

SUBSURFACE WASTEWATER DISPOSAL SYSTEM APPLICATION

Maine Dept. Health & Human Services
Div. Environmental Health, 11SHS
(207) 287-2070 Fax: (207) 287-4172

PROPERTY LOCATION		>> CAUTION: LPI APPROVAL REQUIRED <<	
City, Town, or Plantation	<u>Readfield, Maine</u>	Town/City	<u>Readfield</u> Permit # <u>2495</u>
Street or Road	<u>1154 Main Street (Fire Station)</u>	Date Permit Issued	<u>8/14/19</u> Fee: \$ <u>265</u> Double Fee Charged []
Subdivision, Lot #	<u>N/A</u>	<u>Tom Pelt</u>	L.P.I. # <u>1023</u>
OWNER/APPLICANT INFORMATION		Local Plumbing Inspector Signature	
Name (last, first, MI)	<u>Town of Readfield</u>	Fee:	\$ <u>187.50</u> state min fee \$ <u>62.50</u> Locally adopted fee
Mailing Address of Owner/Applicant	<u>c/o Mr. Eric Dyer, Town Manager Town of Readfield 8 Old Kents Hill Rd Readfield ME 04355</u>	Copy:	[<input checked="" type="checkbox"/>] Owner [] Town [] State
Daytime Tel. #	<u>207-685-4939</u>	The Subsurface Wastewater Disposal System shall not be installed until a Permit is issued 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		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.	
<u>Eric Dyer</u> <u>8/14/19</u> Signature of Owner or Applicant Date		<u>Tom Pelt</u> Local Plumbing Inspector Signature (1st) date approved	

PERMIT INFORMATION		
TYPE OF APPLICATION	THIS APPLICATION REQUIRES	DISPOSAL SYSTEM COMPONENTS
1. First Time System <input checked="" type="checkbox"/> 2. Replacement System Type replaced: <u>Stone bed</u> Year installed: <u>1970's(?)</u> 3. Expanded System a. <25% Expansion b. >25% Expansion 4. Experimental System 5. Seasonal Conversion	<input checked="" type="checkbox"/> 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	<input checked="" type="checkbox"/> 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	DISPOSAL SYSTEM TO SERVE	TYPE OF WATER SUPPLY
<u>±1.1</u> SQ. FT. <input checked="" type="checkbox"/> ACRES	1. Single Family Dwelling Unit, No. of Bedrooms: _____ 2. Multiple Family Dwelling, No. of Units: _____ 3. Other: <u>See LPI Note Attached</u> (specify) Current Use Seasonal <input checked="" type="checkbox"/> Year Round Undeveloped	1. Drilled Well 2. Dug Well 3. Private <input checked="" type="checkbox"/> 4. Public 5. Other
SHORELAND ZONING	DESIGN DETAILS (SYSTEM LAYOUT SHOWN ON PAGE 3)	
Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>	TREATMENT TANK	DISPOSAL FIELD TYPE & SIZE
	<input checked="" type="checkbox"/> 1. Concrete <input checked="" type="checkbox"/> a. Regular b. Low Profile 2. Plastic <input checked="" type="checkbox"/> 3. Other: <u>2 new tanks</u> CAPACITY: <u>1,000 +</u> GAL. <u>1,500</u>	1. Stone Bed 2. Stone Trench <input checked="" type="checkbox"/> 3. Proprietary Device a. cluster array c. Linear b. regular load <input checked="" type="checkbox"/> d. H-20 load <input checked="" type="checkbox"/> 4. Other: <u>Total 36 concrete chambers</u> SIZE: <u>2,304</u> sq. ft. lin. ft.
SOIL DATA & DESIGN CLASS	DISPOSAL FIELD SIZING	GARBAGE DISPOSAL UNIT
PROFILE CONDITION <u>3 I C</u> at Observation Hole # <u>TB-1</u> Depth <u>24"</u> of Most Limiting Soil Factor	1. Medium---2.6 sq. ft. / gpd <input checked="" type="checkbox"/> 2. Medium---Large 3.3 sq. ft. / gpd 3. Large---4.1 sq. ft. / gpd 4. Extra Large---5.0 sq. ft. / gpd	<input checked="" type="checkbox"/> 1. No 2. Yes 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
		DESIGN FLOW
		947 gallons per day * BASED ON: <input checked="" type="checkbox"/> 1. Table 4A (dwelling unit(s)) <input checked="" type="checkbox"/> 2. Table 4C (other facilities) SHOW CALCULATIONS for other facilities * See LPI Note Attached
		EFFLUENT/EJECTOR PUMP
		<input checked="" type="checkbox"/> 1. Not Required 2. May Be Required 3. Required Specify only for engineered systems: DOSE: _____ gallons
		3. Section 4G (meter readings) ATTACH WATER METER DATA
		LATITUDE AND LONGITUDE at center of disposal area Lat. <u>44</u> d <u>23</u> m <u>14.46</u> s N Lon. <u>69</u> d <u>58</u> m <u>03.31</u> s W if g.p.s, state margin of error: _____

SITE EVALUATOR STATEMENT		
I certify that on <u>4/25/19</u> (date) I completed a site evaluation on this property and state that the data reported are accurate and that the proposed system is in compliance with the State of Maine Subsurface Wastewater Disposal Rules (10-144A CMR 241).		
<u>Scott R. Dixon</u> Site Evaluator Signature	<u>406</u> SE #	<u>8/9/19</u> Date
<u>Scott R. Dixon</u> Site Evaluator Name Printed	<u>7-897-6752</u> Telephone Number	<u>scott@maine-landdei.com</u> E-mail Address

SUBSURFACE WASTEWATER DISPOSAL SYSTEM APPLICATION

Department of Health & Human Services
 Division of Environmental Health
 (207) 287-5672 Fax: (207) 287-3165

Town, City, Plantation

Readfield, ME

Street, Road, Subdivision

1154 Main Street
 (Fire Station)

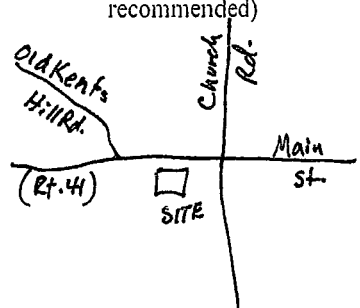
Owner's Name

Town of Readfield

SITE PLAN

Scale 1" = _____ ft. or as shown

SITE LOCATION PLAN
 (map from Maine Atlas recommended)

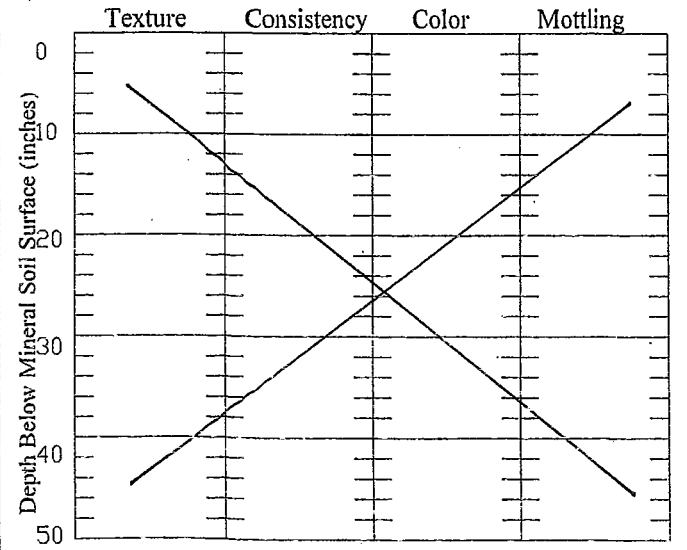
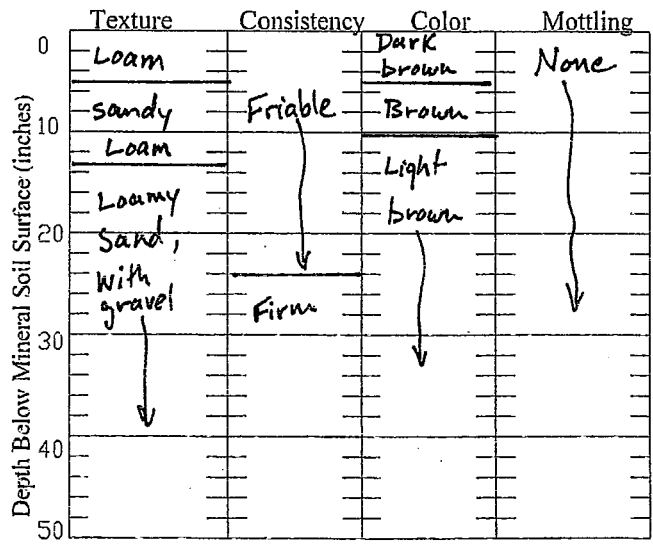


See Attached Site Plan

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

Observation Hole TB-1 Test Pit Boring
2 " Depth of Organic Horizon Above Mineral Soil

Observation Hole N/A Test Pit Boring
 " Depth of Organic Horizon Above Mineral Soil



Soil Classification <u>3 C</u> Profile Condition	Slope <u>3-5%</u>	Limiting Factor <u>24"</u>	<input type="checkbox"/> Ground Water <input checked="" type="checkbox"/> Restrictive Layer <input type="checkbox"/> Bedrock <input type="checkbox"/> Pit Depth
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Soil Classification Profile Condition	Slope %	Limiting Factor "	<input type="checkbox"/> Ground Water <input type="checkbox"/> Restrictive Layer <input type="checkbox"/> Bedrock <input type="checkbox"/> Pit Depth
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[Signature]
 Site Evaluator Signature

406
 SE #

8/9/19
 Date

SUBSURFACE WASTEWATER DISPOSAL SYSTEM APPLICATION

Department of Health & Human Services
 Division of Environmental Health
 (207) 287-5672 Fax: (207) 287-3165

Town, City, Plantation
 Readfield, ME

Street, Road, Subdivision
 1154 Main Street
 (Fire Station)

Owner's Name
 Town of Readfield

SUBSURFACE WASTEWATER DISPOSAL PLAN

SCALE: 1" = ^{See Drawing} FT.

See Attached Disposal Plan

FILL REQUIREMENTS

Depth of Fill (Upslope) 30" ±
 Depth of Fill (Downslope) 34" ±

CONSTRUCTION ELEVATIONS (See p. 4)

Finished Grade Elevation (at Row) 279.0 ±
 Top of Proprietary Device 277.5'
 Bottom of Disposal Area Stone 276.1'

ELEVATION REFERENCE POINT

Location & Description: Existing finish floor elevation in bay at doorway
 Reference Elevation: FFE = 284.7'

DISPOSAL AREA CROSS SECTION

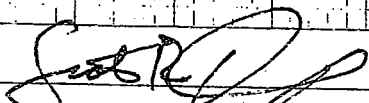
Scale

Horizontal 1" = 5 ft.
 Vertical 1" = 5 ft.

⊗ = Approximate existing grade at staked leach field corners, in inches, referencing ERP

See Page 4 of 4, attached for Disposal Area Cross Section

NOTE: Prior to septic system construction, Contractor should confirm that proposed leach field and septic tank elevations allow for gravity flow throughout the system.


 Site Evaluator Signature

406
 SE #

8/9/19
 Date



NEW SCH. 40 PVC SEWER PIPE, SLOPE MINIMUM $\frac{1}{4}$ " PER FOOT FROM BUILDING TO NEW SEPTIC TANK. SHEATH INSIDE A STRONGER OUTER PIPE, INSULATE WITH MINIMUM 2" THICK RIGID STYROFOAM INSULATION

REROUTE EXISTING SEWER LINE TO NEW SEWER LINE VIA "Y" CONNECTION. INSTALL CLEANOUT TO ALLOW UPSTREAM ACCESS

NEW 1,500 GALLON CONCRETE SEPTIC TANK, H20 RATED FOR TRAFFIC LOADS (INLET ELEVATION NOT HIGHER THAN INLET OF EXISTING TANK)

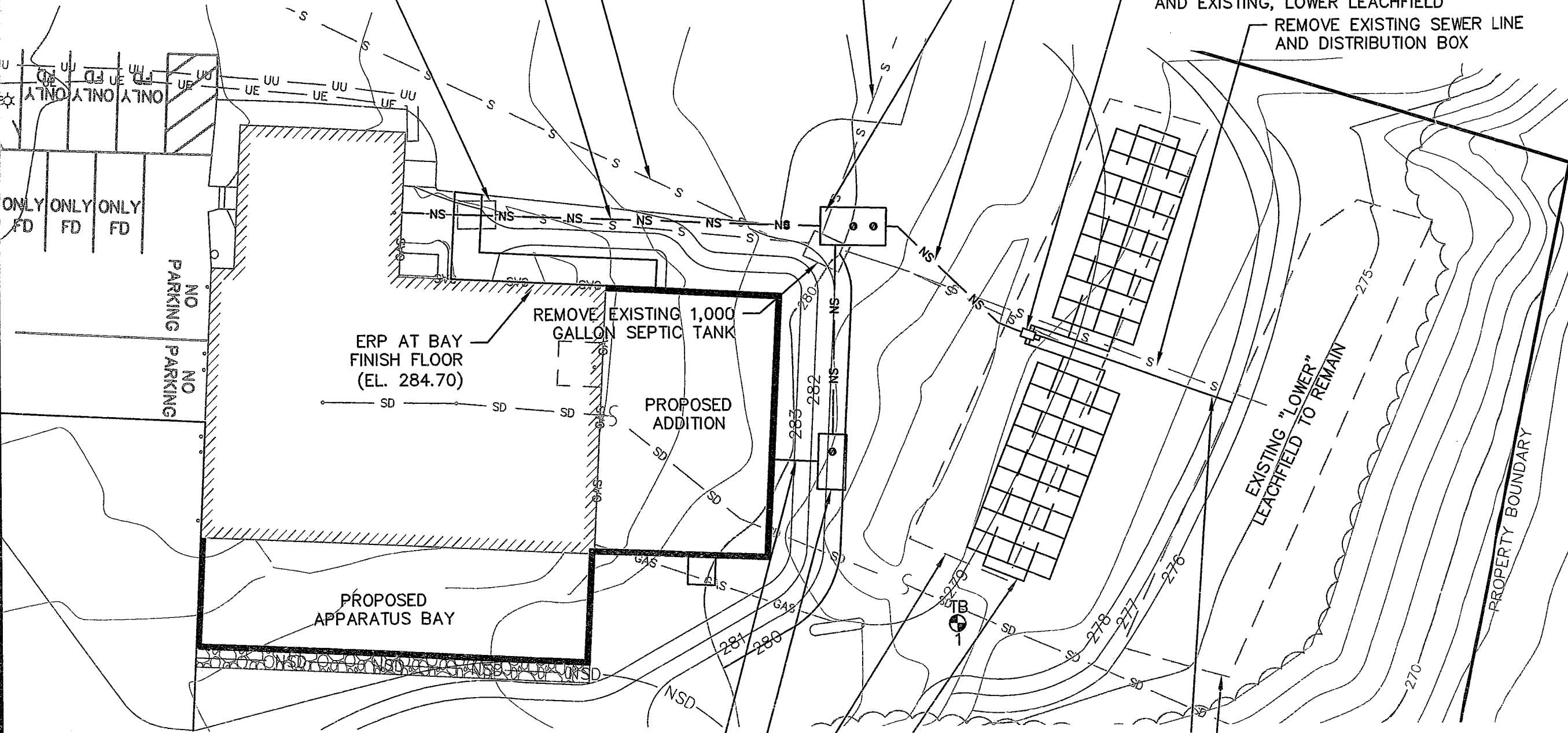
4"Ø SDR 35 OR BETTER SEWER PIPE, SLOPE MINIMUM $\frac{1}{8}$ " PER FOOT TANK TO DISTRIBUTION BOX

REMOVE EXISTING 1,000 GALLON SEPTIC TANK

REROUTE FORCE MAIN TO NEW SEPTIC TANK

NEW 8-OUTLET DISTRIBUTION BOX. COMBINE TWO OUTLETS AND ROUTE TO EACH NEW LEACHFIELD AND EXISTING, LOWER LEACHFIELD

REMOVE EXISTING SEWER LINE AND DISTRIBUTION BOX



ERP AT BAY FINISH FLOOR (EL. 284.70)

REMOVE EXISTING 1,000 GALLON SEPTIC TANK

PROPOSED ADDITION

PROPOSED APPARATUS BAY

EXISTING "LOWER" LEACHFIELD TO REMAIN

PROPERTY BOUNDARY

SOLID 4"Ø SDR 35 MANIFOLD PIPE CONNECTING ROWS AT BOTH ENDS OF LAYOUT

EXISTING "UPPER" LEACHFIELD, TO BE REMOVED IN ITS ENTIRETY FROM BENEATH NEW LEACHFIELD

REMOVE ALL TREES AND BRUSH OVER LOWER LEACHFIELD AND TO 10' OUTSIDE ITS FOOTPRINT. REESTABLISH MINIMUM 3% SLOPE FOR DRAINAGE OVER BED. LOAM AND SEED AS NEEDED TO PREVENT EROSION

NEW SEWER LINE. DIRECT TO EITHER EXISTING OR NEW DISTRIBUTION BOX INSTALLED AT LOWER LEACHFIELD

NEW BUILDING SEWER LOCATION (TBD). PIPE IS 4"Ø SCH. 40 PVC, SLOPE MINIMUM $\frac{1}{4}$ " PER FOOT FROM BUILDING TO SEPTIC TANK

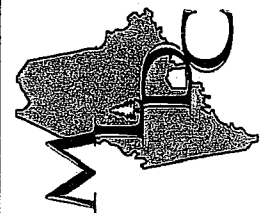
NEW 1,000 GALLON CONCRETE SEPTIC TANK, AT LEAST 8' FROM BUILDING

GRAPHIC SCALE



(IN FEET)

1 inch = 20 ft.



MAIN-LAND

DEVELOPMENT CONSULTANTS, INC.

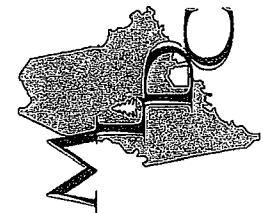
69 MAIN ST. LIVERMORE FALLS, MAINE
PH: (207) 897-6752 FAX: (207) 897-5404
WWW.MAIN-LANDDCI.COM

PROJ. MGR: EUL
DRAWN BY: EJC
CHECKED BY: SRD
SUBMISSION NO. N/A
SUB. DATE: 2019-08-09
SUBMITTED FOR: REVIEW

NOT FOR CONSTRUCTION

PROJECT
READFIELD FIRE STATION ADDITION
MADE FOR
TOWN OF READFIELD
1154 MAIN STREET READFIELD, ME 04355
8 OLD KENTS HILL ROAD READFIELD, ME 04355

FORM: HHE-200
SITE & DISPOSAL PLAN FOR PP. 2&3



MAIN-LAND

DEVELOPMENT
CONSULTANTS, INC.

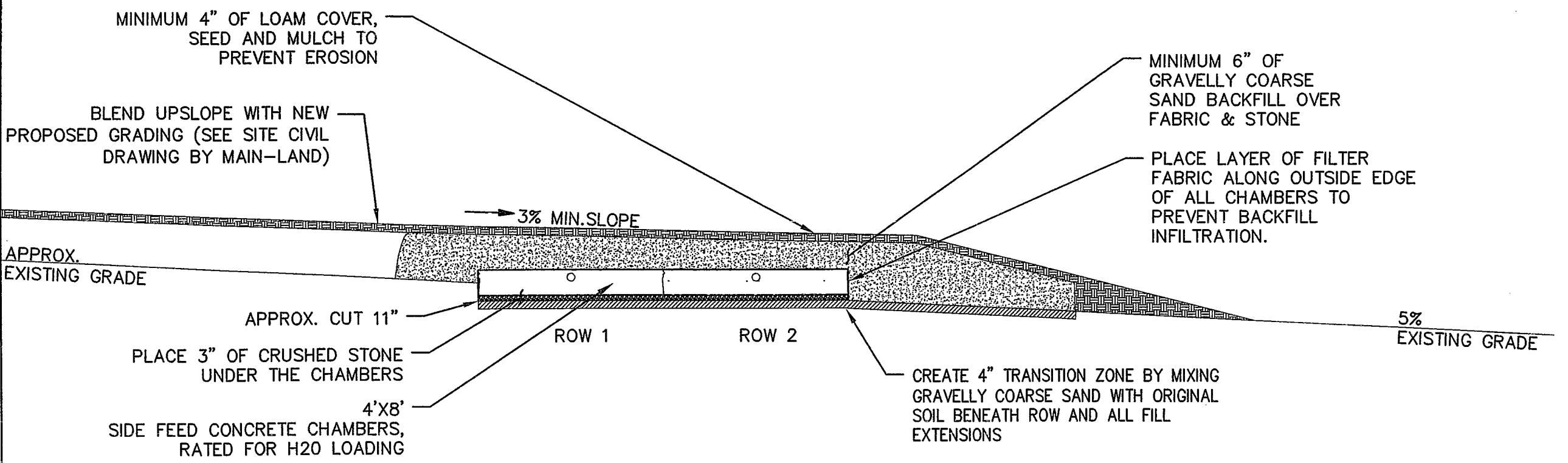
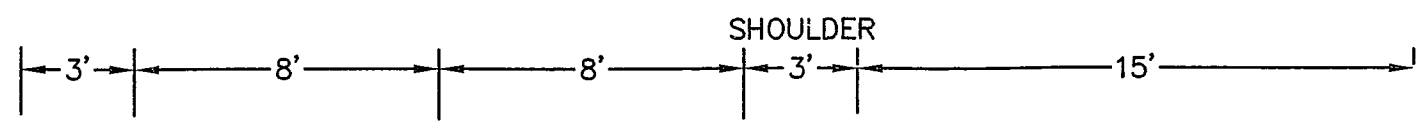
69 MAIN ST. LIVERMORE FALLS, MAINE
PH: (207) 897-6752 FAX: (207) 897-5404
WWW.MAIN-LANDDCI.COM

ERTW
SRD
DRAWN BY:
CHECKED BY:

SCALE 1"=5'

ATTACHMENT TO FORM HHE-200, PAGE 4 OF 4
DISPOSAL AREA CROSS SECTION

LOCATION:
**READFIELD FIRESTATION
READFIELD, MAINE**
DESIGN COMPLETED FOR:
**TOWN OF
READFIELD**

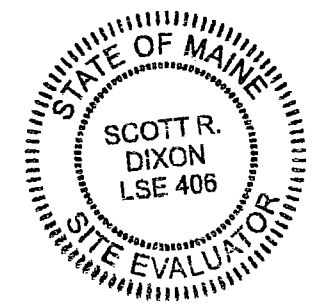


1-1/2" STONE TO BE CLEAN AND FREE OF FINES. STONE SHALL MEET THE FOLLOWING SIEVE SIZE REQUIREMENT:
100% PASSING 2"
95-100% PASSING 1-1/2"
0-40% PASSING 3/4"
0-20% PASSING 1/2"
0-8% PASSING 3/8"
0-5% PASSING #4
0-2% PASSING #200

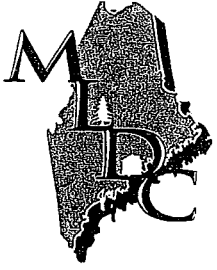
NOTE: BACKFILL MEANS GRAVELLY COARSE SAND
DEPTH OF FILL (UPSLOPE): 30"
DEPTH OF FILL (DOWNSLOPE): 34"
ANY QUESTIONS IN CONSTRUCTION OF SEPTIC SYSTEM CONTACT: SCOTT DIXON

ELEVATION ERP = 0"

	ROWS 1 & 2
FINISH GRADE	(at Row 1) Elev. 279.0 ±
TOP OF CHAMBER	Elev. 277.5'
BOTTOM OF CHAMBER	Elev. 276.4'
BOTTOM OF STONE	Elev. 276.1'



Scott R. Dixon
SCOTT R. DIXON
8/9/19
LSE #406



MAIN-LAND

DEVELOPMENT
CONSULTANTS, INC.

ENGINEERS, SURVEYORS, SCIENTISTS

P.O. BOX Q LIVERMORE FALLS, ME 04254
TEL: (207) 897-6752/FAX: (207) 897-5404
WWW.MAIN-LANDDCI.COM

Note to Town and Local Plumbing Inspector

Design Flow Basis and Replacement System Recommendations for Community Septic System at Fire Station Lot

Main Street

Readfield, Maine (8/05/19)

The existing so-called "Community Septic System" located on the Fire Station Lot at 1154 Main Street in Readfield serves the Fire Station, the offices of Merrill's Investigations, the Public Library, and a private apartment building located at 1149 Main Street.

The attached spreadsheet compiles design flows based on quarterly meter readings provided by the Winthrop Utilities District for the four entities served, interviews with personnel and Owners, and accounting for the proposed new Fire Station expansion. The apartment building currently operates as two 3-bedroom apartments. Based on the Owner interview, the apartments have functioned like 2-bedroom ones as they typically have 3 to 4 occupants (not the 5 to 6 assumed in a 3-bedroom setting).

In accordance with the Maine Subsurface Wastewater Disposal Rules (the "Rules"), Main-Land analyzed the apartment's quarterly meter readings for the 95th percentile value, which gives a value of about 192 gallons per day (gpd) design flow usage. Comparing this with Rules-based flows (180 gpd per 2-bedroom apartment, or 360 gpd for both) indicates that average usage is about $192/360 = 53\%$ of the Rules value. Main-Land then applied a reduction factor of 75% (instead of the lower 53%) to the wastewater flow assuming the apartments act as 3-bedrooms (270 gpd each), as follows:

$$270 \text{ gpd} + 270 \text{ gpd} = 540 \text{ gpd}$$

$$540 \text{ gpd} \times 0.75 = 405 \text{ gpd}$$

As indicated on the attached flow summary spreadsheet, the design flow for the Fire Station is based on a conservatively high value of 440 gpd, which assumes a 50-person training session in addition to two full-time EMT personnel. This training session is anticipated to only be an occasional, semi-annual occurrence, so usage is more reasonably in the range of 130 gpd (the 95th percentile design flow value from recent meter readings).

Based on Main-Land's evaluation of the above information for the apartments, proposed Fire Station expansion, the Library, and Merrill's office, a total combined design flow of 947 gpd is recommended.

The existing upper 20' x 85' stone bed was found to be unsatisfactory and on the verge of imminent failure during the septic inspection due to effluent standing several inches above the distribution pipe in an observation hole. Main-Land recommends that the upper stone bed be replaced as part of the new construction project.

The lower 20' x 85' stone bed was found to be in satisfactory condition. The lower bed would have a theoretical capacity of approximately 515 gpd in new condition. Main-Land recommends the existing lower stone bed be looked at as having a capacity of approximately 350 gpd, which accounts for some capacity loss for age. We recommend the remaining approximately 600 gpd design flow be served by a new, replacement leachfield; the replacement leachfield needs to be located within the footprint of the failed upper stone bed due to space constraints at the site.

The replacement leachfield is designed as two separate beds of H20-rated, side-feed concrete chambers in cluster arrangement. Each bed consists of 2 rows of 9 chambers per row, or 18 chambers per bed, and 36 total chambers. In cluster arrangement, the 36 chambers have a capacity of about 700 gpd (or 350 gpd per bed), which exceeds and provides a buffer on the 600 gpd needed capacity (or 300 gpd per bed) not handled by the lower existing stone bed.

A new 8-outlet distribution box will be used which splits the incoming flow into thirds. With the design flow of 947 gpd, this sends about 315 gpd to the existing stone bed, and 315 gpd apiece to the chamber fields; these inputs are less than each field's capacity described above.

Septic Inspections

A.J.'s Septic Inspections, Inc. performed inspections of septic tanks, sewer lines, and the leachfields associated with the Community Septic System on 4/2/19, with input from Main-Land's L.S.E.'s. A.J.'s prepared a report for the Fire Station system and a separate report for the other three entities served. These reports are provided as an Appendix to this letter.

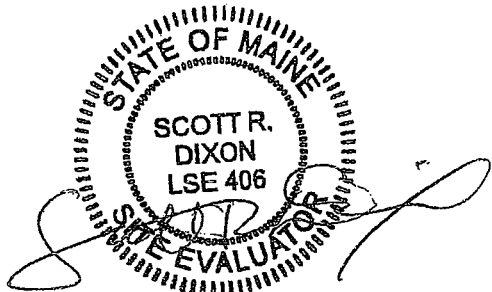
The following table summarizes A.J.'s observations and/or recommendations for improvements to the overall system.

Entity	Observations	Recommendations
Merrill's Investigation Office	<ol style="list-style-type: none"> 1. Blockage in tank inlet pipe, likely due to low flow, high paper use, and limited pipe pitch (note fairly long pipe run beneath bldg. to tank). Blockage backs up into building and is reportedly a frequent nuisance. 2. Damaged "pipe tee" inlet baffle, this style baffle may have contributed to slow flow/blockage. 3. Roots from nearby tree may eventually infiltrate tank. 	<ol style="list-style-type: none"> 1. Could replumb and lower inlet pipe slightly between building and tank, but improving pipe pitch beneath existing floor slab is difficult/expensive. 2. Periodically clean outlet filter located inside internal pumping chamber during tank pumping, and more frequently, as needed.
Public Library	<ol style="list-style-type: none"> 1. Tank in good working condition 	
Apartment Building	<ol style="list-style-type: none"> 1. Has 1,000-gal. tank nearest the road with outlet pipe tee which is plumbed like a grease trap (for previous 1st floor use as a café). 2. The second tank is 1,500-gal. and in good working condition, but has outlet filter that is difficult to maintain. 	<ol style="list-style-type: none"> 1. Either install riser on outlet of second tank to allow periodic outlet filter cleaning, or remove outlet filter (Main-Land recommends keeping outlet filter, installing riser, and periodically, at least yearly, cleaning outlet filter). 2. Raise pipe tee baffle on outlet of 1,000-gal. tank so it functions as a septic tank and not a grease trap. Raise baffle inlet to mid-height of tank.



Fire Station	<ol style="list-style-type: none"> 1. First tank has sump pump drain line running over the top. 2. Second tank accepts final flow from all four entities before discharging to dbox and leachfields. This tank has an outlet filter. 	<ol style="list-style-type: none"> 1. Move sump pump drain line off top of first septic tank, install riser to facilitate access for tank pumping. 2. Install riser over outlet of second tank to facilitate access and cleaning of outlet filter. 3. Sags are present in pipe between first and second tanks; these should be corrected or relaid.
Community Leachfield	<ol style="list-style-type: none"> 1. Standing water over pipe in upper leachfield indicates poor infiltration, field backs up into dbox and flows over to lower leachfield, indicates imminent failure in Main-Land's opinion. 	<ol style="list-style-type: none"> 1. Remove vegetation/small trees from atop and fill extension of lower field. 2. Grading should promote surface water runoff away from/around the leachfields.

Please do not hesitate to contact Main-Land with questions concerning the above wastewater design considerations.



Scott R. Dixon, LSE #406
 Licensed Site Evaluator

Attachments: Design Flow Summary Table
 A.J.'s Septic Inspections, Inc. reports

Treatment Area Calculations

Type of Facility	User/Unit	Design Flow per Unit/User	Raw Design Flow (GPD)	Modification for Meter Readings	Effective Design Flow (GPD)	Soil Sizing Factor	Treatment Area (SF)
Fire Station	Bedroom units	2	75	150	150		
	Commercial Washing Machine	1	40	40	40		
	Training Area (Auditorium)	50	5	250	250		
Totals			440		440	3.3	1452.0
Private Invest. Office	Employees	3	12	36	36		
	Clients	4	3	12	12		
	Totals			48	48	3.3	158.4
Apartment Building	Unit #1	3	90	270	202.5		
	Unit #2	3	90	270	202.5		
	Totals			540	405	3.3	1336.5
Library	Employees	2	12	24	24		
	Visitors	10	3	30	30		
	Totals			54	54	3.3	178.2
Total			1082		947		3125.1

Quarterly Readings for Readfield Community Septic System
(1,000 gallons per unit)

	4th 2017	1st 2018	2nd 2018	3rd 2018	4th 2018	1st 2019		95th percentile of quarterly	Average of Daily readings based on 95th	Average based on raw monthly, not 95th
Library	1	1	1	1	1	1	1	1000	11.11111	11.11111
Merrill Office	2	1	1	2	1	2	2000	2000	22.22222	16.66667
Fire Dept.	40	33	54	10	5	12				
Apt.	18000	14000	14000	15000	10000	10000	11800	11800	131.1111	100
							17250	17250	191.6667	150

(Note: readings ignore first three quarters; leak or vehicle washing?)
total for 2 separate occupied apartments

highest quarterly apartment flow is
18000/90 = 200 gpd

Apartments being used like 2-bedroom apts. Or 180 gpd = 360 gpd combined
200/360 = 56% of Code flow

75% of 540 = 405 gpd if used as 3-bedroom apts and similar usage pattern, with some degree of conservatism (75% not 56%)

SECTION 11
QUALITY ASSURANCE AND QUALITY CONTROL

A. INSTALLATION

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, and except when correcting a nuisance, there is no practical alternative, the LPI 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. Septic systems should not be installed when the seasonal water table is high, except in the circumstances listed within this subsection.
2. Dig Safe Law: The "Dig Safe Law" 23 M.R.S. § 3360-A places certain notification requirements on any person doing excavations. Excavation is broadly defined to mean any operation in which earth, rock or other material on or below the ground is moved or otherwise displaced by means of power tools, power equipment or explosives and including grading, trenching, digging, ditching, drilling, auguring, tunneling, scraping and cable or pipe driving, except tilling of the soil and gardening or agricultural purposes.
3. For a free Dig Safe in Maine information kit, contact the Maine Public Utilities Commission: 1-800-452-4699 <http://www.state.me.us/mpuc> or by email: maine.puc@maine.gov. (Contact information is accurate as of the effective date of these Rules.)

B. SITE PREPARATION

1. Site preparation requirements: Prior to the placement of any backfill material, the ground surface must be prepared as follows:
 - (a) Soil erosion and sediment control: In areas adjacent to a water body or wetlands, preventative erosion and sediment control measures must be employed consistent with Section 12.C.
 - (b) Clearing: Vegetation must be cut and removed from the area where backfill material is to be placed.
2. Grubbing: The area under the disposal area must have the organic soil horizon removed including but not limited to all stumps and roots.
3. Scarify the site: The area under the disposal area must be thoroughly roughened. If plowing is used, it must be done parallel to the topographic contour in such a direction that each plow furrow will be thrown up-slope. The soil should be broken up to a depth of 6 to 8 inches. Alternatively, a rototiller or the teeth of a backhoe or frost tooth may be used.
4. Transitional horizon: On sites where the backfill material is coarser than the original soil, a minimum of 4 inches of backfill material must be mixed into the original soil to form a transitional horizon beneath the disposal area.
5. Fill large holes: If large holes are left as a result of stump and/or stone and/or any removal of the "A" or "Ap" (plow layer) soil horizon these holes must be filled with suitable backfill material that meets the requirements of Section 11(E).

C. EXCAVATION

1. Excavation requirements: Any excavation required for the installation of a disposal field must comply with all the requirements in this Section.
2. Bottom of disposal field: The bottom of each disposal field must be installed at the elevation specified on the permit. It must be maintained to a level grade no greater than 2 inches within 100 feet. Note: The bottom of a disposal field serves as the final stage of the distribution network.

the disposal field for determining the separation between the limiting factor and the bottom of the disposal system.

- (c) Fill material placement above disposal system: Immediately above the filter fabric, hay or proprietary devices, fill is required as specified on the plans. It must be a minimum of 8 inches in thickness (including cover material).
 - (d) Cover material: Immediately above the backfill or fill material, at least 4 inches of soil or soil and soil amendment mix, suitable for establishment of a good vegetative cover, must be placed over the entire disturbed soil area, including fill extensions.
3. Disposal fields installed completely in the original ground: If the disposal field is completely installed in original ground, the backfill material must completely cover the disposal fields. The disposal field must be adequately crowned on level disposal fields (3 percent minimum grade) to allow for settling so that surface water will be allowed to drain from the site without ponding.
4. Disposal fields installed partially in the original ground: Disposal fields partially installed in the original ground must meet the following requirements:
- (a) Extent of backfill material: The fill layer must include any backfill beneath the disposal field, the shoulders, and the backfill material extensions surrounding the disposal field on all sides.
 - (b) Shoulder width and slope: The minimum required shoulder width is 3 feet. The finished grade of the shoulder must be sloped at 3 percent away from the disposal field or conform to the slope of the finish grade of the disposal field.
 - (c) Backfill material extension: At the outside edge of the shoulder, the backfill material must be terminated by sloping the top of the backfill layer downward at a slope specified in Sections 7.A.5(c) and 8.B.5(c), to the original ground if possible, or a man-made retaining wall, provided the retaining wall is no more than 24 inches in height and the horizontal distance from the outer edge of the fill shoulder to the retaining wall is at least 10 feet and the system is located in AIII, B or C conditions, as described in Table 4(E).

F. DISPOSAL FIELDS

1. Installation requirements: Disposal fields which include in a trench configuration, must be installed in compliance with all the requirements in this Section and Section 6(N).
- (a) Pitch of distribution pipes or proprietary disposal devices: Maximum tolerance of distribution pipes or proprietary disposal devices must be no more than 2 inches in 100 feet.
 - (b) Spacing between distribution pipes: The space between distribution pipes for low pressure distribution must be from 75 to 80 percent of the hole spacing. Spacing must be equal and uniform.
 - (c) Holes in low pressure distribution pipes: The holes in low pressure distribution pipes must be equal and uniform. The holes must be aligned, so that holes in adjacent distribution pipes are offset by 50 percent of the hole spacing.
 - (d) Proprietary devices: Proprietary disposal devices approved by the Department as substitutes for disposal field stone and perforated distribution pipes, must be installed, per the manufacturer's instructions.

5. Covering the stone with hay: In order to prevent the movement of fine particles into the stone, hay must be evenly placed in 2-inch layers over the entire surface above the stone.
6. Waterproof paper prohibited: The use of waterproof paper to cover a disposal field is prohibited.

G. FINAL GRADING

1. General: Final grading for vegetative stabilized disposal areas must be carried out in compliance with the requirements of this Section.
2. Cover material: At least 4 inches of soil or soil/soil amendment mix, suitable for establishment of a good vegetative cover must be placed over the entire filled area including the fill material extensions.
3. Final grading: Final grading must be completed in such a manner that surface water will not collect over the disposal field.
4. Erosion control: Immediately after completion of final grading, the fill material surface must be stabilized by mulching and seeding, or sodding, to establish a good vegetative cover to prevent erosion.
5. Vegetative covers: Grass, clover, trefoil, vetch, perennial wild flowers, or other herbaceous perennials may be utilized for disposal field surfaces.
6. Other covers: Bark chips, woodchips, and other organic materials may be used as cover material when specified by the designer.
7. Woody shrubs and trees: Woody shrubs or trees are unacceptable on disposal field surfaces. Woody shrubs may be used in conjunction with a hardy perennial ground cover on backfill material extensions only.

H. CURTAIN DRAINS

1. Requirements: Curtain drains, when required, must be up-slope of the disposal field, approximately perpendicular to the flow of ground water, intercepting and diverting groundwater away from the disposal field.
2. Setbacks: The minimum distance between the disposal field and a curtain drain must be as follows:
 - (a) Setback up-slope: A minimum setback distance of 10 feet must be maintained between a curtain drain and the up-slope edge of a disposal field. The curtain drain must be located beyond the toe of the uphill fill extension, if the uphill extension is greater than 10 feet and constructed so that the curtain drain is located to prevent any under drain of the disposal field.
 - (b) Setback cross-slope: A minimum setback distance of 15 feet must be maintained between a curtain drain and the ends of a disposal field and constructed, so that the curtain drain is located to prevent any under drain of the disposal field.
 - (c) Free-flowing outlets: Free-flowing outlets must be provided down-slope of the curtain drain extensions. Outlets must meet the following requirements:
 - i. Discharge point: Outlets may empty into a drainage swale discharging to a surface water body, a groundwater recharge basin, or a gravel bed; and
 - ii. Outlet design: Outlets must be designed, installed, located, and maintained in a manner that does not cause soil erosion, surface flooding, or damage to adjacent properties, does not create a public nuisance, and does not violate any applicable Federal, State, or local laws or regulations
 - (d) Rodent control: Adequate measures must be taken to protect each outlet from the entry of rodents or other small animals.

J. CERTIFICATE OF APPROVAL

1. Approval: After the required inspection, or, in the case of multiple inspections, when the final inspection indicates the work complies in all respects with these Rules and the permit application, a certificate of approval will be issued by the LPI. This approval may be accomplished either by the LPI signing and dating the permit, or by issuing a separate document.
2. 30-day temporary use: Upon request of the holder of a disposal system permit, the LPI may issue a 30-day temporary authorization of use before the entire work covered by the disposal system permit has been completed. This authorization may be given only if such portion or portions of the system may be put into service safely, prior to full completion without endangering health or public welfare.

K. WORKMANSHIP

All work must be performed, installed, and completed in a workmanlike and acceptable manner, commensurate with the specific requirements of these Rules, or generally accepted practices, if not specifically addressed by these Rules, and the standards referenced herein.

L. ENFORCEMENT AND VIOLATIONS

1. Unlawful acts: It is unlawful to install, extend, alter, repair, or maintain systems, except in conformity with these Rules.
2. Notice of violation: The LPI must serve a notice of violation and order on the person responsible for the installation of work:
 - (a) in violation of the provisions of these Rules;
 - (b) in violation of a detailed statement or a plan approved there-under; or
 - (c) in violation of a disposal system permit or certificate issued under the provisions of this code these Rules. Such orders must direct the discontinuance of the illegal action or condition and the abatement of the violation.
3. Prosecution: If the notice of violation and order are not complied with promptly, the LPI must refer the case to the legal counsel of the jurisdiction to institute the appropriate proceedings at law or in equity to:
 - (a) restrain, correct, or abate such violation;
 - (b) to require removal or termination of the unlawful use of any system in violation of the provisions of these Rules; or
 - (c) of the order or direction made pursuant thereto.
4. Penalties: Any person who violates a provision of these Rules, or who fails to comply with any of the requirements thereof, or who installs work in violation of an approved plan or directive of the LPI, or of a disposal system permit issued under the provisions of these Rules, shall be subject to the penalties in 30-A M.R.S. §4452(3).