December 2, 2008

Mr. Kevin Noyes
Town of Patten
P.O. Box 260
Patten, Maine 04765

RE: Permit Compliance System Tracking Number # MEU507775
Maine Waste Discharge License (WDL) Application # W007775-5L-D-R
Final License-Town of Patten

Dear Mr. Noyes:

Enclosed please find a copy of your **final** MEPDES permit and Maine WDL which was approved by the Department of Environmental Protection. Please read the license and its attached conditions carefully. You must follow the conditions in the license to satisfy the requirements of law. Any discharge not receiving adequate treatment is in violation of State Law and is subject to enforcement action.

Any interested person aggrieved by a Department determination made pursuant to applicable regulations may appeal the decision following the procedures described in the attached DEP FACT SHEET entitled, "*Appealing a Commissioner's Licensing Decision*."

If you have any questions regarding the matter, please feel free to call me at (207) 287-7658.

Sincerely,

Phyllis Arnold Rand
Division of Water Quality Management
Bureau of Land and Water Quality

Enclosure

Cc: Sean Bernard, DEP/NMRO
Roger Janson, USEPA

IN THE MATTER OF

TOWN OF PATTEN	)	PROTECTION AND IMPROVEMENT
PATTEN, PENOBSCOT COUNTY, MAINE	)	OF WATERS
PUBLICLY OWNED TREATMENT WORKS	)	
SURFACE WASTE WATER DISPOSAL		
MEU507775	)	WASTE DISCHARGE LICENSE
#W007775-5L-D-R **APPROVAL**	)	**RENEWAL**

Pursuant to the provisions of 38 M.R.S.A., Section 414-A et seq., and applicable regulations, the Department of Environmental Protection (Department) has considered the application of the TOWN OF PATTEN (licensee) with its supportive data, agency review comments, and other related materials on file and FINDS THE FOLLOWING FACTS:

APPLICATION SUMMARY

The licensee has applied to the Department for renewal of Waste Discharge License (WDL) #W007775-5L-C-R, dated December 16, 2003 and due to expire on December 16, 2008, for the continuing operation of a surface waste water disposal system. The surface waste water disposal system is a spray irrigation system consisting of three facultative lagoons. The system is designed to treat a sanitary waste water influent flow of 30,000 gallons per day on two spray fields totaling 17.26 acres. See **Attachment A** of this license for a facility diagram.

LICENSE SUMMARY

This licensing action is carrying forward the terms and conditions of the previous licensing action with the following exceptions:

1. The licensee is no longer required to monitor and analyze the lagoon effluent and ground water monitoring well samples for total mercury or total nickel.

2. The licensee is required to monitor the lagoon level freeboard on a weekly basis from April 1 – May 31.

3. The licensee is required to monitor and analyze the lagoon effluent, ground water monitoring wells and lagoon underdrain for nitrite-nitrogen.

4. Depth to water level below land surface shall be measured to the nearest one-tenth ($1/10^{th}$) of a foot from the surface of the ground at the base of the monitoring well instead of to the nearest one one-hundredth ($1/100^{th}$) of a foot from the surface of the ground at the base of the monitoring well.

5. The licensee is required to conduct metals analyses on the lagoon effluent and ground water monitoring well samples in August 2013.

CONCLUSIONS

BASED on the findings in the attached Fact Sheet dated December 2, 2008, and subject to the Conditions listed below, the Department makes the following conclusions:

1. The discharge, either by itself or in combination with other discharges, will not lower the quality of any classified body of water below such classification.

2. The discharge, either by itself or in combination with other discharges, will not lower the quality of any unclassified body of water below the classification which the Department expects to adopt in accordance with state law.

3. The provisions of the State's antidegradation policy, 38 M.R.S.A., Section 464(4)(F), will be met, in that:

   (a) Existing in-stream water uses and the level of water quality necessary to protect and maintain those existing uses will be maintained and protected;

   (b) Where high quality waters of the State constitute an outstanding national resource, that water quality will be maintained and protected;

   (c) The standards of classification of the receiving water body are met or, where the standards of classification of the receiving water body are not met, the discharge will not cause or contribute to the failure of the water body to meet the standards of classification;

   (d) Where the actual quality of any classified receiving water body exceeds the minimum standards of the next highest classification, that higher water quality will be maintained and protected; and

   (e) Where a discharge will result in lowering the existing quality of any water body, the Department has made the finding, following opportunity for public participation, that this action is necessary to achieve important economic or social benefits to the State.

4. The discharge will be subject to effluent limitations that require application of best practicable treatment.

ACTION

THEREFORE, the Department APPROVES the above noted application of the TOWN OF PATTEN to operate a surface waste water disposal system to treat and dispose of up to 30,000 gallons per day of secondary treated sanitary waste water, SUBJECT TO THE FOLLOWING CONDITIONS, and all applicable standards and regulations including:

1. *Standard Conditions of POTW Waste Discharge Licenses*, revised July 16, 1996, copy attached.

2. The attached Special Conditions, including effluent limitations and monitoring requirements.

3. This license expires five (5) years from the date of signature below.

DONE AND DATED AT AUGUSTA, MAINE, THIS __3rd____ DAY OF __December, 2008.

DEPARTMENT OF ENVIRONMENTAL PROTECTION

BY:_____
David P. Littell, Commissioner

PLEASE NOTE ATTACHED SHEET FOR GUIDANCE ON APPEAL PROCEDURES

Date of initial receipt of application: ____9/30/08____

Date of application acceptance: ____10/01/08____

Date filed with Board of Environmental Protection ____December 4, 2008_____

This Order prepared by Phyllis Arnold Rand, BUREAU OF LAND & WATER QUALITY

MEU507775 2008 12/02/08

SPECIAL CONDITIONS

A. LIMITATIONS AND MONITORING REQUIREMENTS

1. Beginning the effective date of the license, the licensee is authorized to operate a surface waste water treatment and disposal system. The **LAGOON EFFLUENT(1)** (**OUTFALL #001)** shall be limited and monitored as specified below.

Parameter	Daily Maximum	Minimum Measurement Frequency	Sample Type
Biochemical Oxygen Demand *[00310]*	100 mg/L *[19]*	1/Month(2) *[01/30]*	Grab *[GR]*
Lagoon Level Freeboard *[82564]*	2.0 Feet (minimum level) *[27]*	1/Week(3) *[01/07]*	Measure *[MS]*
Total Suspended Solids *[00530]*	100 mg/L *[19]*	1/Month(2) *[01/30]*	Grab *[GR]*
Nitrate-Nitrogen *[00620]*	10 mg/L(11) *[19]*	1/Month(2) *[01/30]*	Grab *[GR]*
Nitrite-Nitrogen *[00615]*	1.0 mg/L(11) *[19]*	1/Month(2) *[01/30]*	Grab *[GR]*
pH (Standard Units) *[00400}*	Report *[12]*	1/Month(2) *[01/30]*	Grab *[GR]*

The bracketed italicized numeric values in the table above and the tables that follow are code numbers that the Department personnel utilize to code the monthly Discharge Monitoring Reports.

SPECIAL CONDITIONS

A. LIMITATIONS AND MONITORING REQUIREMENTS (cont'd)

1. Beginning the effective date of the license, the licensee is authorized to operate a surface waste water treatment and disposal system. The **LAGOON EFFLUENT(1)** (**OUTFALL #001)** shall be limited and monitored as specified below.

Parameter	Daily Maximum	Minimum Measurement Frequency	Sample Type
Total Arsenic (inorganic) *[01002]*	Report *[28]*	1/Year (4) *[01/YR]*	Grab *[GR]*
Total Cadmium *[01027]*	Report *[28]*	1/Year (4) *[01/YR]*	Grab *[GR]*
Total Chromium *[01034]*	Report *[28]*	1/Year (4) *[01/YR]*	Grab *[GR]*
Total Copper *[01042]*	Report *[28]*	1/Year (4) *[01/YR]*	Grab *[GR]*
Total Lead *[01051]*	Report *[28]*	1/Year (4) *[01/YR]*	Grab *[GR]*
Total Zinc *[01092]*	Report *[28]*	1/Year (4) *[01/YR]*	Grab *[GR]*

The bracketed italicized numeric values in the table above and the tables that follow are code numbers that the Department personnel utilize to code the monthly Discharge Monitoring Reports.

SPECIAL CONDITIONS

A. LIMITATIONS AND MONITORING REQUIREMENTS (cont'd)

2. Beginning the effective date of this license, application of waste water to the land via a spray irrigation system shall be limited to the time frame of **April 15th – November 15th** of each year.

SPRAY IRRIGATION FIELDS SF#N (NORTH SPRAY IRRIGATION FIELD) AND SF#S (SOUTH SPRAY IRRIGATION FIELD) shall be limited and monitored as specified below:

Parameter	**Monthly Total**	**Weekly Maximum**	**Minimum Measurement Frequency**	**Sample Type**
Application Rate (Weekly)(5) *[51125]*	---	43,400 gallons per acre(6) *[8B]*	1/Week *[01/07]*	Calculate *[CA]*
Flow – Total Gallons *[51500}*	Report (Gallons) *[57]*	---	1/Month *[01/30]*	Calculate *[CA]*

SPECIAL CONDITIONS

A. LIMITATIONS AND MONITORING REQUIREMENTS (cont'd)

3. GROUND WATER MONITORING WELLS B-1, B-7, B-9, B-101, AND B-102 shall be limited and monitored as specified below:

Parameter	**Daily Maximum** as specified	**Minimum Measurement Frequency**	**Sample Type**
Depth to Water Level Below Land surface *[72019]*	Report (feet)[7] *[27]*	2/Year[8] *[02/YR]*	Measure *[MS]*
Nitrate-Nitrogen *[00620]*	10 mg/L[11] *[19]*	2/Year[8] *[02/YR]*	Grab *[GR]*
Nitrite-Nitrogen *[00615]*	1.0 mg/L[11] *[19]*	2/Year[8] *[02/YR]*	Grab *[GR]*
Chloride (Total) *[00940}*	Report (mg/L)[12] *[19]*	2/Year[8] *[02/YR]*	Grab *[GR]*
Specific Conductance *[00095}*	Report (umhos/cm) *[11]*	2/Year[8] *[02/YR]*	Grab *[GR]*
Temperature (°F) *[00011}*	Report (°F) *[15]*	2/Year[8] *[02/YR]*	Grab *[GR]*
pH (Standard Units) *[00400}*	Report (S.U.) [12] *[12]*	2/Year[8] *[02/YR]*	Grab *[GR]*
Total Suspended Solids *[00530}*	Report (mg/L) *[19]*	2/Year[8] *[02/YR]*	Grab *[GR]*

The bracketed italicized numeric values in the table above and the tables that follow are code numbers that the Department personnel utilize to code the monthly Discharge Monitoring Reports.

A. LIMITATIONS AND MONITORING REQUIREMENTS (cont'd)

3. GROUND WATER MONITORING WELLS B-1, B-7, B-9, B-101, AND B-102 shall be limited and monitored as specified below:

Parameter	Daily Maximum(12)	Minimum Measurement Frequency	Sample Type
Total Arsenic *[01002]*	Report (ug/L) *[28]*	1/Year (4,8) *[01/YR]*	Grab *[GR]*
Total Cadmium *[01027]*	Report (ug/L) *[28]*	1/Year (4,8) *[01/YR]*	Grab *[GR]*
Total Chromium *[01034]*	Report (ug/L) *[28]*	1/Year (4,8) *[01/YR]*	Grab *[GR]*
Total Copper *[01042]*	Report (ug/L) *[28]*	1/Year (4,8) *[01/YR]*	Grab *[GR]*
Total Lead *[01051]*	Report (ug/L) *[28]*	1/Year (4,8) *[01/YR]*	Grab *[GR]*
Total Zinc *[01092]*	Report (ug/L) *[28]*	1/Year (4,8) *[01/YR]*	Grab *[GR]*

The bracketed italicized numeric values in the table above and the tables that follow are code numbers that the Department personnel utilize to code the monthly Discharge Monitoring Reports.

SPECIAL CONDITIONS

A. LIMITATIONS AND MONITORING REQUIREMENTS (cont'd)

4. LAGOON UNDERDRAIN SYSTEM sampling shall be conducted as specified below.

UD1 –Lagoon #1 and UD3 – Lagoon #3

Note: there is no underdrain sampling location under lagoon #2; however, lagoons #2 and #3 are hydrologically linked.

	Daily Maximum as specified	**Minimum Measurement** Frequency	**Sample** Type
Flow Rate *[00058]*	Report GPM *[78]*	3/Year(10) *[03/YR]*	Measure *[MS]*
Specific Conductance(9) *[00095]*	Report (umhos/cm) *[11]*	3/Year(10) *[03/YR]*	Grab *[GR]*
Temperature (°F) (9) *[00011]*	Report (°F) *[15]*	3/Year(10) *[03/YR]*	Grab *[GR]*
Nitrate-Nitrogen *[00620]*	10 mg/L(11) *[19]*	3/Year(10) *[03/YR]*	Grab *[GR]*
Nitrite-Nitrogen *[00615]*	1.0 mg/L(11) *[19]*	3/Year(10) *[03/YR]*	Grab *[GR]*
pH (Standard Units) *[00400}*	Report (S.U.) *[12]*	3/Year(10) *[03/YR]*	Grab *[GR]*

The bracketed italicized numeric values in the table above are code numbers that the Department personnel utilize to code the monthly Discharge Monitoring Reports.

SPECIAL CONDITIONS

A. LIMITATIONS AND MONITORING REQUIREMENTS (cont'd)

Footnotes – [Special Conditions A(1), A(2), A(3) & A(4)]

Lagoon Effluent

(1) Storage lagoon effluent shall be sampled at a point after the pump in the distribution line prior to being pumped to the spray field(s) and shall be representative of what is actually being applied to the fields. Any change in sampling location must be approved by the Department in writing. All sampling and analysis must be conducted in accordance with; a) methods approved in Title 40, *Code of Federal Regulations* (CFR) Part 136, b) alternative methods approved by the Department in accordance with the procedures in 40 CFR Part 136, c) as otherwise specified by the Department. Laboratories subcontracted for sample analyses are subject to the provisions and restrictions of *Maine Comprehensive and Limited Environmental Laboratory Certification Rules* at 10-144 CMR263 (last amended February 13, 2000).

(2) Monitoring shall be conducted between April 1 and November 30. The licensee is **not** required to test lagoon during a month where no wastewater was disposed of via the disposal system.

(3) Monitoring shall be conducted between April 1 and May 31.

(4) Metals testing shall be performed in **August 2013**.

Spray Irrigation Fields

(5) Weekly is defined as Sunday through Saturday. A field's daily or weekly application rate is the total gallons sprayed over the applicable period of time divided by the size of the wetted area of the field(s) utilized. Note: 27,152 gallons is equivalent to one acre-inch. The licensee shall measure the flow of waste water to the irrigation area by the use of a flow measuring device that is checked for calibration at least once per calendar year.

(6) For Discharge Monitoring Report (DMR) reporting purposes, the licensee shall report the highest weekly application rate for the month in the applicable box on the form. Compliance with weekly reporting requirements must be reported for the month in which the calendar week ends**.**

Ground water Monitoring and Underdrain Monitoring

(7) Depth to water level below the land surface shall be conducted in the months of **May and October** of each calendar year and measured to the nearest one-tenth ($1/10^{th}$) of a foot as referenced from the surface of the ground at the base of the monitoring well.

SPECIAL CONDITIONS

A. LIMITATIONS AND MONITORING REQUIREMENTS (cont'd)

(8) Ground water sampling shall be conducted via a sampling method that is acceptable to the Department. Ground water sampling (except for metals) shall be conducted in the months of **May and October** of each year. Sampling, handling and preservation shall be conducted in accordance with federally approved methods (See footnote #1).

(9) Specific conductance (calibrated to 25.0° C), temperature, and pH are considered to be "field" parameters, and are to be measured in the field via instrumentation. The licensee is required to test for these parameters whether or not waste water was disposed of via the spray-irrigation system. Specific Conductance values indicating a statistically significant trend upwards or sudden spikes from previous levels may necessitate the need for additional ground water testing requirements.

(10) Storage lagoon underdrain sampling shall be conducted in the months of **July, August and September** of each year. Underdrain samples for UD-1 shall be collected at the manhole structure located adjacent to the westerly side of lagoon #1, whereas samples for UD-3 shall be collected from a manhole northwesterly of the lagoon #3 and south of the Operations Building.

(11) National Primary Drinking Water Standard.

(12) See Fact Sheet for applicable National Drinking Water Standards.

B. NARRATIVE EFFLUENT LIMITATIONS

1. The effluent shall not contain materials in concentrations or combinations which would impair the uses designated by the classification of the groundwater.

2. The effluent must not lower the quality of any classified body of water below such classification nor lower the existing quality of any body of water if the existing quality is higher than the classification.

C. TREATMENT PLANT OPERATOR

The treatment facility must be operated by a person holding a minimum of either a Maine **SITS II** certificate**,** Maine **Grade II** Wastewater Operator certificate or a **Maine Professional Engineer [PE]** certificate pursuant to *Sewerage Treatment Operators*, Title 32 M.R.S.A., Sections 4171-4182 and *Regulations for Wastewater Operator Certification*, 06-096 CMR 531 (effective May 8, 2006). All proposed contracts for facility operation by any person must be approved by the Department before the licensee may engage the services of the contract operator.

SPECIAL CONDITIONS

D. AUTHORIZED DISCHARGES

The licensee is authorized to discharge treated sanitary waste water only in accordance with the terms and conditions of this WDL and only to the spray irrigation fields identified as SF #N and SF #S in the Waste Discharge License application accepted on 10/01/08.

Discharge of waste water from any other location, including the lagoon underdrain system, or from sources other than those indicated on said application, requires written authorization from the Department. The collection, treatment or discharge of waste water which has constituents unlike that or significantly higher in strength than that of domestic waste water is prohibited without formal modification of this license.

E. NOTIFICATION REQUIREMENT

In accordance with Standard Condition #6, the licensee shall notify the Department of the following:

1. Any introduction of pollutants into the waste water collection and treatment system from an indirect discharger in a primary industrial category discharging process waste water; and

2. Any substantial change in the volume or character of pollutants being introduced into the waste water collection and treatment system by a source introducing pollutants into the system at the time of permit issuance. For the purposes of this section, notice regarding substantial change shall include information on:

   (a) the quality and quantity of waste water introduced to the waste water collection and treatment system; and

   (b) any anticipated impact caused by the change in the quantity or quality of the waste water to be discharged from the treatment system.

F. GENERAL OPERATIONAL CONSTRAINTS

1. All waste waters shall receive biological treatment through a properly designed, operated and maintained lagoon system prior to disposal via spray irrigation.
2. The spray irrigation facilities shall be effectively maintained and operated at all times so that there is no discharge to surface waters, nor any contamination of ground water which will render it unsatisfactory for usage as a public drinking water supply.
3. The surface waste water disposal system shall not cause the lowering of the quality of the ground water, as measured in the ground water monitoring wells specified by this license, below the State Primary and Secondary Drinking Water Standards specified in the Maine State Drinking Water Regulations pursuant to Maine Law 22 M.R.S.A. § 2601.
4. In the event the ground water monitoring results indicate adverse effects, the licensee may be required to take immediate remedial action(s), which may include but not limited to, adjustment of the irrigation schedule or application rates, a reduction of the pollutant

SPECIAL CONDITIONS

F. GENERAL OPERATIONAL CONSTRAINTS (cont'd)

loading, or cessation of the operation of the system until the Department determines that such measures are no longer necessary.

5. The licensee shall notify the Department as soon as the licensee becomes aware of any threat to public health, unlicensed discharge of waste water or any malfunction that threatens the proper operation of the system. Notification shall be made in accordance with the attached Standard Condition B-5 of this license.

6. The licensee shall maintain a file on the location of all system components and relevant features. Each component shall be mapped and field-located sufficiently to allow adequate inspections and monitoring by both the licensee and the Department.

7. All system components including collection pipes, tanks, manholes, pumps, pumping stations, spray disposal fields, and monitoring wells shall be identified and referenced by a unique identifier (alphabetic, numeric or alpha-numeric) in all logs and reports.

G. SPRAY IRRIGATION OPERATIONAL CONSTRAINTS

1. Suitable vegetative cover shall be maintained. Waste water may not be applied to areas without vegetation or ground cover so as to prevent erosion or surface water runoff outside the designated boundaries of the spray fields.

2. At least 10 inches of separation from the ground surface to the ground water table must be present prior to spraying.

3. There shall be no runoff or spray drifting outside the designated spray field boundaries as a result of operation of the spray system.

4. No waste water shall be applied to the site following a rainfall accumulation exceeding 1.0 inches within the previous 24-hour period. A rain gauge shall be located on site to monitor daily precipitation. The licensee shall also manage application rates by taking into consideration the forecast for rain events in the 48-hour period in the future**.**

5. No liquid waste water shall be applied where there is snow present on the surface of the ground.

6. No liquid waste water shall be applied when there is frost within the upper 10 inches of the soil profile.

7. No traffic or equipment shall be allowed in the spray-irrigation field except where installation occurs or where normal operations and maintenance is performed.

SPECIAL CONDITIONS

H. SPRAY IRRIGATION OPERATIONAL PROCEDURES, LOGS AND REPORTS

1. **Each day prior to spray irrigating**, the licensee shall visually inspect the spray irrigation site to determine if the soil moisture conditions are appropriate for spraying and all the operational constraints listed in Special Condition G above are met.

2. The licensee shall at all times maintain in good working order and operate at maximum efficiency all waste water collection, treatment and/or control facilities**. Within one hour after start-up of the spray-irrigation system**, the licensee shall walk the spray irrigation site to check the system for leakage in the piping system and determine if individual spray heads and pump(s) are functioning as designed, and to verify that application rates are appropriate for the existing site conditions. Should significant malfunctions or leaks be detected, the licensee must shut down the malfunctioning portion of the spray system and make necessary repairs before resuming operation of the spray system. The licensee shall cease irrigation if runoff is observed outside the designated boundaries of the spray field(s).

3. The licensee shall maintain two ground water level inspection wells in the spray irrigation field to verify that 10 inches of separation from the ground surface to the observed ground water level is present prior to spraying**.** Depths to ground water shall be measured and recorded in accordance with the format (or similar format) of *"Depth to Groundwater"* provided as **Attachment B** of this license.

4. The licensee shall maintain a daily log of all spray irrigation operations which records the date, weather and soil conditions, rainfall, lagoon freeboard (top of lagoon to the water surface), areas irrigated, volume sprayed (gallons), application rates (daily and hourly), and other relevant observations/comments from daily inspections. The log shall be maintained in accordance with the format (or similar format) of the "*Monthly Operations Log"* (spray irrigation and snowmaking) provided as **Attachment C** of this license.

5. **Weekly spray application rates** shall be reported in accordance with the format (or similar format) of the "*Spray Application Report by Week*" provided as **Attachment D** of this license.

6. The depth-to-ground water logs, daily operational logs and weekly spray application reports for each month shall be submitted to the Department as an attachment to the monthly Discharge Monitoring Reports (DMR's). Copies will also be maintained on site for Department review and for license operation maintenance purposes.

I. LAGOON MAINTENANCE

1. The banks of the lagoons shall be inspected periodically during the operating season and properly maintained at all times. There shall be no overflow through or over the banks. Any signs of leaks, destructive animal activity or soil erosion of the banks shall be repaired immediately.

SPECIAL CONDITIONS

I. LAGOON MAINTENANCE (cont'd)

2. The banks of the lagoons shall be maintained to keep them free of woody vegetation and other vegetation that may be detrimental to the integrity of the bank and/or lagoon liner.

3. The waters within the lagoons shall be kept free of all vegetation (i.e. grasses, reeds, cattails, etc) that hinders the operation of the lagoon.

4. The licensee shall maintain the lagoons' freeboard (top of lagoon to the water surface) at design levels or at least two (2) feet whichever is greater. The storage lagoons shall be operated in such a way as to balance the disposal of waste water, including the necessary storage capacity for precipitation, to ensure that design freeboard levels are maintained

5. The treatment and storage lagoons shall be dredged as necessary to maintain the proper operating depths in both lagoons that will provide best practicable treatment of the waste water. All material removed from the lagoons shall be properly disposed of in accordance with all applicable State and Federal rules and regulations.

6. The licensee shall review the results of the lagoon underdrain monitoring system pursuant to Special Condition A-4 of this license and shall notify the Department of results that indicate a possible leakage of waste water from the lagoon. Alternatively, the Department may review these results and notify the licensee of possible leaks. In either circumstance, the licensee shall conduct additional testing or other investigations as determined necessary by the Department to determine if the lagoon is leaking. If the lagoon is found to be leaking, the licensee shall prepare a plan for repairs necessary to terminate the leaks as soon as possible and submit the plan to the Department for review and approval.

J. DISPOSAL OF SEPTAGE IN WASTE WATER TREATMENT FACILITY

The licensee is prohibited from accepting septage for disposal into any part or parts of the wastewater disposal system. Septage shall mean any waste, refuse, effluent, sludge or other material removed from a septic tank, cesspool, vault privy or similar source which concentrates wastes or to which chemicals have been added.

K. INSPECTIONS AND MAINTENANCE

The licensee shall periodically inspect all system components to ensure the facility is being operated and maintained in accordance with the design of the system. Maintenance logs shall be maintained for each major system component including pumps, pump stations, septic tanks, lagoons, spray apparatus, and pipes. At a minimum, the logs shall include the unique identifier [see Special Condition F(7)], the date of maintenance, type of maintenance performed, names or person performing the maintenance, and other relevant system observations.

SPECIAL CONDITIONS

L. GROUND WATER MONITORING WELLS (cont'd)

1. All monitoring wells shall be equipped with a cap and lock to limit access and shall be maintained in a secured state at all times.

2. The Department reserves the right to require increasing the depth and/or relocating any of the groundwater monitoring well(s) if the well(s) is (are) perennially dry or determined not to be representative of groundwater conditions.

M. SPRAY IRRIGATION PERFORMANCE REPORT

As an exhibit to the next application for license renewal, the licensee shall submit to the Department a report of the treatment system's performance covering the previous five calendar years ***(PCS code 97899)***. The report shall be dated and signed by the operator in responsible charge of the system.

The report shall include, but is not necessarily limited to, an updated source description, an updated schematic and narrative of the treatment system and distribution system, a summary of the past performance demonstrating compliance with all terms and conditions of the effective license, a description of any proposed changes in the overall system or operation of the system, and if applicable, proposed changes in the effective license.

N. OPERATIONS AND MAINTENANCE (O & M) PLAN AND SITE PLAN(S)

This facility shall have a current written comprehensive Operation & Maintenance (O&M) Plan. The plan shall provide a systematic approach by which the licensee shall at all times, properly operate and maintain all facilities and systems of treatment and control (and related appurtenances) which are installed or used by the licensee to achieve compliance with the conditions of this permit.

By December 31 of each year, or within 90 days of any process changes or minor equipment upgrades, the licensee shall evaluate and modify the O&M Plan including site plan(s) and schematic(s) for the waste water treatment facility to ensure that it is up-to-date. The O&M Plan shall be kept on-site at all times and made available to Department personnel upon request.

Within 90 days of completion of new and or substantial upgrades of the waste water treatment facility, the licensee shall submit the updated O&M Plan to their Department inspector for review and comment.

SPECIAL CONDITIONS

O. PUBLIC ACCESS TO LAND APPLICATION SITES AND SIGNAGE

Public access to the land application sites shall be controlled. Such controls shall include the posting of signs showing the activities being conducted at each site. The licensee shall install signs measuring at least 8 ½" x 11" around the perimeter of the lagoon, spray irrigation and snowmaking sites that inform the general public that the area is being used to dispose of sanitary waste waters. Each sign must be placed such that at least two other signs (one left, one right) may be seen from any one posted sign. The signs must be constructed of materials that are weather resistant.

The licensee must walk the perimeter of the lagoon and spray irrigation site prior to the beginning of each spray irrigation season and make any necessary repairs to the signage to comply with this condition.

P. MONITORING AND REPORTING

Monitoring results shall be summarized for each month and reported on separate Discharge Monitoring Report (DMR) forms provided by the Department and **postmarked on or before the thirteenth (13th) day of the month or hand-delivered to the Department's Regional Office** such that the DMR's are **received by the Department on or before the fifteenth (15th) day of the month** following the completed reporting period. A signed copy of the DMR and all other reports required herein shall be submitted to the following address:

Department of Environmental Protection
Bureau of Land and Water Quality
Division of Water Quality Management
1235 Central Drive, Skyway Park
Presque Isle, ME 04769-2094

Q. REOPENING OF LICENSE FOR MODIFICATIONS

Upon evaluation of any required test results, results of inspections and/or reporting required by the Special Conditions of this licensing action, additional site specific or any other pertinent information or test results obtained during the term of this license, the Department may, at anytime and with notice to the licensee, modify this license to require additional monitoring, inspections and/or reporting based on the new information.

R. SEVERABILITY

In the event that any provision, or part thereof, of this license is declared to be unlawful by a reviewing court, the remainder of this license shall remain in full force and effect, and shall be construed and enforced in all respects as if such unlawful provision or part thereof, had been omitted, unless otherwise ordered by the court.

Monthly Operations Log **Attachment C** **(Month/Year) _____)**

WDL #W-007775-5L-C-R; Fields #_____Weekly Application Rate: _____ gallons/acre (_____ inches)

	A	B	C	D	E	F	G	H	I	J	K
Day	DATE	PRECIP Inches	TEMP	WEATHER	WIND-Direction Speed	Soil Moisture	Quantity-Total Gallons Pumped	Name of Field(s) Used	Acres Sprayed (Sum of Col H x Area of Each Field)	Gallons/Acre (inches) (Col G divided by I)	Total Inches
	1										
	2										
	3										
	4										
	5										
	6										
	7										
	8										
	9										
	10										
	11										
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	30										
	31										
Monthly Total =											

Spray Application Report by Week Attachment D Facility Name_____;

WDL # W-007775-5L-C-R; (Month _____, Year _____) Weekly Application Rate _____ gallons/acre _____ inches)

Field Name/#	Effective Spray Area (Acres)	Weekly Limit (Gallons/Acre)	Actual Spray Application Rates (Gallons per Acre)					Number of Exceptions to Weekly Limit	Monthly Average
			Week 1	Week 2	Week 3	Week 4	Week 5		

Note: 1 acre-inch is equivalent to 27,150 gallons of liquid
27,150 gallons per acre is equivalent to 1.0 inch

Total Number of Exceptions

A spray-field's weekly application rate if the total gallons sprayed (Sunday through Saturday) divided by the size of the spray-field in acres or the size in acres of that portion of the spray field utilized.

Signature of Responsible Official: _____, Date _____

MAINE WASTE DISCHARGE LICENSE

FACT SHEET

Date: **December 2, 2008**

PERMIT NUMBER: **MEU507775**
LICENSE NUMBER: **W007775-5L-D-R**

NAME AND ADDRESS OF APPLICANT:

TOWN OF PATTEN
P. O. Box 260
21 Katahdin Street
Patten, Maine 04765

COUNTY: **Penobscot County**

NAME AND ADDRESS WHERE DISCHARGE OCCURS:

81 Lovejoy Road
Patten, Maine 04765

RECEIVING WATER/CLASSIFICATION: **Ground Water/Class GW-A**

COGNIZANT OFFICIAL AND TELEPHONE NUMBER: **Mr. Kevin Noyes**
Chief Operator
(207) 528-2215
townofpatten@fairpoint.net

1. APPLICATION SUMMARY

a. Application: The Town of Patten ("Town") has applied to the Department for renewal of Waste Discharge License (WDL) #W007775-5L-C-R, dated December 16, 2003 and due to expire on December 16, 2008, for the operation of a surface waste water disposal system. The system is designed to treat a sanitary waste water influent flow of 30,000 gallons per day.

b. Source Description: Waste water is generated from 28 commercial and residential users within the Town's boundaries. The Town has 5,000 feet of gravity sewers, 3 pump stations, and 2,500 feet of force main. The sanitary waste water collection system is separated from the storm water system and there are no combined sewer overflows associated with the collection system. The applicant has stated that there are no industrial contributors to the collection system. This licensing action is carrying forward the prohibition against accepting septic tank waste at this facility.

1. APPLICATION SUMMARY (cont'd)

c. Waste Water Treatment: The facility is designed to treat 20-year projected average daily flows of up to 30,000 gpd. The biological treatment process consists of three facultative treatment/stabilization lagoons. The lagoons are constructed with a 60-mil high density polyethylene (HDPE) liner over a 12-inch sand blanket. Underdrains are located under the lagoons to monitor for leakage. Waste water is pumped from the collection system to the first lagoon for primary settling. From the first lagoon, wastewater is directed to a second and third lagoon for biological treatment prior to spray irrigation. Between April 15th and November 15th of each year, waste water is conveyed to 2 spray fields, each measuring 8.63 acres each, for a total of 17.26 acres. Each spray field contains 7 spray zones and each spray head distributes water in a circular pattern measuring roughly 50 feet in diameter.

The system has been designed such that the operator has the flexibility to rotate the zones in a series pattern. The system also provides sufficient valving to isolate each of the two spray fields, or isolate individual clusters of spray heads with each spray zone.

Each spray field is vegetated mixed woodland with an 8%-25% slope on an easterly aspect. The weekly maximum waste water application rate shall not exceed the levels provided in Special Condition A(2) of this license.

2. LICENSE SUMMARY

a. Terms and Conditions: This licensing action is carrying forward the terms and conditions of the previous licensing action with the following exceptions:

1. The licensee is no longer required to monitor and analyze the lagoon effluent and ground water monitoring well samples for total mercury or total nickel.

2. The licensee is required to monitor the lagoon level freeboard from April 1 – May 31.

3. The licensee is required to monitor and analyze the lagoon effluent, ground water monitoring wells and lagoon underdrain for nitrite-nitrogen.

4. Depth to water level below land surface shall be measured to the nearest one-tenth ($1/10^{th}$) of a foot from the surface of the ground at the base of the monitoring well instead of to the nearest one one-hundredth ($1/100^{th}$) of a foot from the surface of the ground at the base of the monitoring well.

5. The licensee is required to conduct metals analyses on the lagoon effluent and ground water monitoring well samples in August 2013.

2. LICENSE SUMMARY (cont'd)

b. History: The most recent licensing actions include the following:

March 24, 1987—The Department issued WDL #W002826-45-A-R, with an expiration date of March 24, 1992. The WDL authorized the discharge of 25,000 gallons per day of municipal waste water to Fish Stream, a Class C waterbody.

July 21, 1992 – The Department approved the application of the surface waste water spray irrigation system serving the Town of Patten by issuing WDL #W007775-58-A-N.

March 25, 1999 – The Department issued WDL #W007775-5L-B-R for a five-year term.

December 16, 2003 – The Department issued WDL #W007775-5L-C-R for a five-year term.

July 12, 2003 – The Department issued an Administrative Modification to WDL #W007775-5L-C-R for the purpose of: 1) suspending the annual groundwater reporting requirement for the first four years of the license, and 2) eliminating the requirement for the licensee to develop a soil sampling plan, collection of soil samples and reporting the sample results to the Department.

September 30, 2008 – The Town of Patten submitted an application for renewal of the WDL issued for spray irrigation.

3. CONDITIONS OF THE LICENSE

Maine law, 38 M.R.S.A. Section 414-A, requires that the effluent limitations prescribed for discharges, including, but not limited to, effluent toxicity, require application of best practicable treatment (BPT), be consistent with the U.S. Clean Water Act, and ensure that the receiving waters attain the State water quality standards as described in Maine's Surface Water Classification System.

4. RECEIVING WATER QUALITY STANDARDS

Maine law, 38 M.R.S.A § 470 indicates the groundwater at the point of discharge is classified as Class GW-A receiving waters. Maine law, 38 M.R.S.A., §465-C describes the standards for Class GW-A waters as the highest classification of groundwater and shall be of such quality that it can be used for public water supplies. These waters shall be free of radioactive matter or any matter that imparts color, turbidity, taste or odor which would impair the usage of these waters, other than occurring from natural phenomena.

5. TREATMENT

Slow-rate land irrigation treatment is an environmentally sound and appropriate technology for best practicable treatment and disposal of sanitary wastewater. The soils and vegetation within the irrigation area will provide adequate filtration and absorption to preserve the integrity of the soil and both the surface and groundwater quality in the area.

6. EFFLUENT LIMITATIONS AND MONITORING REQUIREMENTS

Lagoon Effluent (Outfall 001)

The previous licensing action established once per month (April through November) monitoring requirements for biochemical oxygen demand (BOD_5), total suspended solids (TSS), and pH for lagoon effluent as it exits the lagoon to be sprayed. Monitoring for these parameters yields an indication of the effectiveness of the lagoon treatment process and the condition of the waste water being applied. The monitoring requirements are being carried forward in this licensing action.

A review of the Discharge Monitoring Report (DMR) for the period **September 2004-September 2008** indicates the following*:

BOD_5 Concentration (n =20)

Value	Limit (mg/L)	Range (mg/L)	Average (mg/L)
Daily Maximum	100	5 – 98	37

TSS concentration (n = 21)

Value	Limit (mg/L)	Range (mg/L)	Average (mg/L)
Daily Maximum	100	5 – 38	14

pH (n = 21)

Value	Limit (SU)	Range (SU)	Mean (SU)
Daily Maximum	Report	6.0 – 9.5	7.6

Nitrite-nitrogen and Nitrate-nitrogen – Nitrogen compounds are by-products of the biological breakdown of ammonia and organic nitrogen and are inherent in domestic sanitary waste water. Because nitrogen compounds are weakly absorbed by soil, they function as reliable indicators of contamination from waste disposal sites. Also, elevated levels of nitrite-nitrogen and nitrate-nitrogen in the drinking water supply are of human health concern. This licensing action is establishing a monitoring requirement and license limit of 1.0 mg/L for nitrite-nitrogen and is carrying forward the monitoring requirement and license limit of 10 mg/L for nitrate-nitrogen. The license limits are National Primary Drinking Water Standards.

6. EFFLUENT LIMITATIONS AND MONITORING REQUIREMENTS (cont'd)

A review of the Discharge Monitoring Report (DMR) for the period **September 2004-September 2008** indicates the following:

Nitrate-Nitrogen (n=21)

Value	Limit (mg/L)	Range (mg/L)	Mean (mg/L)
Daily Maximum	Report	<0.5 – <5.0	0.8

Lagoon Effluent (Outfall 001)

Total Metals – This licensing action is removing the monitoring requirement for total mercury due to an error in including this requirement in the previous licensing action. This licensing action is removing the monitoring requirement for total nickel because there are no National Drinking Water Standards for total nickel. This licensing action is carrying forward the requirement for the licensee to test the lagoon effluent for the following total metals: arsenic, cadmium, chromium, copper, lead and zinc.

A review of the Discharge Monitoring Report (DMR) for the period **September 2004-September 2008** indicates the following:

Total Metals (n=1)

Arsenic	**Limit (ug/L)**	**Range (ug/L)**	**Mean (ug/L)**
Daily Maximum	Report	< 5.0	< 5.0
Cadmium	**Limit (ug/L)**	**Range (ug/L)**	**Mean (ug/L)**
Daily Maximum	Report	< 1.0	< 1.0
Chromium	**Limit (ug/L)**	**Range (ug/L)**	**Mean (ug/L)**
Daily Maximum	Report	12.0	12.0
Copper	**Limit (ug/L)**	**Range (ug/L)**	**Mean (ug/L)**
Daily Maximum	Report	9.0	9.0
Lead	**Limit (ug/L)**	**Range (ug/L)**	**Mean (ug/L)**
Daily Maximum	Report	< 3.0	< 3.0
Mercury	**Limit (ug/L)**	**Range (ug/L)**	**Mean (ug/L)**
Daily Maximum	Report	< 0.2	< 0.2
Nickel	**Limit (ug/L)**	**Range (ug/L)**	**Mean (ug/L)**
Daily Maximum	Report	4.0	4.0
Zinc	**Limit (ug/L)**	**Range (ug/L)**	**Mean (ug/L)**
Daily Maximum	Report	37.0	37.0

*For averaging purposes, values reported as "less than" were calculated at the detection limit.

6. EFFLUENT LIMITATIONS AND MONITORING REQUIREMENTS (cont'd)

Spray Irrigation Application Rates

Based on the history of the spray applications and information from the applicant, the spray fields are capable of treating and assimilating a weekly maximum application rate of 43,400 gallons (1.6 inches) per acre per week.

The weekly limits are established as a margin of safety against hydraulically overloading a spray field and are based on the treatment capabilities of the in-situ soils. Regardless of the calculated rate, the system operator shall monitor each waste application to verify adequate infiltration of the waste into the soil. A spray irrigation cycle must be stopped if runoff outside of the designated spray application site is observed.

This licensing action is carrying forward the weekly maximum spray application rate of 43,400 gallons per acre per week each for the north Spray Irrigation Field designated as SF#N and the South Spray Irrigation Field designated as SF#S. See **Attachment B** of this fact sheet for a diagram of the spray irrigation field locations.

A review of the Discharge Monitoring Report (DMR) for the period **September 2004-September 2008** indicates the following:

NORTH SPRAY IRRIGATION FIELD – SF#N
Application Rate (n = 21)

Value	Limit (gal/acre/week)	Range (gal/ac/wk)	Mean (gal/ac/wk)
Weekly Maximum	43,400	2,508 – 49,289	29,556

Flow-Total Gallons (n = 20)

Value	Limit (gal/acre/week)	Range (total gallons)	Mean (total gallons)
Monthly Total	------	21,640 – 1,425,500	809,082

SOUTH SPRAY IRRIGATION FIELD – SF#S
Application Rate (n = 21)

Value	Limit (gal/acre/week)	Range (gal/ac/wk)	Mean (gal/ac/wk)
Weekly Maximum	43,400	26,900 – 39,403	31,042

6. EFFLUENT LIMITATIONS AND MONITORING REQUIREMENTS (cont'd)

SOUTH SPRAY IRRIGATION FIELD – SF#S

Flow-Total Gallons

Value	Limit (gal/acre/week)	Range (total gallons)	Mean (total gallons)
Monthly Total	------	475,110 – 1,459,080	93,191

Lagoon Levels (freeboard)

The amount of freeboard space between the lagoon or pond surface elevation and the lowest point in the top of the respective berm is being measured to prevent overtopping of the berms and to evaluate facility operation for managing flows and annual precipitation. In June, lagoon levels drop steadily during the facility's spray irrigation season, thereby increasing the freeboard levels. This licensing action is establishing a minimum of two feet of freeboard, to be measured weekly from April 1 – May 31, which is just prior to the start of the June spray irrigation season for this facility.

Ground Water Monitoring Wells

Five ground water monitoring wells are to be monitored on the site. The five wells are:

Monitoring Wells	Location
B-1	Easterly of Lagoon #1 ("Background" well)
B-7	Westerly of the northerly side of Lagoon #2
B-9	Southerly of Lagoon #2
B-101	Easterly of the South Spray Field
B-102	Westerly of the South Spray Field

This licensing action is carrying forward the previous licensing requirement of measuring ground water monitoring wells for depth to water level below land surface during May and October of each calendar year.

A review of the Discharge Monitoring Report (DMR) for the period **September 2004-September 2008** indicates the following:

Depth to Water Level Below Land surface

Monitoring Well	**Limit** (ft)	**Range (**ft)	**Average** (ft)
B-1 (n = 6)	Report	12.10 – 19.82	15.80
B-7 (n = 7)	Report	2.05 – 4.42	3.48
B-9 (n = 6)	Report	2.15 – 4.15	3.34
B-101 (n = 7)	Report	0 – 0.39	0.14
B-102 (n = 7)	Report	0.61 – 2.89	1.40

6. EFFLUENT LIMITATIONS AND MONITORING REQUIREMENTS (cont'd)

This licensing action is carrying forward the previous licensing requirement of measuring ground water monitoring wells for nitrate-nitrogen, total chloride, specific conductance, temperature, pH, and total suspended solids during May and October of each calendar year. This licensing action is establishing a monitoring requirement and a numerical limit of 1.0 mg/L for nitrite-nitrogen based on National Primary Drinking Water Standards.

Special Condition F(3) of this license requires the licensee to determine ground water monitoring well compliance with the following National Primary and Secondary Drinking Water Standards:

Parameter	Daily Maximum
Nitrate-Nitrogen	10 mg/L
Nitrite-Nitrogen	1.0 mg/L
Chloride (Total)	250 mg/L
pH (Standard Units)	6.5-8.5 SU

This licensing action is removing the monitoring requirement for total mercury due to an error of inclusion in the previous licensing action. This licensing action is removing the monitoring requirement for total nickel because there are no National Drinking Water Standards for total nickel.

This licensing action is carrying forward the requirement to test the monitoring wells for the following total metals: arsenic, cadmium, chromium, copper, lead and zinc, based on National Primary and Secondary Drinking Water Standards. This licensing action is establishing a metals reporting requirement of August 2013 in order for the Department to receive and evaluate the licensee's performance data in a timely fashion during the permit renewal process.

Special Condition F(3) of this license requires the licensee to determine ground water monitoring well compliance with the following National Primary and Secondary Drinking Water Standards:

Parameter	Daily Maximum
Total Arsenic	10 ug/L
Total Cadmium	5 ug/L
Total Chromium	100 ug/L
Total Copper	1000 ug/L
Total Lead	15 ug/L
Total Zinc	5000 ug/L

6. EFFLUENT LIMITATIONS AND MONITORING REQUIREMENTS (cont'd)

A review of the Discharge Monitoring Report (DMR) for the period **September 2004-September 2008** indicates the following*:

Nitrate-Nitrogen

Monitoring Well	**Limit** (mg/L)	**Range (**mg/L)	**Average (**mg/L)
B-1 (n = 8)	10	<0.5 – <2.0	1.4
B-7 (n = 8)	10	<0.5 – <2.0	1.4
B-9 (n = 8)	10	<0.5 – <2.0	1.4
B-101 (n = 8)	10	<0.5 – <2.0	1.4
B-102 (n = 7)	10	<0.5 – <2.0	1.4

Chloride (total)

Monitoring Well	**Limit** (mg/L)	**Range (**mg/L)	**Average (**mg/L)
B-1 (n = 8)	Report	<2.0 – 4.7	2.7
B-7 (n = 8)	Report	3.7 – 5.7	4.5
B-9 (n = 8)	Report	5.9 – 15	9.1
B-101 (n = 8)	Report	5.5 – 10	8.8
B-102 (n = 7)	Report	<2.0 – 4.3	3.3

Specific Conductance

Monitoring Well	**Limit (**umhos/cm)	**Range (**umhos/cm)	**Average (**umhos/cm)
B-1 (n = 8)	Report	90 – 188	131
B-7 (n = 8)	Report	164 – 360	254
B-9 (n = 8)	Report	39 – 356	276
B-101 (n = 8)	Report	175 – 261	223
B-102 (n = 8)	Report	39 – 245	187

Temperature

Monitoring Well	**Limit** (Deg F)	**Range** (Deg F)	**Average** (Deg F)
B-1 (n = 8)	Report	44.6 – 56.8	50.3
B-7 (n = 8)	Report	40.5 – 55.8	48.0
B-9 (n = 8)	Report	44.6 – 53.7	49.1
B-101 (n = 8)	Report	43.4 – 51.8	47.5
B-102 (n = 7)	Report	44.1 – 51.6	48.2

pH

Monitoring Well	**Limit** (SU)	**Range** (SU)	**Average** (SU)
B-1 (n = 8)	Report	6.5 – 7.1	6.8
B-7 (n = 8)	Report	6.5 – 7.0	6.8
B-9 (n = 8)	Report	6.8 – 7.7	7.3
B-101 (n = 8)	Report	6.6 – 8.2	7.6
B-102 (n = 8)	Report	6.6 – 7.4	6.9

6. EFFLUENT LIMITATIONS AND MONITORING REQUIREMENTS (cont'd)

Total Suspended Solids

Monitoring Well	**Limit** (mg/L)	**Range** (mg/L)	**Average** (mg/L)
B-1 (n = 8)	Report	<1.0 – 4.7	2.2
B-7 (n = 8)	Report	<1.0 – 130	39
B-9 (n = 8)	Report	<1.0 – 36	12
B-101 (n = 8)	Report	<1.0 – 730	142
B-102 (n = 8)	Report	<1.0 – 120	38

Arsenic (total) (n=1)

Monitoring Well	**Limit (ug/L)**	**Range (ug/L)**	**Mean (ug/L)**
B-1	Report	< 5.0	< 5.0
B-7	Report	< 5.0	< 5.0
B-9	Report	< 5.0	< 5.0
B-101	Report	< 5.0	< 5.0
B-102	Report	< 5.0	< 5.0

Cadmium (total) (n=1)

Monitoring Well	**Limit (ug/L)**	**Range (ug/L)**	**Mean (ug/L)**
B-1	Report	< 0.4	< 0.4
B-7	Report	< 0.4	< 0.4
B-9	Report	< 0.4	< 0.4
B-101	Report	< 0.4	< 0.4
B-102	Report	< 0.4	< 0.4

Chromium (total) (n=1)

Monitoring Well	**Limit (ug/L)**	**Range (ug/L)**	**Mean (ug/L)**
B-1	Report	< 5.0	< 5.0
B-7	Report	< 5.0	< 5.0
B-9	Report	< 5.0	< 5.0
B-101	Report	< 5.0	< 5.0
B-102	Report	< 5.0	< 5.0

Copper (total) (n=1)

Monitoring Well	**Limit (ug/L)**	**Range (ug/L)**	**Mean (ug/L)**
B-1	Report	300	300
B-7	Report	< 3.0	< 3.0
B-9	Report	< 3.0	< 3.0
B-101	Report	3.5	3.5
B-102	Report	8.8	8.8

6. EFFLUENT LIMITATIONS AND MONITORING REQUIREMENTS (cont'd)

Lead (total) (n=1)

Monitoring Well	Limit (ug/L)	Range (ug/L)	Mean (ug/L)
B-1	Report	3.3	3.3
B-7	Report	< 3.0	< 3.0
B-9	Report	< 3.0	< 3.0
B-101	Report	< 3.0	< 3.0
B-102	Report	< 3.0	< 3.0

Mercury (total) (n=1)

Monitoring Well	Limit (ug/L)	Range (ug/L)	Mean (ug/L)
B-1	Report	0.2	0.2
B-7	Report	< 0.2	< 0.2
B-9	Report	< 0.2	< 0.2
B-101	Report	< 0.2	< 0.2
B-102	Report	< 0.2	< 0.2

Nickel (total) (n=1)

Monitoring Well	Limit (ug/L)	Range (ug/L)	Mean (ug/L)
B-1	Report	6.3	6.3
B-7	Report	3.0	3.0
B-9	Report	< 3.0	< 3.0
B-101	Report	< 3.0	< 3.0
B-102	Report	< 3.0	< 3.0

Zinc (total) (n=1)

Monitoring Well	Limit (ug/L)	Range (ug/L)	Mean (ug/L)
B-1	Report	93	93
B-7	Report	< 10	< 10
B-9	Report	< 10	< 10
B-101	Report	< 10	< 10
B-102	Report	< 10	< 10

*For calculation purposes, results reported as "less than" were calculated at the detection limit.

Department assessment of the groundwater monitoring results indicate that concentrations of all groundwater monitoring parameters are below the National Primary and Secondary Drinking Water Standards and National Primary Drinking Water Action Levels where numerical limits have been established; however, a significant anomaly was noted in the total metals results of B-1, the licensee's background level monitoring well, as compared to the licensee's other monitoring wells.

Underdrain Monitoring – Lagoon underdrain monitoring is required for early detection of leaks within the treatment and storage lagoon liners (earthen and HDPE, respectively).

6. EFFLUENT LIMITATIONS AND MONITORING REQUIREMENTS (cont'd)

There is no underdrain sampling location under lagoon #2; however, lagoons #2 and #3 are hydrologically linked. This licensing action is carrying forward the monitoring requirement from the previous licensing action for lagoon underdrain monitoring three times per year in July, August and September. This licensing action is establishing a monitoring requirement and numerical limit of 1.0 mg/L for nitrite-nitrogen based on National Primary Drinking Water Standards.

A review of the Discharge Monitoring Report (DMR) for the period **September 2004-September 2008** indicates the following:

Flow Rate

Underdrain Location	Limit (GPM)	Range	Mean
UD1 (Lagoon #1)	Report	NO DISCHARGE	NO DISCHARGE
UD3 (Lagoon #3) n=1	Report	0.18	0.18

Specific Conductance

Underdrain Location	Limit (umhos/cm)	Range	Mean
UD1 (Lagoon #1)	Report	NO DISCHARGE	NO DISCHARGE
UD3 (Lagoon #3) n=1	Report	404	404

Temperature (Deg F)

Underdrain Location	Limit (Deg F)	Range	Mean
UD1 (Lagoon #1)	Report	NO DISCHARGE	NO DISCHARGE
UD3 (Lagoon #3) n=1	Report	58.7	58.7

Nitrate-Nitrogen

Underdrain Location	Limit (mg/L)	Range	Mean
UD1 (Lagoon #1)	10	NO DISCHARGE	NO DISCHARGE
UD3 (Lagoon #3) n=1	10	2.2	2.2

pH

Underdrain Location	Limit (SU)	Range	Mean
UD1 (Lagoon #1)	Report	NO DISCHARGE	NO DISCHARGE
UD3 (Lagoon #3) n=1	Report	7.0	7.0

7. SYSTEM CALIBRATION

Discharge rates, application rates and uniformity of application change over time as equipment gets older and components wear or if the system is operated differently from the assumed design. Operating below design pressure greatly reduces the coverage diameter and application uniformity resulting in increased ponding and, as a result, not allowing maximum use of the area available. For these reasons, the licensee should field

7. SYSTEM CALIBRATION

calibrate their equipment on a regular basis to ensure proper application and uniformity and when operating conditions are changed from the assumed design.

Calibration involves collecting and measuring flow at several locations in the application area (typically a grid pattern of containers with uniform diameters). Rain gauges work best because they already have a graduated scale from which to read the application amount without having to perform additional calculations.

Attachment A of this fact sheet entitled, "*Example Spray Irrigation Field Calibration Report Form*" is provided as an aid to the licensee in the recalibration process. It is recommended that this form or similar form be submitted to the Department Compliance Inspector shortly after re-licensing and annually thereafter, or whenever operating conditions are changed from the assumed design.

8. DISCHARGE IMPACT ON RECEIVING WATER QUALITY

As licensed, the Department has determined the existing water uses will be maintained and protected and the discharge will not cause or contribute to the failure of the water body to meet standards for Class GW-A classification.

9. PUBLIC COMMENTS

Public notice of this application was made in the *Houlton Pioneer Times* on or about 10/01/08. The Department receives public comments on an application until the date a final agency action is taken on that application. Those persons receiving copies of draft licenses shall have at least 30 days in which to submit comments on the draft or to request a public hearing, pursuant to Chapter 522 of the Department's rules.

10. DEPARTMENT CONTACTS

Additional information concerning this licensing action may be obtained from and written comments should be sent to:

Phyllis Rand
Division of Water Quality
Bureau of Land and Water Quality
Department of Environmental Protection
17 State House Station
Augusta, Maine 04333-0017
Telephone (207) 287-7658 Phyllis.A.Rand@maine.gov

11. RESPONSE TO COMMENTS

During the period of October 3, 2008, through November 4, 2008, the Department solicited comments on the proposed draft Waste Discharge License to be issued for the

11. RESPONSE TO COMMENTS (cont'd)

discharge from the Town of Patten's waste water treatment facility. The Town of Patten submitted comments to the Department in a letter dated October 29, 2008.

The Department's responses to the comments are as follow:

Comment #1: Special Condition H-2, Spray Irrigation Operational Procedures, Logs and Reports: *We would respectfully request that the requirement to walk the spray irrigation site at the conclusion of the spray event be dropped because we feel this requirement would put a burden on our small staff and limited budget, as this would result in frequent overtime. We have a monitoring system to check for changes in pressure and volume pumped, and we feel by reviewing this information, we can detect potential problems and determine if further investigation or actions are necessary.*

Response to Comment #1: Due to the site-specific management of the spray irrigation site, the Department waives the requirement for the licensee to inspect the spray irrigation site at the conclusion of the spray event. It is noted, however, that the licensee must adhere to the requirement to cease irrigation if runoff is observed outside the designated boundaries of the spray field(s).

Comment #2: Weekly Log of Lagoon Freeboard (See also Special Condition H-4): *We would request that lagoon freeboard only be recorded on a weekly basis during the months of April and May as by June our spray applications have commenced and lagoon levels are dropping steadily and the data collected during the summer months would not be pertinent.*

Response to Comment #2: The purpose of the Weekly Log of Lagoon Freeboard is to monitor lagoon levels in order to prevent over-topping of the lagoons. The Department agrees that ongoing spray applications during the summer months (June 1 – September 1) should lower the levels of waste water in the lagoons enough so that over-topping is less of a concern. It is noted, however, that the daily maximum of 2.0 feet minimum level of freeboard is still in force during the summer months.

Attachment A

Example Spray Irrigation Field Calibration Report Form

Background Data

Describe the reasons for system re-calibration (example annual calibration or change in operating conditions). When there has been a change in operating conditions list the specific changes such as new components (pumps, spray heads, size or type of pipes, etc.) or previously approved design changes.

Describe the current method for estimating the flow of wastewater to the irrigation area, i.e., meter or pump calibration data. When using pump calibration data list the estimated flow rate of the pump for the existing site conditions (example gallons per minute). Also note the assumed diameter of coverage for the individual spray heads and the resulting area of application (acreage). Based on this information what is the assumed application rate in inches per hour and gallons per acre. Note: 1 acre-inch equals 27,150 gallons.

System Calibration

Describe or attach illustrations of the system calibration procedure, i.e., grid layout or rain gauge or other uniform containers.

List the actual radius of spray coverage of the individual spray heads as measured during the field calibration and note any application uniformity problems such as noticeable ponding or uneven applications.

Calculate the acreage of the application based on the actual radius of coverage measured in the field. Show calculations.

Example: (27,150 gallons/acre/week)(1.5 inch/week)(1.3 acres) = 52,942 gallons/week

Calculate the estimated hourly application rate in inches per hour and gallons per acre obtained during the above calibration. Show calculations.

New Calibration Data

What changes to the estimates of wastewater flow are proposed, if any and why? And are the licensed application rates satisfied?

Any adjustments to improve uniformity of spray applications?

Submitted by: Signature of Operator in Responsible Charge	On Date:
Reviewed by: Signature of Operator in Responsible Charge	On Date:

Attachment B