



STATE OF MAINE
DEPARTMENT OF ENVIRONMENTAL PROTECTION

JOHN ELIAS BALDACCI

GOVERNOR

DAVID P. LITTELL

COMMISSIONER

February 23, 2007

Mr. Mike Anderson
Marshall Point Sea Farm LLC
P.O. Box 285
Port Clyde, Maine 04855

RE: Maine Pollutant Discharge Elimination System (MEPDES) Permit #ME0036901
Maine Waste Discharge License (WDL) Application # W-008247-5Q-A-N
Final Permit/License

Dear Mr. Anderson:

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 permit/license and its attached conditions carefully. You must follow the conditions in the order 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.*"

The Department would like to make you aware that your monthly Discharge Monitoring Report (DMR) forms will be developed and sent to you. In the interim, you are still required to report applicable test results for parameters required by this permitting action.

If you have any questions regarding the matter, please feel free to call me at (207) 287-6114 or contact me via email at Robert.D.Stratton@maine.gov.

Sincerely,

Robert D. Stratton
Division of Water Quality Management
Bureau of Land and Water Quality

Enc./cc: Jim Crowley (MEDEP); Sandy Lao (USEPA);

AUGUSTA John Paquin / Maia Additon (GZA GeoEnvironmental, Inc.)

17 STATE HOUSE STATION
AUGUSTA, MAINE 04333-0017
(207) 287-7688 FAX: (207) 287-7826
RAY BLDG., HOSPITAL ST.

BANGOR
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BANGOR, MAINE 04401
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PRESQUE ISLE
1235 CENTRAL DRIVE, SKYWAY PARK
PRESQUE ISLE, MAINE 04769-2094
(207) 764-0477 FAX: (207) 760-3143

IN THE MATTER OF

MARSHALL POINT SEA FARM, LLC)	MAINE POLLUTANT DISCHARGE
ST. GEORGE, KNOX COUNTY, MAINE)	ELIMINATION SYSTEM PERMIT
SHELLFISH REARING FACILITY)	AND
#ME0036901)	WASTE DISCHARGE LICENSE
#W-008247-5Q-A-N)	NEW
APPROVAL		

Pursuant to the provisions of the Federal Water Pollution Control Act, Title 33 USC, Section 1251, et. seq and Maine Law 38 M.R.S.A., Section 414-A et seq., and applicable regulations the Department of Environmental Protection (Department) has considered the application of MARSHALL POINT SEA FARM, LLC (hereinafter Marshall Point SF), with its supportive data, agency review comments, and other related materials on file and FINDS THE FOLLOWING FACTS:

APPLICATION SUMMARY

The applicant has applied for a Maine Pollutant Discharge Elimination System (MEPDES) Permit and Maine Waste Discharge License (WDL) for the discharge of a monthly average of 10,100 gallons per day (GPD) of shellfish rearing wastewater to a former lobster pound impoundment of Port Clyde Harbor, Class SB, from an oyster and clam breeding and rearing facility in Port Clyde (St. George), Maine. The facility has been assigned MEPDES Permit number #ME0036901 and Maine WDL number #W-008247-5Q-A-N.

PERMIT SUMMARY

January 12, 2001 – The Department received authorization from the U.S. Environmental Protection Agency (USEPA) to administer the National Pollutant Discharge Elimination System (NPDES) permit program in Maine, excluding areas of special interest to Maine Indian Tribes. On October 30, 2003, after consultation with the U.S. Department of Justice, USEPA extended Maine's NPDES program delegation to all but tribally owned lands. The extent of Maine's delegated authority is under appeal at the time of this permitting action. From this point forward, the program will be referred to as the Maine Pollutant Discharge Elimination System (MEPDES) program and permit #ME0036901 will be utilized as the primary reference number for the Marshall Point SF facility.

This permitting action establishes the following:

1. a monthly average discharge flow limit of 10,100 gallons per day for Outfall #001A;
2. BOD and TSS monthly average and daily maximum mass and concentration limits with a provision for the Department to establish new limits in the future based on technology performance analyses;
3. monthly average and daily maximum reporting requirements for oyster and clam biomass on hand;
4. a daily maximum concentration limit for total residual chlorine (TRC) based on Best Practicable Treatment;
5. a pH range limit of 6.0-8.5 standard units.
6. minimum monitoring frequency and sample type requirements based on Department Best Professional Judgement;
7. a requirement for a current facility Operation and Maintenance Plan;
8. record keeping requirements for disinfecting/sanitizing agents; and
9. a requirement for impoundment gate management to ensure a full impoundment and maximum dilution of wastewater.

CONCLUSIONS

BASED on the findings in the attached Fact Sheet dated February 21, 2007, 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 MRSA 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

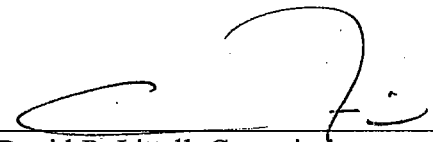
THEREFORE, the Department APPROVES the above noted application of MARSHALL POINT SEA FARM to discharge a monthly average of 10,100 gallons per day of shellfish rearing wastewater to a former lobster pound impoundment of Port Clyde Harbor, Class SB, SUBJECT TO THE ATTACHED CONDITIONS, and all applicable standards and regulations including:

1. "Maine Pollutant Discharge Elimination System Permit Standard Conditions applicable To All Permits," revised July 1, 2002, copy attached.
2. The attached Special Conditions, including any effluent limitations and monitoring requirements.
3. This permit expires five (5) years from the date of signature below.

DONE AND DATED AT AUGUSTA, MAINE, THIS 28th DAY OF February, 2007.

DEPARTMENT OF ENVIRONMENTAL PROTECTION

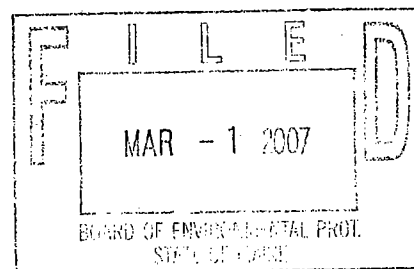
BY:


David P. Littell, Commissioner

PLEASE NOTE ATTACHED SHEET FOR GUIDANCE ON APPEAL PROCEDURES

Date of initial receipt of application: December 1, 2006

Date of application acceptance: December 15, 2006



Date filed with Board of Environmental Protection _____

This Order prepared by Robert D. Stratton, BUREAU OF LAND & WATER QUALITY

#W-008247-5Q-A-N / #ME0036901 February 21, 2007

SPECIAL CONDITIONS

A. EFFLUENT LIMITATIONS AND MONITORING REQUIREMENTS

1. The permittee is authorized to discharge **shellfish rearing facility wastewater from Outfall #001A** to a former lobster pound impoundment of Port Clyde Harbor, Class SB. Such discharges shall be limited and monitored by the permittee as specified below¹:

Monitoring Parameter	Discharge Limitations and Reporting Requirements				Minimum Monitoring Requirements	
	<u>Monthly Average</u>	<u>Daily Maximum</u>	<u>Monthly Average</u>	<u>Daily Maximum</u>	<u>Measurement Frequency</u>	<u>Sample Type</u>
	as specified	as specified	as specified	as specified	as specified	as specified
Flow [50050]	10,100 GPD [07]	---	---	---	Daily [01/01]	Measured [MS]
BOD [00310]	0.5 lbs/day [26]	0.8 lbs/day [26]	6 mg/L [19]	10 mg/L [19]	Once/2 weeks [01/14]	24-hour Composite ² [24]
TSS [00530]	0.5 lbs/day [26]	0.8 lbs/day [26]	6 mg/L [19]	10 mg/L [19]	Once/2 weeks [01/14]	24-hour Composite ² [24]
Biomass on Hand [45604]	Report GPD [07]	Report GPD [07]	---	---	Once/2 weeks [01/14]	Calculated [CA]
Total Residual Chlorine ³ [50060]	---	---	---	1.0 mg/L [19]	Daily [01/01]	Grab [GR]
pH [00400]	---	---	---	6.0-8.5 S.U. [12]	Once/2 weeks [01/14]	Grab [GR]

The italicized numeric values bracketed in the table above and in subsequent text are code numbers that Department personnel utilize to code the monthly Discharge Monitoring Reports (DMRs). Footnotes are found on Page 5.

SPECIAL CONDITIONS

A. EFFLUENT LIMITATIONS AND MONITORING REQUIREMENTS

FOOTNOTES:

All sampling and analysis must be conducted in accordance with: (a) methods approved by 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, or (c) as otherwise specified by the Department. Samples that are sent out for analysis shall be analyzed by a laboratory certified by the State of Maine's Department of Health and Human Services unless otherwise approved by the Department. **All effluent limits are gross, end of pipe limits, unless otherwise specified.**

1. **Effluent Monitoring:** Effluent values shall be determined through sampling at Outfall #001A, the only authorized facility discharge, following all means of wastewater treatment. The Outfall #001A sampling location is the effluent manhole located upgradient from the "lobster pound" impoundment. All monitoring shall be conducted so as to capture conditions representative of wastewater generating processes at the facility, such as flow-through and cleaning discharge flows, use of disinfecting/sanitizing agents, etc. and in consideration of any settling structure detention times. Any change in sampling location must be approved by the Department in writing.
2. **Composite Samples:** Samples shall consist of 24-hour composites collected with an automatic composite sampler. Alternatively, when weather conditions and/or equipment prevent automatic compositing or for discharges lasting less than 8-hours, the permittee may manually composite grab samples collected at a minimum rate of one sample collected every two hours, with a minimum of two samples per discharge event.
3. **Total Residual Chlorine:** Effluent limitations and monitoring requirements for TRC are in effect whenever chlorine based compounds are being used and discharged in the facility waste-stream.

B. NARRATIVE EFFLUENT LIMITATIONS

1. The effluent shall not contain a visible oil sheen, foam or floating solids at any time which would impair the usages designated by the classification of the receiving waters.
2. The effluent shall not contain materials in concentrations or combinations which are hazardous or toxic to aquatic life, or which would impair the usages designated by the classification of the receiving waters.
3. The discharges shall not cause visible discoloration or turbidity in the receiving waters which would impair the usages designated by the classification of the receiving waters.
4. Notwithstanding specific conditions of this permit the effluent must not lower the quality of any classified body of water below such classification, or lower the existing quality of any body of water if the existing quality is higher than the classification.

SPECIAL CONDITIONS

C. UNAUTHORIZED DISCHARGES

The permittee is authorized to discharge only in accordance with the terms and conditions of this permit and only from Outfall #001A, the only authorized facility discharge. The Outfall #001A sampling location is the effluent manhole located upgradient from the "lobster pound" impoundment. Discharges of wastewater from any other point source are not authorized under this permit, and shall be reported in accordance with Standard Condition B(5)(*Bypass*) of this permit.

D. NOTIFICATION REQUIREMENT

In accordance with Standard Condition D, the permittee shall notify the Department of the following:

1. Any substantial change in the volume or character of pollutants being introduced into the wastewater collection and treatment system.
2. For the purposes of this section, adequate notice shall include information on:
 - a. The quality or quantity of wastewater introduced to the waste water collection and treatment system; and
 - b. Any anticipated impact of the change in the quantity or quality of the wastewater to be discharged from the treatment system.

E. MONITORING AND REPORTING

Monitoring results obtained during the previous month 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 a Department 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 Department's assigned compliance inspector (unless otherwise specified) the following address:

Department of Environmental Protection
Bureau of Land and Water Quality
17 State House Station
Augusta, Maine 04333-0017

SPECIAL CONDITIONS

F. OPERATION & MAINTENANCE (O&M) PLAN

On or before October 1, 2007, the permittee shall submit to the Department a current written comprehensive Operation & Maintenance (O&M) Plan [09699]. The plan shall provide a systematic approach by which the permittee 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 permittee to achieve compliance with the conditions of this permit.

The O&M Plan shall establish Best Management Practices (BMP) to be followed for facility operations that contribute to effluent quality and quantity including, but not limited to, cleaning the culture tanks, screens, and other equipment and disposing of any solid waste. The purpose of the BMP portion of the plan is to identify and to describe the practices which minimize the amounts of pollutants (biological, chemical, and medicinal) discharged to surface waters. Among other items, the plan shall describe in detail efficient feed management and feeding strategies to minimize discharges of uneaten feed and waste products, how and when the accumulated solids are to be removed, dewatered, and methods of disposal. The plan shall also describe where the removed material is to be placed and the techniques used to prevent it from re-entering the surface waters from any onsite storage. The plan shall document the recipients and methods of any offsite waste disposal.

By December 31 of each year, or within 90 days of any process changes or minor equipment upgrades, the permittee shall evaluate and modify the O&M Plan including site plan(s) and schematic(s) for the wastewater 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 and EPA personnel upon request.

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

G. DISINFECTING/SANITIZING AGENTS

Records of all disinfectants and/or sanitizing agents used that have the potential to enter the waste stream or receiving water, their volumes and concentrations as used and concentrations at the point of discharge, shall be maintained at the facility for a period of three years. This permitting action only authorizes the discharge of those materials applied for, evaluated by the Department, and either regulated or determined to be de minimus in this permitting action or in subsequent Department actions.

SPECIAL CONDITIONS

H. IMPOUNDMENT GATE MANAGEMENT

To the extent practicable, at all times of the year that Marshall Point SF is operating and discharging wastewater, the permittee shall maintain a full volume of water within the former lobster pound impoundment in order to provide for maximum dilution of facility wastewater prior to exchanging and mixing with water from Port Clyde Harbor. To ensure this, **the permittee shall open the impoundment gate no earlier than one hour before high tide and shall close the impoundment gate no later than one hour after high tide.**

I. REOPENING OF PERMIT FOR MODIFICATIONS

Upon evaluation of the tests results or monitoring requirements specified in Special Conditions of this permitting action, new site specific information, new water quality monitoring data or modeling information, or any other pertinent test results or information obtained during the term of this permit, the Department may, at anytime and with notice to the permittee, modify this permit to;

- 1) include effluent limits necessary to control specific pollutants or whole effluent toxicity where there is a reasonable potential that the effluent may cause water quality criteria to be exceeded,
- (2) require additional monitoring if results on file are inconclusive; or (3) change monitoring requirements or limitations based on new information.

J. SEVERABILITY

In the event that any provision, or part thereof, of this permit is declared to be unlawful by a reviewing court, the remainder of the permit 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.

**MAINE POLLUTANT DISCHARGE ELIMINATION SYSTEM PERMIT
AND MAINE WASTE DISCHARGE LICENSE**

FACT SHEET

Date: February 21, 2007

MEPDES PERMIT NUMBER: #ME0036901
WASTE DISCHARGE LICENSE: # W-008247-5Q-A-N

NAME AND ADDRESS OF APPLICANT:

**MARSHALL POINT SEA FARM LLC
P.O. Box 285
Port Clyde, Maine 04855**

COUNTY: KNOX

NAME AND ADDRESS WHERE DISCHARGE OCCURS:

**MARSHALL POINT SEA FARM LLC
P.O. Box 285
Port Clyde, Maine 04855**

RECEIVING WATER / CLASSIFICATION: Port Clyde Harbor (impoundment)
Class SB

COGNIZANT OFFICIAL AND TELEPHONE NUMBER:

Mike Anderson, Hatchery Manager, (207) 372-8443
seafarm@gwi.net

1. APPLICATION SUMMARY

The applicant has applied for a Maine Pollutant Discharge Elimination System (MEPDES) Permit and Maine Waste Discharge License (WDL) for the discharge of a monthly average of 10,100 gallons per day (GPD) of shellfish rearing wastewater to a former lobster pound impoundment of Port Clyde Harbor, Class SB, from an oyster and clam breeding and rearing facility in Port Clyde (St. George), Maine. The facility has been assigned MEPDES Permit number #ME0036901 and Maine WDL number #W-008247-5Q-A-N.

2. PERMIT SUMMARY

- a. Regulatory - January 12, 2001 – The Department received authorization from the U.S. Environmental Protection Agency (USEPA) to administer the National Pollutant Discharge Elimination System (NPDES) permit program in Maine, excluding areas of special interest to Maine Indian Tribes. On October 30, 2003, after consultation with the U.S. Department of Justice, USEPA extended Maine's NPDES program delegation to all but tribally owned lands. The extent of Maine's delegated authority is under appeal at the time of this permitting action. From this point forward, the program will be referred to as the Maine Pollutant Discharge Elimination System (MEPDES) program and permit #ME0036901 will be utilized as the primary reference number for the Marshall Point SF facility.
- b. Terms and Conditions – This permitting action establishes the following:
1. a monthly average discharge flow limit of 10,100 gallons per day for Outfall #001A;
 2. BOD and TSS monthly average and daily maximum mass and concentration limits with a provision for the Department to establish new limits in the future based on technology performance analyses;
 3. monthly average and daily maximum reporting requirements for oyster and clam biomass on hand;
 4. a daily maximum concentration limit for total residual chlorine (TRC) based on Best Practicable Treatment;
 5. a pH range limit of 6.0-8.5 standard units.
 6. minimum monitoring frequency and sample type requirements based on Department Best Professional Judgement;
 7. a requirement for a current facility Operation and Maintenance Plan;
 8. record keeping requirements for disinfecting/sanitizing agents; and
 9. a requirement for impoundment gate management to ensure a full impoundment and maximum dilution of wastewater.
- c. History: The most recent licensing/permitting actions include the following:
- December 1, 2006 – The Department received a Maine WDL/MEPDES Permit application from Marshall Point Sea Farm for the discharge of a monthly average of 10,100 GPD of shellfish rearing wastewater to a former lobster pound impoundment of Port Clyde Harbor, Class SB, in St. George. The application was accepted for processing on December 15, 2006 and assigned WDL #W-8247-5Q-A-N and MEPDES Permit #ME0036901.

d. Source Description/ Facility Operation:

Marshall Point SF is a commercial oyster and clam breeding and rearing facility located adjacent to a former lobster pound impoundment of Port Clyde Harbor. The impoundment supplies source water for the sea farm operations and receives its wastewater prior to tidal exchange with Port Clyde Harbor. The facility influent pipe is equipped with a ½-inch mesh screen to prevent organic matter and marine life from entering the facility. Marshall Point SF cultivates algae on site as a food source for the oysters and clams, sustaining the algae with plant food. Marshall Point SF occupies a two-story building with source water head tanks and algae distribution tanks located on the second floor and an algae greenhouse, broodstock tanks, larval tanks, stack tanks, and downwellers located on the ground floor. Structures and operations are as follow:

Second Floor Operations: An average flow of 10,100 GPD of source water is obtained from the former lobster pound and routed to three 2,245-gallon interconnected head tanks for use in supplying water for all facility operations.

Marshall Point SF's flow through system distributes filtered seawater from the head tanks, via gravity, to the culture tanks on the first floor for the purpose of maintaining tank water levels and/or maintaining tank temperatures. This system is comprised of ¾-inch diameter schedule 40 PVC piping and is thoroughly valved to direct water to specific tanks as needed. Also, connected to this system is a pressurized line utilizing a small pump and ¾-inch diameter schedule 40 PVC piping which supplies the algal culture system in the greenhouse.

The facility has a Pasteurization system to sterilize filtered seawater for the second floor algae production room. This system feeds off from one of the heat exchangers and the associated plumbing but uses its own Pasteurizing pump rather than the heat exchange recirculation pump. Two 185-gallon algae distribution tanks are also housed on the second floor.

Ground Floor Operations:

Algae Greenhouse: The algae greenhouse contains forty-two, 32-gallon circular bags/cylinders (total volume 1,344-gallons) for algae/diatom growth and distribution as a food source for the oysters and clams. Marshall Point SF uses approximately 6.2 pounds of commercial liquid fertilizer / plant food for these organisms per day.

Broodstock Tanks. The broodstock tanks consist of eight, 236-gallon square tanks for a total volume of 1,888-gallons.

Larval Tanks. The larval tanks consist of four, 470-gallon cylindrical tanks for a total volume of 1,880-gallons.

Stack Tanks. The stack tanks consist of ten, 561-gallon rectangular tanks for a total volume of 5,610-gallons.

Downwellers. The downwellers consist of sixteen, 565-gallon rectangular tanks for a total volume of 9,040-gallons.

These structures are used to house the various life stages of oysters and clams. Marshall Point SF uses a heat exchanger to warm facility intake water to 20° Celsius (68°F) for the broodstock tanks, larval tanks, stack tanks, and downwellers. Water for the algae greenhouse is Pasteurized/sterilized to 180°C (356°F) prior to entering the tanks, then maintained at 20°C (68°F) for algae/diatom growth. Marshall Point SF raises eastern oysters (*Crassostrea Virginia*), European oysters (*Ostrea edulis*), hard clams (*Mercenaria mercenaria*), soft clams (*Mya arenaria*), and surf clams (*Spisula solidissima*). Oysters and clams are raised only to an age of 3-months, at which time they are sold to shellfish farms and growers throughout the east coast. Shellfish at these lifestages are so small that they are measure in terms of total volume instead of weight, with a maximum biomass on site consisting of approximately 17.5-gallons. Marshall Point SF is considering experimenting with the culture of additional species in the future, but does not anticipate significant changes in facility operations, practices, infrastructure, or effluent quality or quantity. Facility wastewater practices are described below.

e. Wastewater Treatment:

Marshall Point SF's tanks are flushed, cleaned and replenished with seawater daily for the broodstock tanks and every two days for other holding tanks. The facility discharges wastewater intermittently on a daily basis as the tanks are flushed and cleaned. Wastewater discharges last approximately six hours each day, seven days per week, for eight months each year from January through September. Marshall Point SF discharges an average of 10,100 GPD and a maximum of 18,500 GPD. Facility wastewater is discharged to the central portion of the former lobster pound impoundment through outfall #001A, a six-inch diameter PVC pipe. The impoundment has surface dimensions of approximately 250-feet by 150-feet with a maximum depth of approximately 8-feet. The volume of the impoundment is estimated at approximately 1.6-million gallons based on an average depth of approximately 6-feet. The impoundment gate is kept closed to provide for a full impoundment for an adequate supply of source water and maximum effluent dilution prior to contact with seawater from Port Clyde Harbor. Approximately one hour before high tide, Marshall Point SF opens the impoundment gate to allow incoming fresh seawater from Port Clyde Harbor to mix with and exchange the seawater contained in the impoundment. The impoundment gate is closed approximately one hour after high tide in order to keep Outfall #001A submerged at all times and to maintain a full volume within the impoundment. No wastewater treatment is provided, however Marshall Point SF anticipates very low levels of pollutants within the facility wastewater due to the nature of facility operations. Effluent monitoring is conducted within the effluent manhole, located prior discharge to the impoundment.

Use of agents for disinfecting/sanitizing purposes are addressed in subsequent Fact Sheet sections titled accordingly.

3. CONDITIONS OF PERMITS

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. In addition, 38 M.R.S.A., Section 420 and Department rule 06-096 CMR Chapter 530, *Surface Water Toxics Control Program*, require the regulation of toxic substances not to exceed levels set forth in Department rule 06-096 CMR Chapter 584, *Surface Water Quality Criteria for Toxic Pollutants*, and that ensure safe levels for the discharge of toxic pollutants such that existing and designated uses of surface waters are maintained and protected.

4. RECEIVING WATER QUALITY STANDARDS:

Maine law, 38 M.R.S.A., Section 469 classifies Port Clyde Harbor at the point of discharge as a Class SB water. Maine law, 38 M.R.S.A., Section 465-B(2), describes the standards for Class SB waters.

5. RECEIVING WATER QUALITY CONDITIONS:

The State of Maine draft 2006 *Integrated Water Quality Monitoring and Assessment Report* (DEPLW0665), prepared pursuant to Sections 303(d) and 305(b) of the Federal Water Pollution Control Act includes the receiving water in the designation *Port Clyde and the St. George Islands, St. George and Cushing* (Waterbody ID 724-12, DMR Area 28-A) listed in Category 2, Estuarine and Marine Waters Attaining Some Designated Uses – Insufficient Information for Other Uses. The listing identifies a 390.4-acre (0.61 square mile) segment of Class SB waters listed as subject to Maine Department of Marine Resources (MeDMR) closure due to the presence of overboard wastewater discharges and septic system problems within the segment area.

The MeDMR assesses information on shellfish growing areas to ensure that shellfish harvested are safe for consumption. The MeDMR has the authority to close shellfish harvesting areas wherever there is a pollution source, a potential pollution threat, or poor water quality. The MeDMR traditionally closes shellfish harvesting areas if there are known sources of discharges with unacceptable bacteria levels (in-stream thresholds established in the National Shellfish Sanitation Program) or maintains shellfish harvesting closure areas due to lack of updated information regarding ambient water quality conditions. In addition, the MeDMR prohibits shellfish harvesting in the immediate vicinity of all wastewater treatment outfall pipes as a precautionary measure in the event of a failure in the treatment plant's disinfection system. Pursuant to Maine DMR Regulation 95.05 I, Closed Area No. 28-A, Port Clyde and the St. George Islands, St. George and Cushing, as of September 23, 1999, *"because of potential and actual microbiological pollution, it shall be unlawful to dig, take or possess any clams, quahogs, oysters or mussels taken from the shores, flats and waters"*

within the areas designated as Area No. 28-A (see Fact Sheet Attachment B). The Department has made a BPJ determination that based on the information provided in the application and compliance with the terms and conditions of this permit, Marshall Point SF will not cause or contribute to non-attainment conditions in the receiving water or to the closure of the shellfish harvesting area.

If it is determined in the future that Marshall Point SF causes or contributes to non-attainment conditions in the receiving water, this permitting action may be reopened pursuant to Permit Special Condition I and effluent limitations, monitoring and operational requirements, and/or wastewater treatment requirements adjusted accordingly.

6. EFFLUENT LIMITATIONS & MONITORING REQUIREMENTS:

Pursuant to Maine Law (38 M.R.S.A., §414-A.1), the Department shall only authorize discharges to Maine waters when those discharges, either by themselves or in combination with other discharges, *"will not lower the quality of any classified body of water below such classification"*. Further, *"the discharge will be subject to effluent limitations that require application of the best practicable treatment"*. *"Best practicable treatment (BPT) means the methods of reduction, treatment, control and handling of pollutants, including process methods, and the application of best conventional pollutant control technology or best available technology economically available, for a category or class of discharge sources that the department determines are best calculated to protect and improve the quality of the receiving water and that are consistent with the requirements of the Federal Water Pollution Control Act" (40 CFR). "If no applicable standards exist for a specific activity or discharge, the department must establish limits on a case-by-case basis using best professional judgement ..." considering "...the existing state of technology, the effectiveness of the available alternatives for control of the type of discharge and the economic feasibility of such alternatives..."*. Pursuant to 38 M.R.S.A., §414-A.1 and §464.4, the Department regulates wastewater discharges through establishment of effluent limitations and monitoring requirements that are protective of Maine waters.

There are no National Effluent Guidelines (NEGs) that define BPT standards specific to oyster and clam breeding and rearing. In determining appropriate limitations and requirements for freshwater and marine fish hatcheries and rearing facilities, the Department utilized USEPA's proposed (September 12, 2002), subsequent working draft, and final NEGs (June 30, 2004) for that industry. Pursuant to the provisions above, in this permitting action, the Department is establishing effluent limitations and monitoring requirements for biochemical oxygen demand (BOD), total suspended solids (TSS), and pH based on standards developed for the fish hatchery and rearing industry in Maine, as they represent the closest applicable conditions.

- a. Flow: This permitting action establishes a monthly average flow limit of 10,100 gallons per day (GPD), based on information provided by the permittee on facility operations and design capacity and to provide the facility with operational flexibility. This permitting action requires daily measurement of discharge flow, consistent with Department guidelines for fish hatchery, rearing facility, and wastewater treatment facility discharges.

- b. Dilution Factors: Department rule, 06-096 CMR Chapter 530.5(D)(3)(b), *Surface Water Toxics Control Program*, states that, "for discharges to the ocean, dilution must be calculated as near-field or initial dilution, or that dilution available as the effluent plume rises from the point of discharge to its trapping level, at mean low water and slack tide for the acute exposure analysis, and at mean tide for the chronic exposure analysis using appropriate models determined by the Department such as MERGE or CORMIX." Based on Marshall Point SF's monthly average discharge of 10,100-GPD to the approximately 1.6-million gallon (see Fact Sheet Section 2e) former lobster pound impoundment and discharge restrictions contained in this permitting action, the Department has determined the acute and chronic dilution factors for Marshall Point SF's effluent discharge to be 158:1.
- c. Biochemical Oxygen Demand (BOD) and Total Suspended Solids (TSS): In its 2002 proposed NEG's for fish hatcheries and rearing facilities, USEPA proposed effluent limitations for TSS for flow-through and re-circulating facilities of various designs and levels of production. The most restrictive recommended limits were based on a secondary level of fish hatchery wastewater treatment and consisted of monthly average and daily maximum limits of 6 mg/L and 10 mg/L respectively for flow-through facilities and 30 mg/L and 50 mg/L respectively for re-circulating facilities. In its revised hatchery and rearing facility wastewater discharge program, the Department established BOD and TSS effluent limits based on this USEPA guidance from BPJ of BPT.

Based on the factors above and considering that Marshall Point SF is a flow-through facility, in this permitting action the Department is establishing BOD and TSS concentration limits of 6 mg/L for monthly average and 10 mg/L for daily maximum for Outfall #001A. It is the Department's intent to re-evaluate and potentially revise limits in the future based on statistical evaluations of demonstrated performance of consistently and properly utilized treatment technology for the industry. The Department reserves the right to reopen facility discharge permits to establish these limits pursuant to Special Condition I of this permit. This permitting action also establishes monthly average and daily maximum BOD and TSS mass limits based on the concentration limits, monthly average flow limit, and a conversion factor of 8.34 lbs/gallon.

This permitting action establishes once per two week effluent BOD and TSS monitoring based on the Department's BPJ of monitoring frequencies necessary to more accurately characterize facility effluent conditions.

- d. Biomass on Hand: This permitting action establishes reporting requirements for monthly average and daily maximum volume of oyster and clam biomass on hand. This parameter is intended to enable both the Department and the permittee in evaluating management practices at the facility and trends in effluent quality and receiving water impacts. This permitting action establishes once per two-week monitoring on a year-round basis based on the Department's BPJ of monitoring frequencies necessary to more accurately characterize facility effluent conditions. In recognition of the small size of shellfish lifestages at Marshall Point SF, biomass is to be recorded in total volume instead of weight.

- e. Total Residual Chlorine: Marshall Point SF indicates that it uses approximately 7 cups of household chlorine bleach for disinfection and 1,000 milliliters of sodium thiosulfate for de-chlorination daily. Limits on total residual chlorine (TRC) are specified to ensure that ambient water quality standards are maintained and that BPT technology is being applied to the discharge. Permits issued by this Department impose the more stringent of the calculated water quality based or BPT based limits. With dilution factors as described above, end-of-pipe water quality based thresholds for TRC may be calculated as follows:

Acute (a) Criterion	Chronic (c) Criterion	Dilution Factors	Calculated	
			Acute Limit	Chronic Limit
0.013 mg/L	0.0075 mg/L	158:1 (a) 158:1 (c)	2.1 mg/L	1.2 mg/L

The Department has established a daily maximum BPT limitation of 1.0 mg/L for facilities that disinfect their wastewater with elemental chlorine or chlorine based compounds or use them in their processes. The BPT limitation is more stringent than the calculated water quality based TRC limits calculated above, and is therefore being established as the TRC limit. The minimum monitoring frequency of once per day is based on Department guidance for wastewater treatment facilities discharging an equivalent flow and Department BPJ. Effluent limitations and monitoring requirements for TRC are in effect whenever chlorine based compounds are being used and discharged in the facility waste-stream

- f. pH: This permitting action establishes a daily maximum pH limit of 6.0 – 8.5 standard units, consistent with the pH limit established in discharge licenses for fish hatcheries and rearing facilities, and considered by the Department as a best practicable treatment standard. This permitting action establishes once per two-week effluent pH monitoring on a year round basis based on the Department's BPJ of monitoring frequencies necessary to more accurately characterize facility effluent conditions.
- g. Temperature: Marshall Point SF indicates that the water in its tanks is maintained at a temperature of 20°C (68°F). This will also be the temperature of the effluent discharged through Outfall #001A to the former lobster pound impoundment. The Department regulation relating to tidal water thermal discharges, Chapter 582 states, "*No discharge of pollutants shall cause the monthly mean of the daily maximum ambient temperatures in any tidal body of water, as measured outside the mixing zone, to be raised more than 4 degrees Fahrenheit, nor more than 1.5 degrees Fahrenheit from June 1 to September 1. In no event shall any discharge cause the temperature of any tidal waters to exceed 85 Fahrenheit at any point outside a mixing zone established by the board.*"

The facility discharges a monthly average of 10,100-gallons of wastewater to the approximately 1.6-million gallon impoundment, providing a dilution of approximately 158:1. With an effluent temperature of 68°F and an estimated summer temperature in the impoundment of 60°F, the potential ambient temperature effects can be calculated as follows:

$$\begin{aligned} 68^{\circ}\text{F}-60^{\circ}\text{F} &= 8^{\circ}\text{F} \text{ change prior to mixing.} \\ \text{With a dilution of } 158:1, & \text{ the post-mixing temperature change} = \\ & 8^{\circ}\text{F} / 158 = 0.05^{\circ}\text{F} \end{aligned}$$

Based on these calculations, the discharge of the 10,100-gallons of 68°F facility tank water will not violate the Department temperature standards if it is discharged into a full impoundment, as is required by this permitting action. Based on discharge restrictions contained in this permit and the calculations above, this permitting action does not require monitoring of effluent temperature.

7. ANTI-DEGRADATION

Maine's anti-degradation policy is included in 38 M.R.S.A., Section 464(4)(F) and addressed in the *Conclusions* section of this permit. Pursuant to the policy, where a new or increased discharge is proposed, the Department shall determine whether the discharge will result in a significant lowering of existing water quality. Increased discharge means a discharge that would add one or more new pollutants to an existing effluent, increase existing levels of pollutants in an effluent, or cause an effluent to exceed one or more of its current licensed discharge flow or effluent limits, after the application of applicable best practicable treatment technology. In this permitting action, the Department is establishing effluent limitations, monitoring and operational requirements consistent with other permitted fish hatcheries and rearing facilities in Maine and specifically protective of this receiving water. The rationale for these actions is contained in Fact Sheet Sections 6, *Effluent Limitations & Monitoring Requirements* and other applicable sections. Based on the information provided in the referenced sections, the Department considers the anti-degradation policy to be satisfied.

8. DISINFECTING/SANITIZING AGENTS:

This permitting action requires Marshall Point SF to maintain records of all disinfectants and/or sanitizing agents used that have the potential to enter the waste stream or receiving water, their volumes and concentrations as used and concentrations at the point of discharge, shall be maintained at the facility for a period of three years. This permitting action only authorizes the discharge of those materials applied for, evaluated by the Department, and either regulated or determined to be de minimus in this permitting action or in subsequent Department actions. The discharges of any other agents or waste products not specifically included in this permitting action are considered unauthorized discharges pursuant to Permit Special Condition C.

Marshall Point SF indicates that it uses approximately 2 cups of muriatic acid and 2 cups of isopropyl alcohol daily for disinfection purposes. Based on the quantities described and the dilution provided in the facility wastewater-stream, the Department considers the use of both materials as indicated to be de minimus. Therefore, no effluent limitations, monitoring or operational requirements are being established for these materials in this permitting action. Marshall Point SF further indicates that it uses approximately 7 cups of household chlorine bleach for disinfection and 1,000 milliliters of sodium thiosulfate for dechlorination daily. The use of these materials is addressed in Fact Sheet Section 2e, Total Residual Chlorine.

9. DISCHARGE IMPACT ON RECEIVING WATER QUALITY:

As permitted, 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 Port Clyde Harbor to meet standards for Class SB classification.

If monitoring conducted pursuant to this permitting action and/or other monitoring efforts indicate that non-attainment conditions exist in the receiving water(s) and that Marshall Point Sea Farm causes or contributes to those conditions, this permitting action may be reopened pursuant to Permit Special Condition I and effluent limitations, monitoring and operational requirements, and/or wastewater treatment requirements adjusted accordingly.

10. PUBLIC COMMENTS:

Public notice of this application was made in the Rockland Courier-Gazette newspaper on or about November 18, 2006. 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 permits 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.

11. DEPARTMENT CONTACTS:

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

Robert D. Stratton
Division of Water Quality Management
Bureau of Land and Water Quality
Department of Environmental Protection
17 State House Station
Augusta, Maine 04333-0017

Telephone: (207) 287-6114
Fax: (207) 287-3435
email: Robert.D.Stratton@maine.gov

12. RESPONSE TO COMMENTS:

During the period of January 22, 2007 through February 21, 2007, the Department solicited comments on the proposed draft Maine Pollutant Discharge Elimination System Permit / Maine Waste Discharge License to be issued to Marshall Point Sea Farm for the proposed discharge. On January 25, 2007, the Department received a letter from Marshall Point SF commenting on the Proposed Draft Permit. On February 6, 2007, the Department also received a letter from the US National Oceanic and Atmospheric Administration National Marine Fisheries Service (NOAA Fisheries or NMFS) commenting on the Proposed Draft Permit. Significant comments from Marshall Point SF and NOAA Fisheries and the Department's responses are summarized below.

Comment 1: Marshall Point SF provided a draft Operation and Maintenance Plan pursuant to the requirements of Permit Special Condition F, Operation and Maintenance (O&M) Plan, for review and comment by the Department.

Response 1: The Department appreciates the prompt initiative toward permit compliance shown by Marshall Point SF. The draft O&M Plan has been forwarded to the Department's compliance inspector, who will work with Marshall Point SF on this and other compliance related issues.

Comment 2: Marshall Point SF requested that the Department review the appropriateness of Proposed Draft Permit Special Condition E, Disinfection, for its facility and operations.

Response 2: The Department has done as requested and has removed the referenced Special Condition, as it is a standard condition for other types of facilities, but is not relevant for Marshall Point SF.

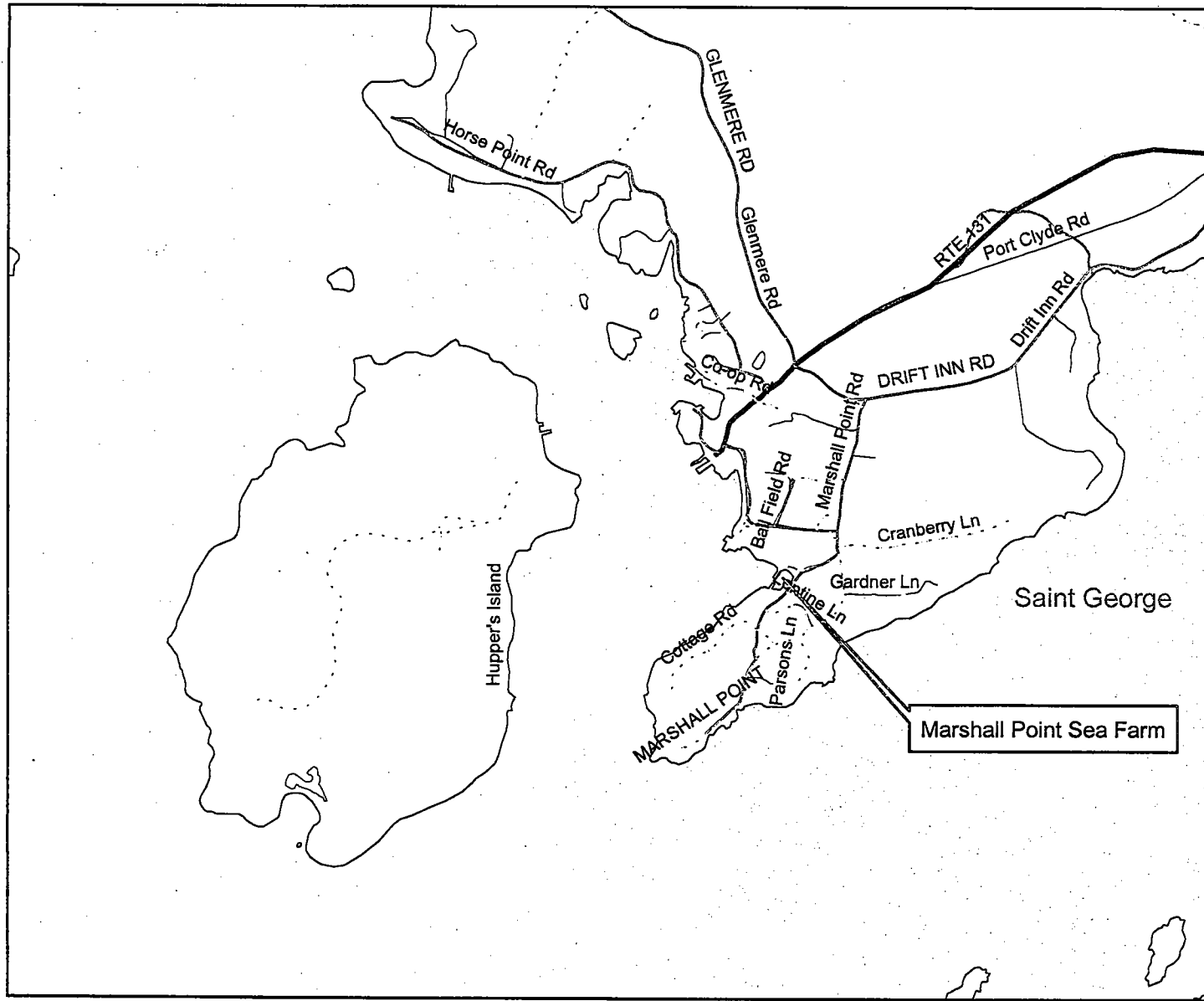
Comment 3: NOAA Fisheries / NMFS states, "based on the available information, the provisions of the MEPDES permit should minimize the effects of discharges at the facility on water quality in the tidewaters of Port Clyde. The recommended discharge limitations for Marshall Point's facility are consistent with EPA's federal ambient water quality criteria. Therefore, NMFS does not have any information indicating that these discharge limitations are likely to have more than a minor detrimental effect to Atlantic salmon."

Pursuant to guidance provided under Section 316(b) of the Clean Water Act, NMFS generally recommends that water intakes be appropriately sized to reduce seawater flows to the greatest extent practicable. This recommendation is intended to minimize entrainment of larvae and eggs of various federally managed species, such as Atlantic sea herring and winter flounder. Water intakes have the potential to impact aquatic biota by two general mechanisms: entrainment (passage of organisms through the intake resulting in injury or death) or impingement (entrapment of organisms on the screening system leading to injury or death). NMFS generally considers intake velocities of 0.5 feet per second to be protective

of marine life. As such, NMFS recommends that MDEP require intake velocities at the Marshall Point facility to be at or less than 0.5 feet per second."

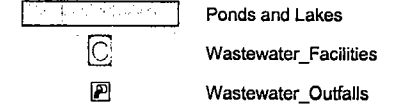
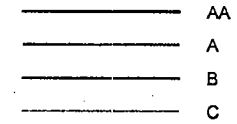
Response 3: The Department does not view the regulation of intake velocities to be within its wastewater discharge permitting authority for a facility such as Marshall Point SF. However, the Department shares NOAA Fisheries / NMFS' concerns with minimization / avoidance of impacts on aquatic life from regulated facilities. Therefore, the Department encourages NOAA Fisheries / NMFS and Marshall Point SF to work together to address these concerns related to federally managed species, separate from this permitting action.

ATTACHMENT A
(Facility Location Maps)



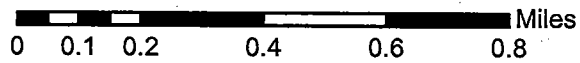
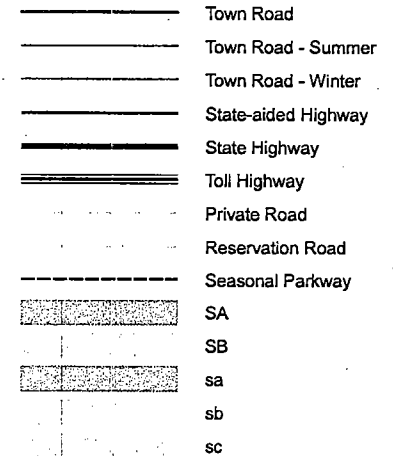
Legend

Streams



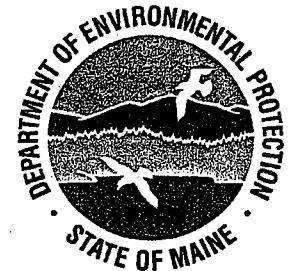
Roads

JURISDICTION



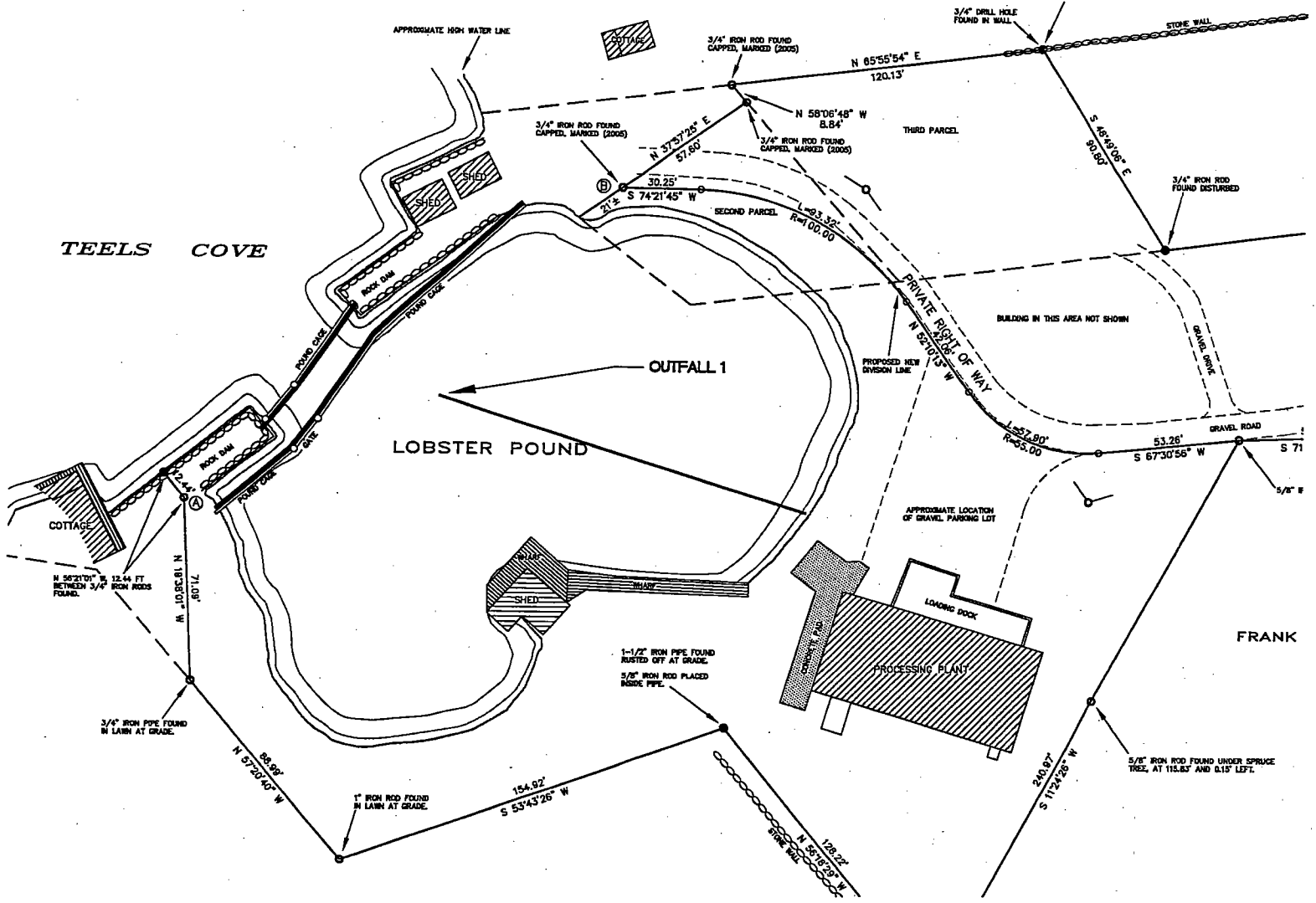
Marshall Point Sea Farm
Port Clyde, Maine

Map created by:
 Bob Stratton
 Division of Water Quality Management
 Maine Department of Environmental Protection



FILE INFO:

© 2008 GZA GeoEnvironmental, Inc.



GZA GeoEnvironmental, Inc. Engineers and Scientists 1000 Exchange Street Portland, Maine 04101 (207) 878-9190	GRAPHIC SCALE 0 40 80	
	DES'D BY : MKCA CHK'D BY : RLS APP'D BY : SRL DRAWN BY : JRT SCALE : 1" = 40' DATE : NOV 2006	
PROJECT No.: 25501.10 FIGURE No.: 4		

MARSHALL POINT SEA FARM

PORT CLYDE, MAINE

SITE PLAN

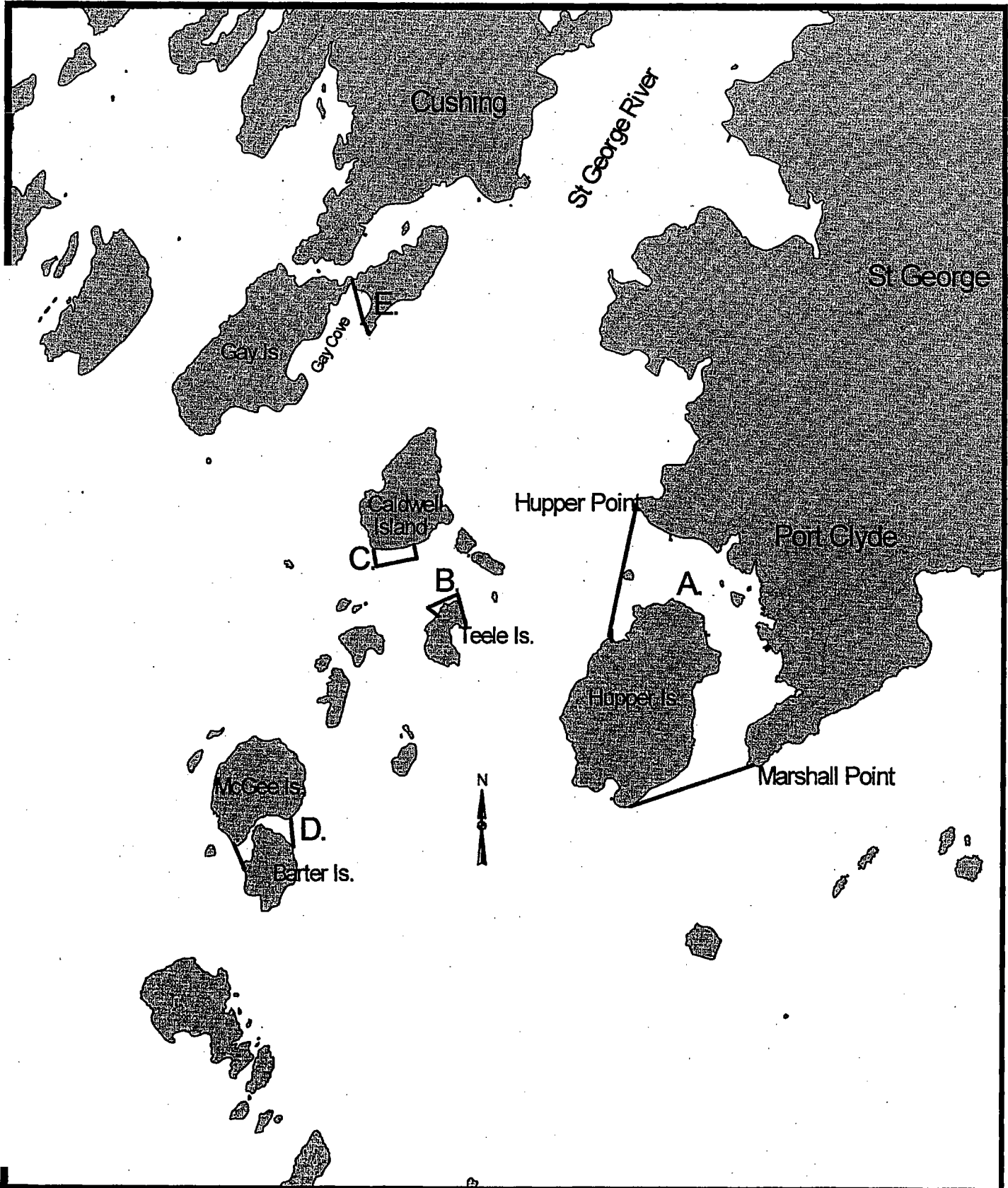
ATTACHMENT B
(Maine DMR Shellfish Closure Map)



Department of Marine Resources

Legal Notice of Shellfish Closure Area 28A

Port Clyde and the St George Islands, St George and Cushing



NOTICE OF EMERGENCY RULE REPEAL AND PROMULGATION

AGENCY: Department of Marine Resources

STATUTORY AUTHORITY: 12 M.R.S.A. Sections 6172 and 6192

RULE REPEAL AND PROMULGATION: DMR Regulation 95.05 I, Closed Area No. 28-A, Port Clyde to Gay Island, Cushing, promulgated on May 22, 1997 is repealed and replaced with the following rule:

TEXT OF RULE: DMR Regulation 95.05 I, Closed Area No. 28-A, Port Clyde and the St. George Islands, St. George and Cushing.

1. Effective immediately, because of potential and actual microbiological pollution, it shall be unlawful to dig, take or possess any clams, quahogs, oysters or mussels taken from the shores, flats and waters of Port Clyde and the Georges Islands in the following five (5) sections:
 - A. That area east of a line drawn from the western tip of Hupper Point, St. George, then running southerly to the northwest prominence of Hupper Island; AND north of a line drawn southwest from the tip of Marshall Point to the most southern tip of Hupper Island.
 - B. That area on Teele Island beginning at the most northern portion of the pier on the northwestern shore and continuing along the shore in an easterly direction to the most eastern unnamed point on the island.
 - C. That portion of Caldwell Island beginning at the unnamed point on the southwest end of the island and continuing along the shore in an easterly direction around the southern end of the island 500 feet east of the house on the southern end of the island.
 - D. That area north of a line drawn from the southwestern most point on McGee Island to the unnamed point on the western shore of Barter Island AND west of a line drawn from the most southeastern point on McGee Island to the most northeastern point on Barter Island.
 - E. That area north of a line drawn south from the most narrow portion of Gay Island to the most southern tip of the unnamed point on the northern mouth of Gay Cove.

Violation of any provision of this regulation shall be a Class D Crime (12 M.R.S.A. Section 6204).

EFFECTIVE DATE: September 23, 1999

AGENCY CONTACT PERSON: Paul S. Anderson
Department of Marine Resources
McKown Point Road
West Boothbay Harbor, Maine 04575

THE COURIER GAZETTE
September 30, 1999

STATEMENT OF FACT AND POLICY

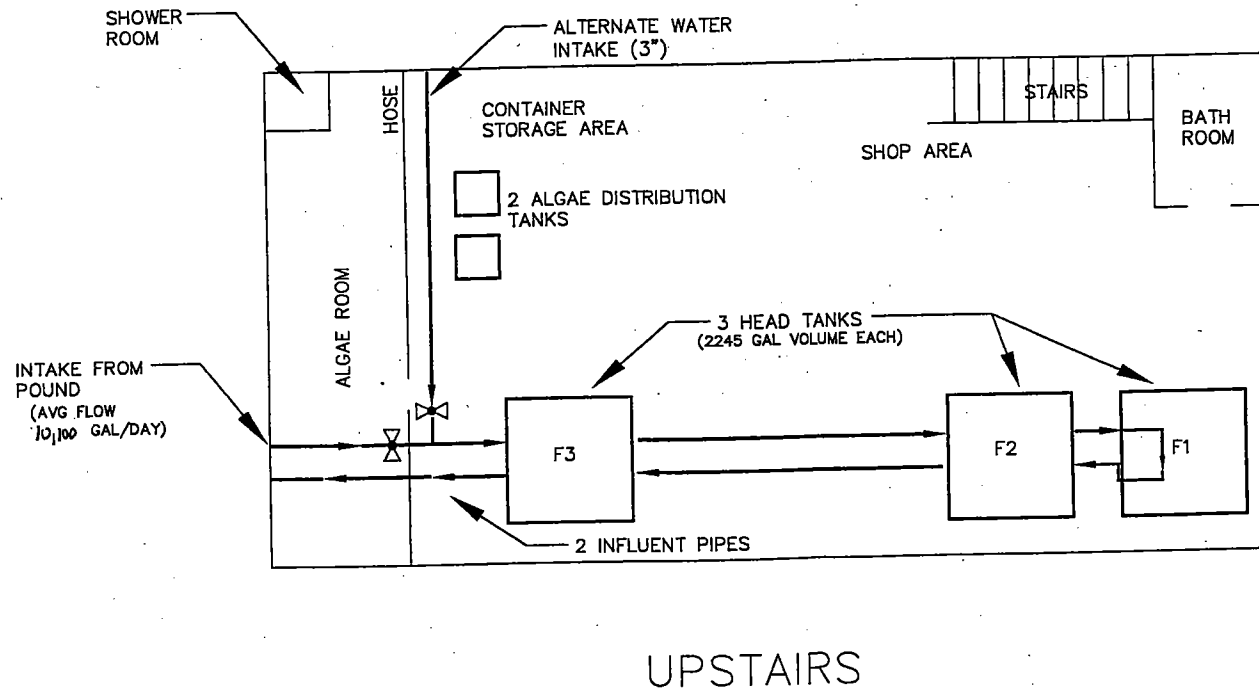
The Commissioner of the Maine Department of Marine Resources repeals the emergency DMR Regulation 95.05 I, Closed Area No. 28-A, Port Clyde and the St. George Islands promulgated on May 22, 1997 and replaces it with a new rule. This new regulation decreases the size of the previous closed area around the George's Islands.

Department personnel surveyed and sampled this area the required amount of times and have determined that the newly opened area near the mouth of the St. George River is not subject to pollution and can be opened.

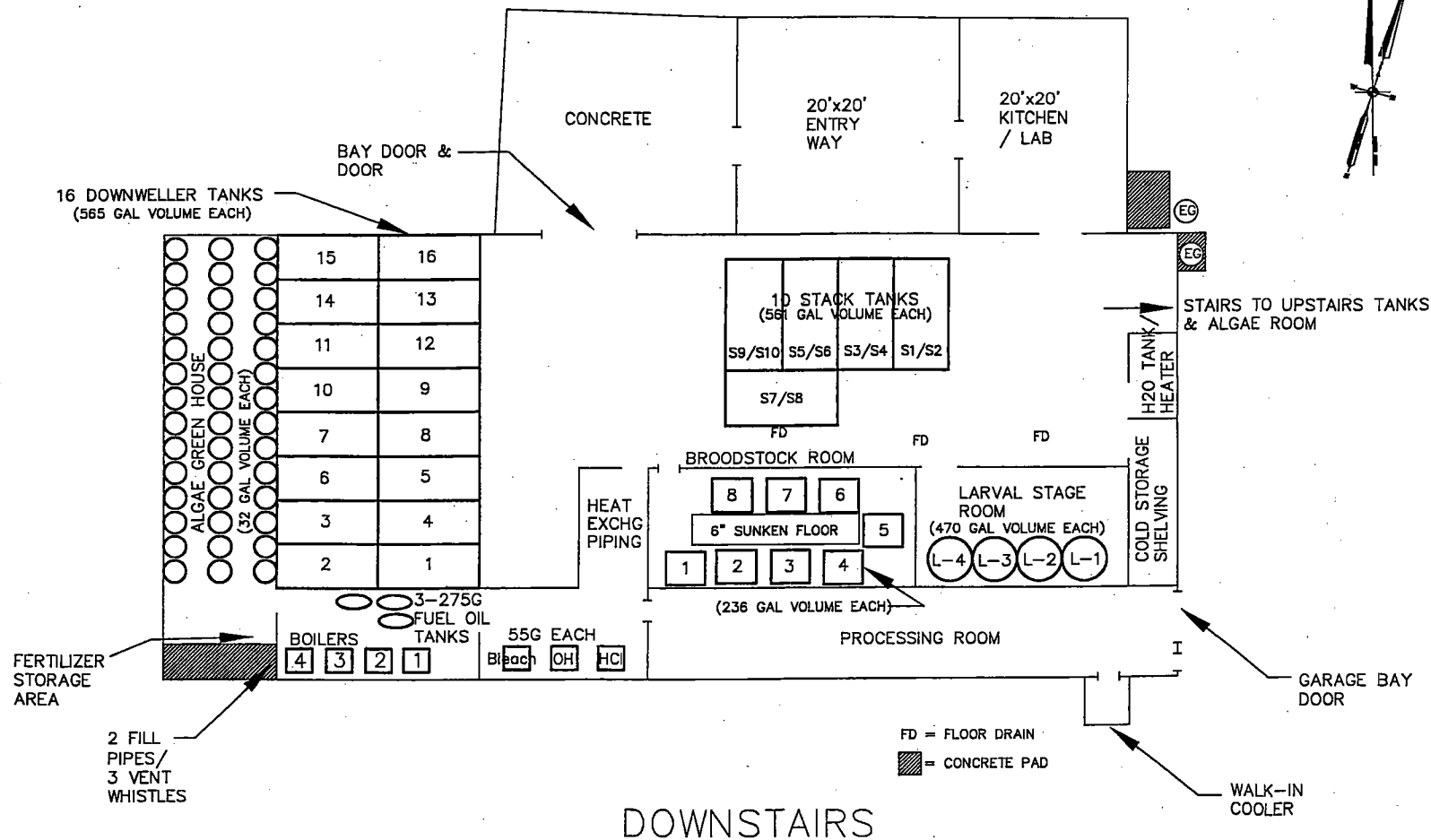

E. PENN ESTABROOK
DEPUTY COMMISSIONER

Z:\CLOSURES\1DRAFT\28-A-DRA.WPD

ATTACHMENT C
(Facility Site Plans)



MARSHALL POINT SEA FARM		DES'D BY : RLS	GRAPHIC SCALE	 GZA GeoEnvironmental, Inc. Engineers and Scientists 4 FREE STREET PORTLAND, MAINE 04101 (207) 879-9190
PORT CLYDE, MAINE		CHK'D BY :	0' 10' 20'	
OPERATIONAL SCHEMATIC		APP'D BY :		
		DRAWN BY : JRT		
		SCALE : 1" = 10'		
		DATE : NOV 2008		
PROJECT No.: 25501.10				
FIGURE No.: 3				



GRAPHIC SCALE 10 20

GZA GeoEnvironmental, Inc.
1000 South Street
Portland, Maine 04101
(207) 579-9190

DESIGNED BY: JLS
CHECKED BY: JLS
APPROVED BY: JRT
DRAWN BY: JRT
SCALE: 1" = 10'
DATE: NOV 2006

MARSHALL POINT SEA FARM

PORT CLYDE, MAINE

OPERATIONAL SCHEMATIC

PROJECT No.: 25501.10
FIGURE No.: 2

LINE DRAWING

Marshall Point Sea Farm

Clyde, Knox County, M

Port Clyde, Knox County, Maine



HEAD
TANK

2,245 Gallons
(located upstairs)

HEAD
TANK

2,245 Gallons
(located upstairs)

HEAD
TANK

2,245 Gallons
(located upstairs)

Small portion of intake water is pasteurized for algae/diatom growth and distributed through each of the tanks as a food source for shellfish
6.2 lbs. of food source per day

Water heated to 20° C

BROODSTOCK TANKS

8 square tanks
x 66 Gallons each
1,888 GPD

LARVAL TANKS
4 cylindrical tanks

x 449 Gallons each
1,880 GPD

STACK TANKS
16 rectangular tanks

x 561 Gallons each
5,610 GPD

DOWNWELLERS
16 rectangular tanks

x 565 Gallons each
9,040 GPD

Discharge to
OUTFALL 1
(18,418 GPD max.)