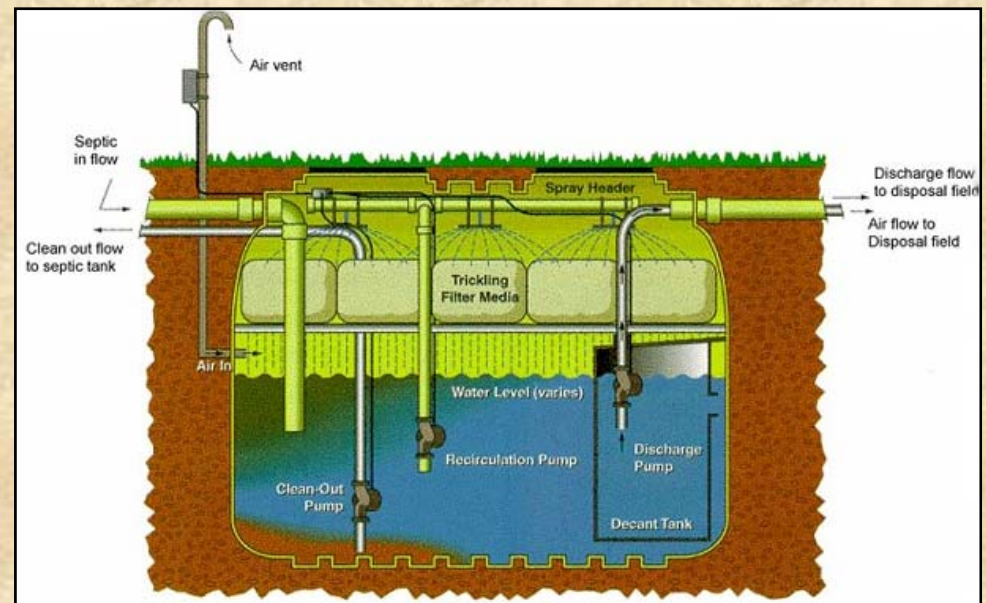


Advanced Treatment

The bacteria in aerobic treatment tanks, although more active, are also more fragile and sensitive to fluctuating conditions than anaerobic bacteria in septic tanks.

Aerobic treatment tanks are relatively more expensive, require maintenance, and need an energy source.

At right is a recirculating extended treatment tank.



RISERS, RESIDENTIAL



IF BURIED, WATER TIGHT RISERS TO WITHIN 6" OF ORIGINAL GRADE ARE REQUIRED.

RISER OPENING MUST BE 18" IN DIAMETER OVER THE TANK COVER

IF THERE IS A PUMP STATION WITHIN THE TANK, THE RISER DIAMETER MUST BE 24" TO THE GROUND SURFACE

OUTLET BAFFLES THAT UTILIZE AN EFFLUENT FILTER MUST HAVE A RISER OF AT LEAST 18" IN DIAMETER AND TO THE GROUND SURFACE

RISERS, OTHER FACILITIES

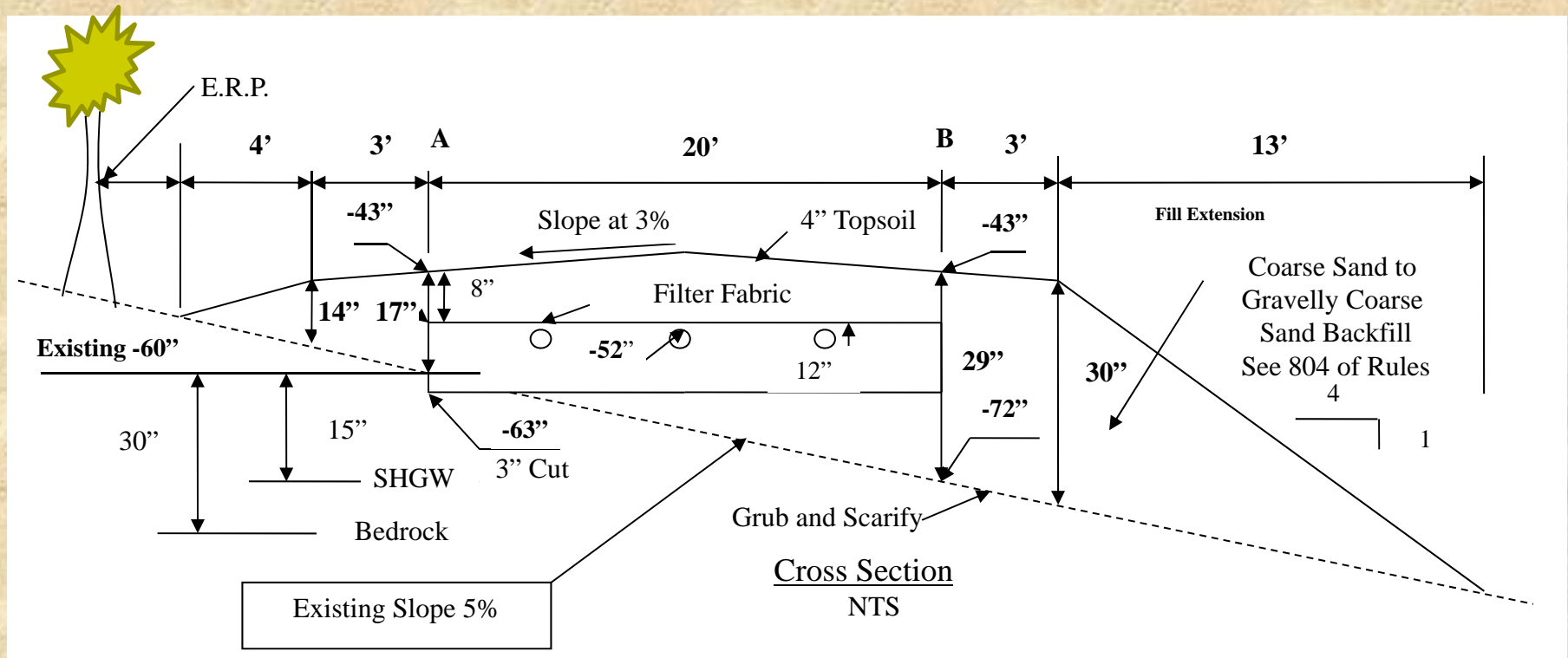


**ALL RISERS MUST BE LOCATED AT
GRADE. GRADE MUST SLOPE AWAY
FROM THE OPENINGS**

Not a legal pump station



Elevations



Length of Fill Extensions

Quick Field Review - Up Slope



Upslope thickness of fill in feet at edge of disposal field
12 inches / 12 = (1.00')

1.00

Divide By ----- = **2.5 feet**

0.40

(Proposed finish grade slope in feet per foot + existing ground grade in feet per foot)
(4 to 1 = 25 % = 0.25 feet per foot) + (rise over run, difference in elevation / distance)

0.25 feet per foot (25%) + 4 feet / 20 feet (15%)

0.25 + 0.15

(0.40)

Note: When existing ground up slope is three (3) percent or less the existing ground slope should be calculated to be level.

Length of Fill Extensions

Quick Field Review Up Slope

Up Slope Shoulder Reductions



Level Disposal Field Shoulder Slope = 3' x 0.03 (3%) = 0.09 Feet

5 % Existing ground slope = 3' x 0.05 = 0.15 – 0.09 = 0.06 / (0.25 + 0.05) = **0.20 feet less**

10% Existing ground slope = 3' x 0.10 = 0.30 – 0.09 = 0.21 / (0.25 + 0.10) = **0.60 feet less**

15% Existing ground slope = 3' x 0.15 = 0.45 – 0.09 = 0.36 / (0.25 + 0.15) = **0.90 feet less**

20% Existing ground slope = 3' x 0.20 = 0.60 – 0.09 = 0.51 / (0.25 + 0.20) = **1.13 feet less**

Example = 2.5 feet required – 0.90 feet at 15% = Round to 2 feet Total Fill Extension

**Total Distance From Disposal Field Corner to Edge of Fill Extension Including
3 Foot shoulder = 5 Feet**

Length of Fill Extensions

Quick Field Review – Down Slope



Down slope thickness of fill in feet at edge of disposal field

$$48 \text{ inches} / 12 = (4.00')$$

4.00

Divide By ----- = **40 feet**

0.10

(Proposed finish grade slope in feet per foot - existing ground grade in feet per foot)

(4 to 1 = 25 % = 0.25 feet per foot)-(rise over run, difference in elevation / distance)

$$0.25 \text{ feet per foot (25\%)} - 4 \text{ feet} / 20 \text{ feet (15\%)}$$

$$0.25 \quad - \quad 0.15$$

(0.10)

Length of Fill Extensions Quick Field Review – Down Slope



Down Slope Shoulder Additions

Level Disposal Field Shoulder Slope = $3' \times 0.03$ (3%) = 0.09 feet

5 % Existing ground slope = $3' \times 0.05 = 0.15 - 0.09 = 0.06 / (0.25 - 0.05) = 0.3$ feet more

10% Existing ground slope = $3' \times 0.10 = 0.30 - 0.09 = 0.21 / (0.25 - 0.10) = 1.4$ feet more

15% Existing ground slope = $3' \times 0.15 = 0.45 - 0.09 = 0.36 / (0.25 - 0.15) = 3.6$ feet more

20% Existing ground slope = $3' \times 0.20 = 0.60 - 0.09 = 0.51 / (0.25 - .20) = 10.2$ feet more

Example = 40 feet required + 3.6 feet at 15% = Round to 44 feet Total Fill Extension

**Total Distance From Disposal Field Corner to Edge of Fill Extension Including
3 Foot shoulder = 47 Feet**

Construction Related Rules



TABLE 11B
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 |

Construction Related Rules

Chapter 11 – Quality Assurance and Control



Section 11.F.2.d Placement

Stone may be placed in the disposal field site using a back-hoe, front-end loader, or dump truck, 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.



Inspections



Second Inspection

A common installation error is use of poor quality or poorly sized stone, which results in reduced void space and occasional sealing off by very fine particles.

Stone must be $\frac{3}{4}$ " OR $1 \frac{1}{2}$ " in size, clean, and evenly sized to provide sufficient void space.

Some installers wrongly interpret the size range as allowing a mix of sizes.



PIPING BETWEEN COMPONENTS



Section 6M - Piping

**6M.4a GRAVITY FLOW – NO LESS THEN 3” IN DIAMETER,
PRIMITIVE 1.5” IN DIAMETER**

**6M.4b PUMP DISCHARGE-NO LESS THAN MANUFACTURER
SPEC.**

6M.6 JOINTS-MADE WATERTIGHT

**6M.7 LAID IN A FIRM FOUNDATION AND
PROTECTED FROM FREEZING**

**6M.9a BUILDING SEWER PITCH – PIPES UNDER 4” = 1/4 “ PER FOOT,
PIPES 4” & LARGER = 1/8” PER FOOT MAY BE AUTHORIZED BY THE
LPI**

6M.9b EFFLUENT LINE PITCH – 1/8” PER FOOT

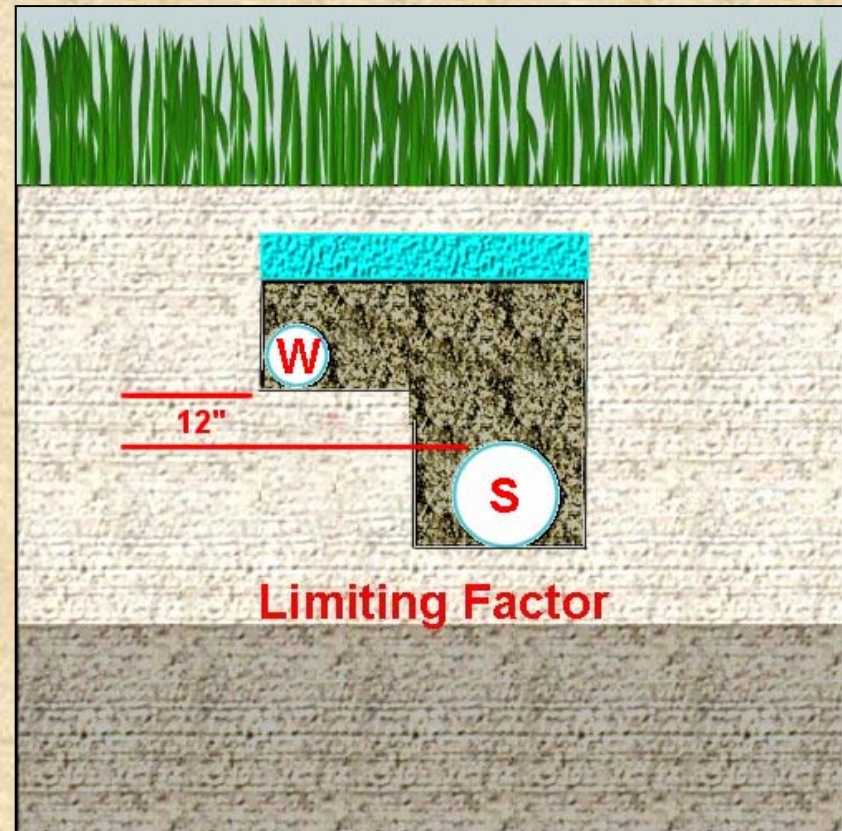
Construction Related Rules

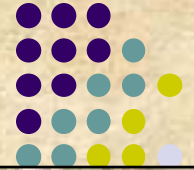


Section 6M.12 Water Service & Building Sewer

A structure's water service pipe and the building sewer shall be separated by undisturbed or compacted earth when possible.

The water service pipe may only be placed in the same trench as the building drain and building sewer when the bottom of the water service pipe at all points shall be a minimum of 12 inches above the top of the sewer at its highest point, and the water service pipe shall be placed on a solid shelf excavated at one side of the common trench.





The disposal field stone shall be covered with a layer of non-woven fabric or two (2) inches of compressed hay.

Non-woven fabric may be used, provided the edges of adjacent sheets of fabric overlap by a minimum of 6 inches; and the fabric shall be 4.0 ounces/square yard (per ASTM D-3776).

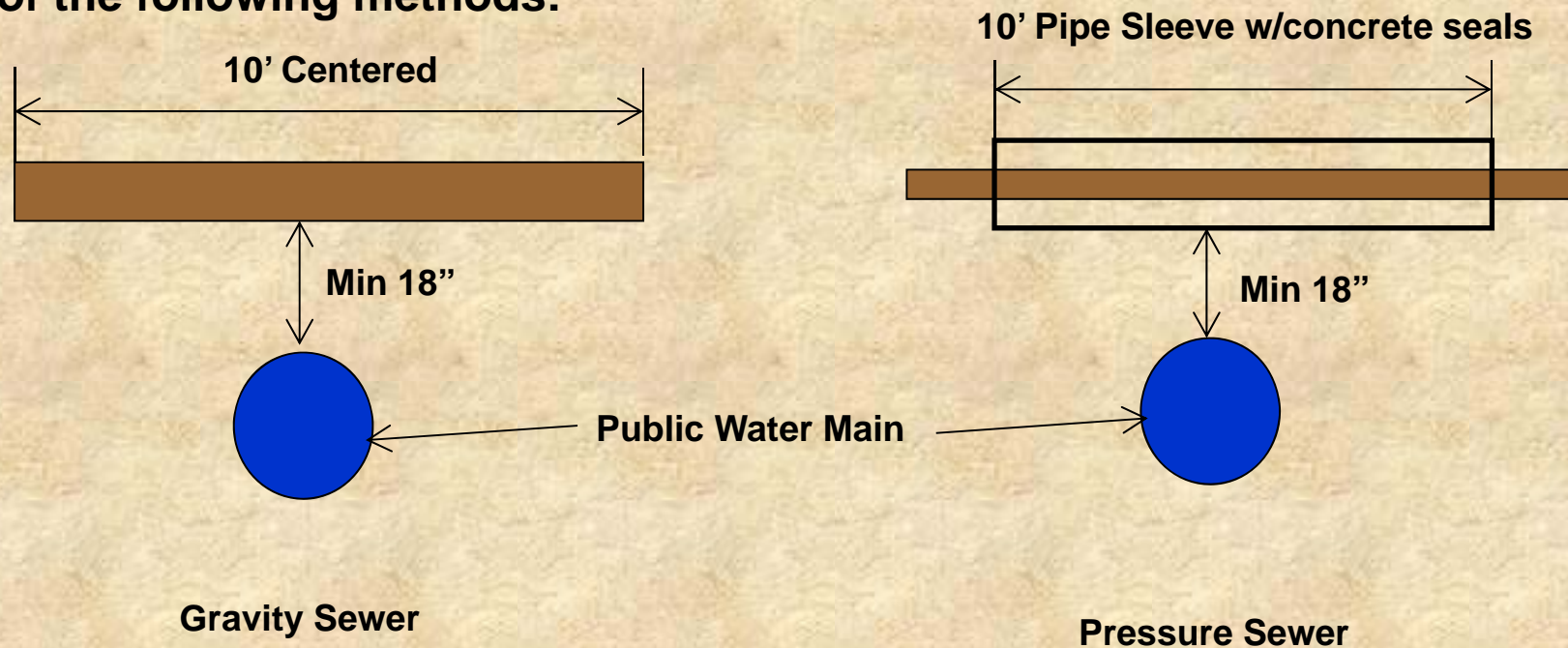


Construction Related Rules



Section 6M.14 Public Water Main & Building Sewer Crossing

A building sewer crossing above a public water main shall utilize one of the following methods:



SECOND INSPECTION

ELEVATIONS, BACKFILL, SLOPE, PITCH...



PRIOR TO COVERING THE SYSTEM

SYSTEM COMPONENTS

STONE, PIPES OR PROPRIETARY DEVICES

TANKS, HAY, FILTER FABRIC

**FILL BENEATH AND BESIDE THE DISPOSAL FIELD
INCLUDING FILL EXTENSIONS**

CURTAIN DRAINS, DIVERSION DITCHES, BERMS

ELEVATIONS OF SYSTEM COMPONENTS

SHOULDER, FILL EXTENSIONS

Permitting

Certificates of Approval

The LPI must sign the inspection block on the HHE-200 Form or Plumbing Application, just below the permit label area, which comprises a Certificate of Approval.

The LPI should simultaneously sign the permittee's copy and the Town's copy. This will provide the Town and the permittee with a permanent record that the inspection took place.

| | |
|---|------------------------------|
| >> CAUTION: PERMIT REQUIRED - ATTACH IN SPACE BELOW << | |
| The Subsurface Wastewater Disposal System <i>shall not</i> be installed until a Permit is attached HERE by the Local Plumbing Inspector. The Permit shall authorize the owner or installer to install the disposal system in accordance with this application and the Maine Subsurface Wastewater Disposal Rules. | |
| Municipal Tax Map # <u>20</u> Lot # <u>12</u> | |
| CAUTION: INSPECTION REQUIRED I have inspected the installation authorized above and found it to be in compliance with the Subsurface Wastewater Disposal Rules Application. _____ (1st) date approved | |
| _____ Local Plumbing Inspector Signature | _____ (2nd) date approved |

Section 11E.2c

FILL MATERIAL PLACEMENT ABOVE DISPOSAL FIELD



**IMMEDIATELY ABOVE THE FILTER
FABRIC OR HAY, FILL IS
REQUIRED AS SPECIFIED ON THE
PLANS.**

**A MINIMUM OF 8 INCHES INCLUDING
COVER MATERIAL**

COVER MATERIAL



11E.2 COVER MATERIAL

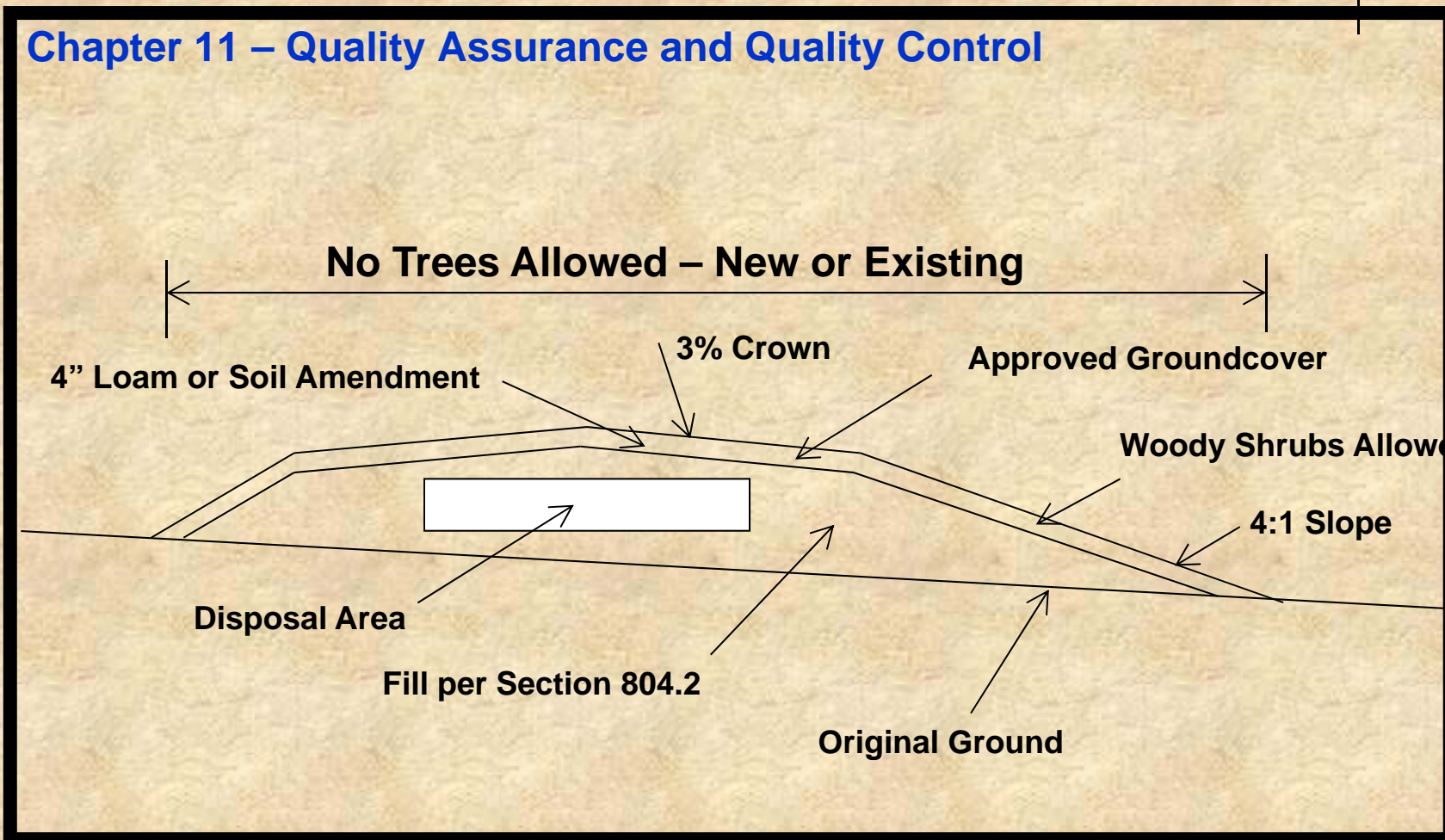
IMMEDIATELY ABOVE THE BACKFILL OR FILL MATERIAL, A MINIMUM OF 4" OF SOIL OR SOIL AMENDMENT MIX, SUITABLE FOR ESTABLISHMENT OF A GOOD VEGETATIVE COVER MUST BE PLACED OVER THE ENTIRE DISTURBED SOIL AREA, INCLUDING FILL EXTENSIONS

3% CROWN, 3' SHOULDER AND 4:1 FILL EXTENSIONS

Construction Related Rules



Chapter 11 – Quality Assurance and Quality Control



11G.5,6,7 EROSION CONTROL



11G.5 VEGETATIVE COVERS

**GRASS, CLOVER, TREFOIL, VETCH, WILD FLOWERS,
ETC..**

11G.6 OTHER COVERS

BARK CHIPS, WOOD CHIPS

11G.7 WOODY SHRUBS AND TREES

**WOODY SHRUBS AND TREES ARE UNACCEPTABLE (woody
shrubs on fill extension only)**



Spring 2009

Division of Environmental Health
Subsurface Wastewater Program

Maine Department of Health &
Human Services

**Section 3A - PERMIT REQUIRED-WORK
MUST NOT BE STARTED UNTIL THE LPI HAS
ISSUED A PERMIT**



**3B TIME LIMIT- COMMENCED WITHIN 24
MONTHS OF PERMITTING**

**3B.7 DEPARTURES FROM DESIGN- MUST BE
APPROVED BY THE SITE EVALUATOR**

**11I.6 NOTIFICATION REQUIRED- THE LPI SHALL
BE NOTIFIED 24 HOURS BEFORE THE SYSTEM IS
READY FOR INSPECTION**

HHE-200 Form

Page One

Page one of the HHE-200 Form must be signed by both the owner/applicant and the Site Evaluator before a permit can be issued.

It is important to check that each block on the form is properly completed. If any information is lacking, the LPI should not issue the permit.



| SUBSURFACE WASTEWATER DISPOSAL SYSTEM APPLICATION | | MAINE Dept Health & Human Services Division of Health Engineering, 10-515 (207) 287-5072 Fax (207) 287-3105 | |
|--|--|---|--|
| PROPERTY LOCATION City, Town, or Plantation: [REDACTED] Street or Road: [REDACTED] Subdivision, Lot #: [REDACTED] | | >> CAUTION: PERMIT REQUIRED - ATTACH IN SPACE BELOW << | |
| OWNER/APPLICANT INFORMATION Name (last, first, MI): [REDACTED] <input checked="" type="checkbox"/> Owner <input type="checkbox"/> Applicant Mailing Address of Owner/Applicant: [REDACTED] Daytime Tel. #: [REDACTED] | | The Subsurface Wastewater Disposal System shall not be installed until a Permit is attached HERE by the Local Plumbing Inspector. The Permit shall authorize the owner or installer to install the disposal system in accordance with this application and the Maine Subsurface Wastewater Disposal Rules. | |
| OWNER OR APPLICANT STATEMENT I state and acknowledge that the information contained in correct to the best of my knowledge and understanding that any falsification is reason for the Department and/or Local Plumbing Inspector to deny a Permit. | | CAUTION: INSPECTION REQUIRED I have inspected the installation authorized above and found it to be in conformance with the Subsurface Wastewater Disposal Rules Application. (Date) date approved | |
| Signature of Owner or Applicant: [REDACTED] Date: [REDACTED] | | Local Plumbing Inspector Signature: [REDACTED] (Date) date approved | |
| PERMIT INFORMATION | | | |
| TYPE OF APPLICATION <input type="checkbox"/> 1. First Time System <input checked="" type="checkbox"/> 2. Replacement System Type replaced: <u>Bed</u> Year installed: <u>Best Used By Other</u> <input type="checkbox"/> 3. Expansion 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 | THIS APPLICATION REQUIRES <input 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 Permit | DISPOSAL SYSTEM COMPONENTS <input checked="" type="checkbox"/> 1. Complete Non-engineered System <input type="checkbox"/> 2. Primitive System (graywater & all 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 0.50 FT. <u>0.37E</u> ACRES SHORELAND ZONING: <u>U-6</u> <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No | DISPOSAL SYSTEM TO SERVE <input 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) | 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 | |
| DESIGN DETAILS (SYSTEM LAYOUT SHOWN ON PAGE 3) | | | |
| TREATMENT TANK <input checked="" type="checkbox"/> 1. Concrete <input 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 | DISPOSAL FIELD TYPE & SIZE <input type="checkbox"/> 1. Stone Bed <input type="checkbox"/> 2. Stone Trench <input type="checkbox"/> 3. Percolation 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: _____ ft. sq. ft. <input type="checkbox"/> sq. ft. <input type="checkbox"/> lin. ft. | GARBAGE DISPOSAL UNIT <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 | DESIGN FLOW _____ gallons per day BASED ON: <input type="checkbox"/> 1. Table 501.1 (dwelling unit(s)) <input type="checkbox"/> 2. Table 501.2 (other facilities) SHOW CALCULATIONS for other facilities |
| SOIL DATA & DESIGN CLASS PROFILE: <u>4 C 1 1</u> CONDITION: <u>1 1</u> DESIGN: <u>1 1</u> Date of Observation: _____ Depth: _____ 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 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 <input type="checkbox"/> 2. May Be Required <input type="checkbox"/> 3. Required Specify only for engineered systems: DOSE: _____ gallons | AT EACH WATER METER DATA LATITUDE AND LONGITUDE Lat. _____ at center of disposal area Lon. _____ If g.p.s., state margin of error. |
| SITE EVALUATOR STATEMENT I certify that on <u>Dec 18, 2006</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). | | | |
| Site Evaluator Signature: [REDACTED] | | SE #: [REDACTED] | |
| Site Evaluator Name Printed: [REDACTED] | | Telephone Number: [REDACTED] | |
| E-mail Address: [REDACTED] | | Date: [REDACTED] | |
| Note: Changes to or deviations from the design should be confirmed with the Site Evaluator. | | | |

HHE-200 Form

Page One



| DESIGN DETAILS (SYSTEM LAYOUT SHOWN ON PAGE 3) | | | |
|--|---|---|--|
| TREATMENT TANK <input checked="" type="checkbox"/> 1. Concrete <input type="checkbox"/> a. Regular <input type="checkbox"/> b. Low Profile <input type="checkbox"/> 2. Plastic <input type="checkbox"/> 3. Other: _____ CAPACITY: <u>1,000</u> GAL. | DISPOSAL FIELD TYPE & SIZE <input 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: _____ <input type="checkbox"/> sq. ft. <input type="checkbox"/> lin. ft. | GARBAGE DISPOSAL UNIT <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 | DESIGN FLOW <u>270</u> gallons per day BASED ON: <input type="checkbox"/> 1. Table 501.1 (dwelling unit(s)) <input type="checkbox"/> 2. Table 501.2 (other facilities) SHOW CALCULATIONS for other facilities |
| SOIL DATA & DESIGN CLASS PROFILE CONDITION DESIGN <u>41C</u> <u>1</u> <u>1</u> at Observation Hole # _____ Depth <u>—</u> 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 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 <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-) AT EACH WATER METER DATA LATITUDE AND LONGITUDE at center of disposal area Lat. _____ d _____ m _____ s Lon. _____ d _____ m _____ s If g.p.s, state margin of error: _____ |
| SITE EVALUATOR STATEMENT | | | |

HHE-200 Form

Page Two

The site plan should show all prominent features in the vicinity of the proposed system.

Test pit logs should be complete and accurate.

Department of Human Services
Division of Health Engineering
12071 287-5872 FAX: 12071 287-4172

Town, City, Plantation: [REDACTED] Street, Road, Subdivision: [REDACTED] Owner's Name: [REDACTED]

SITE PLAN Scale 1" = 50 Ft. or as shown

Comers Drainage Bed Staked out & Flagged
20' x 35' Drainage Bed
Trailer
Well
Blue Trailer

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

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

| DEPTH BELOW MINERAL SOIL SURFACE (feet) | Texture | Consistency | Color | Mottling |
|---|---------------|-------------|------------|----------|
| 0 | Loom | Loose | Dark Brown | |
| 10 | | | Dark Brown | |
| 20 | Gravelly Sand | Knobby | Brown | |
| 30 | | | | |
| 40 | | | | |
| 50 | | | | |

Soil Classification: 4 Profile, C Condition, Slope: 3, Limiting Factor: [REDACTED]

Ground Water Restrictive Layer Bedrock Pit Depth

Site Evaluator Signature: [REDACTED] SE Date: [REDACTED]

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HHE-200 Form

Page Two



| 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 |
| [Redacted] | [Redacted] | [Redacted] |
| SITE PLAN Scale 1" = 50 Ft. or as shown | | SITE LOCATION PLAN (Map from Maine Atlas recommended) |
| <p><i>Corners Drainage Bed Staked out & Flagged</i></p> <p><i>20' x 35' Drainage Basin</i></p> <p>NHWM of Brook</p> <p>Storage Building And E.R.P.</p> <p><i>Trailer</i></p> <p>Abutter's Well, Not Owner's</p> <p><i>Well</i></p> <p>NHWM of Sandy Stream</p> <p>No Property Lines Shown</p> | | <p><i>Lot</i></p> <p><i>Brook</i></p> <p><i>Blue Trailer</i></p> |



HHE-200 Form

Page Two

| SOIL DESCRIPTION AND CLASSIFICATION (Location of Observation Holes Shown Above) | | | | |
|---|---------------------|--|------------|---|
| Observation Hole _____ | | <input checked="" type="checkbox"/> Test Pit <input type="checkbox"/> Boring | | |
| _____ " Depth of Organic Horizon Above Mineral Soil | | | | |
| | Texture | Consistency | Color | Mottling |
| 0 | Loam | Loose | Dark Brown | |
| 10 | | | Dark Brown | |
| 20 | Gravelly | Friable | Brown | |
| 30 | Sand | | | |
| 40 | | | | |
| 50 | | | | |
| DEPTH BELOW MINERAL SOIL SURFACE (inches) | Soil Classification | | Slope | Limiting Factor |
| | 4 | C | 3 | <input checked="" type="checkbox"/> |
| | Profile | Condition | % | |
| | | | | <input type="checkbox"/> Ground Water <input type="checkbox"/> Restrictive Layer <input type="checkbox"/> Bedrock <input type="checkbox"/> Pit Depth |

| SOIL DESCRIPTION AND CLASSIFICATION (Location of Observation Holes Shown Above) | | | | |
|---|---------------------|---|-------|---|
| Observation Hole _____ | | <input type="checkbox"/> Test Pit <input type="checkbox"/> Boring | | |
| _____ " Depth of Organic Horizon Above Mineral Soil | | | | |
| | Texture | Consistency | Color | Mottling |
| 0 | | | | |
| 10 | | | | |
| 20 | | | | |
| 30 | | | | |
| 40 | | | | |
| 50 | | | | |
| DEPTH BELOW MINERAL SOIL SURFACE (inches) | Soil Classification | | Slope | Limiting Factor |
| | | | | |
| | Profile | Condition | % | |
| | | | | <input type="checkbox"/> Ground Water <input type="checkbox"/> Restrictive Layer <input type="checkbox"/> Bedrock <input type="checkbox"/> Pit Depth |

| | | |
|------------------------------|--------|----------|
| Site Evaluator Signature | SE | Date |
|------------------------------|--------|----------|

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HHE-200 Rev. 7/97

HHE-200 Form

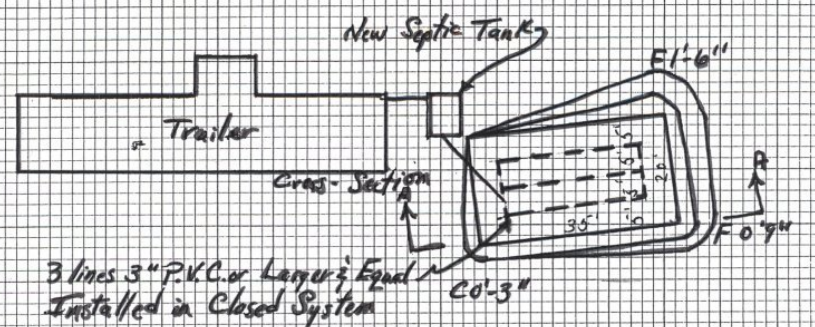
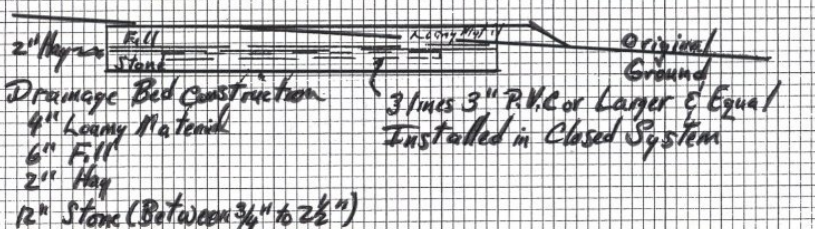
Page Two



HHE-200 Form

Page Three

Page three should contain all necessary construction data for installation of the disposal area.

| 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 | | |
| SUBSURFACE WASTEWATER DISPOSAL PLAN | | SCALE 1" = 20 FT. | | |
|  | | | | |
| 3 lines 3" P.V.C. or Larger & Equal Installed in Closed System | | | | |
| FILL REQUIREMENTS | | CONSTRUCTION ELEVATIONS | | |
| Depth of Fill (Upslope) | 9" | Finished Grade Elevation | 101'-3" | |
| Depth of Fill (Downslope) | 18" | Top of Distribution Pipe or Proprietary Device | 100'-2" | |
| | | Bottom of Disposal Area | 99'-3" | |
| | | ELEVATION REFERENCE POINT | Location & Description | |
| | | | Hor. Spike | |
| | | | 4' High - Bur. Area - Doorway | |
| | | | Reference Elevation | 164.0 |
| DISPOSAL AREA CROSS SECTION | | | SCALE: VERTICAL: 1" = 5' HORIZONTAL: 1" = 10' | |
|  | | | | |
| Site Evaluator Signature | | SE | Date | |
| | | | Page 3 of 3 HHE-200 Rev. 7/97 | |

HHE-200 Form

Page Three



| 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 |
| | | |
| SUBSURFACE WASTEWATER DISPOSAL PLAN | | SCALE 1" = 20 FT. |
| <p>* No Swing Ties Shown * E.R.P. Not Shown * Cross Section on Wrong Axis</p> | | |
| | | |



HHE-200 Form

Page Three

| FILL REQUIREMENTS | | CONSTRUCTION ELEVATIONS | | ELEVATION REFERENCE POINT | |
|---------------------------|------------|--|----------------|---------------------------|------------------------------------|
| Depth of Fill (Upslope) | <u>9"</u> | Finished Grade Elevation | <u>101'-3"</u> | Location & Description | <u>Hor Sp, Ke</u> |
| Depth of Fill (Downslope) | <u>18"</u> | Top of Distribution Pipe or Proprietary Device | <u>100'-2"</u> | Reference Elevation | <u>4' High - Bur. King Doorway</u> |
| | | Bottom of Disposal Area | <u>99'-3"</u> | | <u>164.0</u> |

| DISPOSAL AREA CROSS SECTION | | SCALE: |
|---|-------------|----------|
| <p>* No Transition Zone Shown * Stone Size is Not Specific * No Fill Specs Provided</p> <p>2" layer <u>stone</u></p> <p>Drainage Bed Construction</p> <p>4" Leamy Material</p> <p>6" Fill</p> <p>2" Hay</p> <p>12" Stone (Between $\frac{3}{4}$" to $2\frac{1}{2}$")</p> <p>3 lines 3" P.V.C. or Larger & Equal Installed in Closed System</p> <p>Original Ground</p> | VERTICAL: | 1" = 5' |
| | HORIZONTAL: | 1" = 10' |
| | | |

| | | |
|--------------------------|------|------|
| | | |
| Site Evaluator Signature | SE * | Date |

Page 3 of 3
HHE-200 Rev. 7/97



ISSUES

The Wrong Question??



- What is the number one question asked of site evaluators by septic system installers and homeowners?

Yep, you guessed it.



- Can I lower the elevations on the bed, chambers, proprietary device? It's too high out of the ground and looks ugly.
- Don't do it!
- The system won't work if it's installed in saturated soils.
- The unsaturated soils under the system is where all the treatment takes place.

Replacement system? KNOW WHERE THE TANK IS



Steuben man killed in accident during wood delivery

By Sharon Kiley Mack

BDN Staff



CHERRYFIELD, Maine — Forest Dale, Sr., 46, of Steuben was killed Saturday morning when he was crushed between the cab and the dump body of his delivery truck.

Dale was delivering a load of firewood to a home in Cherryfield about 11 a.m. when the accident occurred, according to Sgt. Timothy Tabbutt of the Washington County Sheriff's Department.

In the process of attempting to raise the dump body on his 1-ton flatbed, Dale's truck broke through an abandoned underground tank, Tabbutt said. The truck fell through all the way to its frame.

Dale, who had climbed under his truck to release the piston to dump the load of firewood, was caught between the cab and dump body when the truck fell and he was crushed.

Tabbutt said the tank was located behind a local home and was likely an abandoned septic tank.

Tabbutt was assisted at the scene by the Cherryfield Fire Department and Ambulance service.

Maine Department of Health &
Human Services



But I want to use my Septic System...





Maine Department of Health &
Human Services





Campgrounds







**Maine Department of Health & Human Services
Maine Center for Disease Control & Prevention
Division of Environmental Health – Subsurface Wastewater Unit**

Voluntary Certification Program

Subsurface Wastewater Disposal System Installer

In association with the Maine Department of Environmental Protection, Nonpoint Source Training and Resource Center the Division of Environmental Health is pleased to offer a voluntary certification program for individuals who install subsurface wastewater disposal systems. The Maine Subsurface Wastewater Disposal Rules, CMR 241, do not require certification as a condition of obtaining a permit for the purpose of installing a subsurface wastewater disposal system; however possession of this certification may allow the installer to sign an affidavit (HHE-238B) to cover the first system inspection noted in Section 111.5.1 of the Rules if the local plumbing inspector is in agreement.

Once issued the certification is good for five (5) years. The following criteria must be met for initial certification by the Department:

1. Attendance at one (1) Basic System Installation Training Session conducted by the Subsurface Wastewater Program; and
2. Submission of page one from two (2) HHE-200 Forms which were permitted and installed by the applicant and inspected and found in compliance with the Rules by the Local Plumbing Inspector. **PLEASE MAKE SURE THAT THE 1ST AND 2ND INSPECTIONS ARE DONE ON THESE HHE FORMS.**

The certification will be automatically renewed after five (5) years if the certified individual submits proof of attendance at subsurface waster related training session(s) providing a minimum of 6 contact hours within the past certification period. Individuals attending JETCC sponsored sessions will be credited automatically. It is the responsibility of the certified individual to insure that proof of attendance is provided to the Division of Environmental Health.

Mail to: **Maine Department of Health & Human Services
Division of Environmental Health
Attn: Wendy Austin
11 State House Station
Augusta, Maine 04333-0011**

Name: _____

Company: _____

Address: _____

Municipality: _____ State: _____ Zip: _____

Telephone: _____ Email: _____

Training Session Attended: _____ Date: _____

Revised 12/10/09



Maine Department of Health &
Human Services



DIVISION OF ENVIRONMENTAL HEALTH
SUBSURFACE WASTEWATER PROGRAM

AFFIDAVIT OF SITE PREPARATION

This affidavit is to be completed by a certified system installer and submitted to the Local Plumbing Inspector to document compliance with Section 111.5.1 of the Maine Subsurface Wastewater Disposal Rules, 144 CMR 241. *Permission to utilize this document in lieu of a site preparation inspection by the Local Plumbing Inspector must be verified when the permit is issued.* This affidavit is *not* to be utilized in place of the system inspection described in Section 111.5.2 of the Rules.

INSTALLER NAME: _____
(Please Print)

CERTIFICATION NUMBER: _____

SSWD PERMIT NUMBER: _____

PERMIT ISSUE DATE: _____

PROPERTY OWNER NAME: _____

PROPERTY ADDRESS: _____

MUNICIPALITY: _____

By signing and submitting this document to the Local Plumbing Inspector, I certify that all construction activities noted in Section 111.5.1 including removal of all vegetation from the disposal field area and fill extensions as specified in Section 801.3; roughening of the ground surface as specified in Section 801.4; establishment of a transitional horizon as specified in Section 801.5; and placement of erosion control devices as specified in Section 801.2 have been completed in full compliance with the Maine Subsurface Wastewater Disposal Rules, 144 CMR 241 for the referenced SSWD permit.

INSTALLER SIGNATURE: _____

DATE SUBMITTED: _____

By signing and accepting this document from the Certified Installer, I acknowledge that a site preparation inspection was not conducted for the referenced SSWD permit.

LPI SIGNATURE: _____

ACCEPTANCE DATE: _____



**THIS FORM
ONLY TO
BE USED
AFTER THE
LPI'S
APPROVAL**

Contact Information



Other Agencies

Maine Department of Environmental Protection

1-800-452-1942 or 207-287-3901

Maine Land Use Regulation Commission

207-287-2631

State Planning Office

1-800-662-4545 or 207-287-3261

Plumbers Examining Board

207-624-8627

Contact Information

Program Staff



- **James Jacobsen, Project Reviews, Webmaster 287-5695**
- **Mark Hyland, LSE, Site Evaluation Program 592-2084**
- **Brent Lawson, State Plumbing Inspector 592-7376**
- **Wendy Austin, Plumbing Permits & Data Entry 287-5672**
- **Lorraine Martin, Plumbing Permits and Program Support 287-5689**
- **Roger Crouse, Director Drinking Water Program**

The End



Spring 2009

Division of Environmental Health
Subsurface Wastewater Program

Maine Department of Health &
Human Services