STATE OF MAINE
DEPARTMENT OF ENVIRONMENTAL PROTECTION

PAUL R. LEPAGE
GOVERNOR

PATRICIA W. AHO
COMMISSIONER

Mr. Albert Carver
Carver Shellfish Inc.
P.O. Box 187
Beals, ME. 04611

December 23, 2014

RE: Maine Pollutant Discharge Elimination System (MEPDES) Permit ME0110442
Maine Waste Discharge License (WDL) Application #W007803-5P-G-R
Permit

Dear Mr. Carver:

Enclosed is a proposed draft MEPDES permit and Maine WDL (permit hereinafter) which the Department proposes to issue as a final document after opportunity for your review and comment. By transmittal of this letter you are provided with an opportunity to comment on the proposed draft permit and its conditions (special conditions specific to this permit are enclosed; standard conditions applicable to all permits are available upon request). If it contains errors or does not accurately reflect present or proposed conditions, please respond to this Department so that changes can be considered.

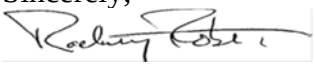
By copy of this letter, the Department is requesting comments on the proposed draft permit from various state and federal agencies, as required by our new regulations, and from any other parties who have notified the Department of their interest in this matter.

All comments must be received in the Department of Environmental Protection office on or before the close of business Monday, January 23, 2015. Failure to submit comments in a timely fashion will result in the final document being issued as drafted. Comments in writing should be submitted to my attention at the following address:

Maine Department of Environmental Protection
Bureau of Land & Water Quality
Division of Water Quality Management
17 State House Station
Augusta, ME 04333

If you have any questions regarding the matter, please feel free to call me at 446-1875.

Sincerely,



Rodney Robert
Division of Water Quality Management
Bureau of Land and Water Quality

Enc.

cc: Matt Young, DEP/EMRO
Barry Mower, DEP/CMRO
Lori Mitchell, DEP/CMRO
Oliver Cox, DMR
Environmental Review, DMR
Environmental Review, DIFW
Kathleen Leyden, DACF
David Webster, USEPA
David Pincumbe, USEPA
Alex Rosenburg, USEPA
Olga Vergara, USEPA
Ivy Frignoca, CLF

STATE OF MAINE
DEPARTMENT OF ENVIRONMENTAL PROTECTION
17 STATE HOUSE STATION
AUGUSTA, ME 04333

DEPARTMENT ORDER

IN THE MATTER OF

CARVER SHELLFISH INC.		)	MAINE POLLUTANT DISCHARGE
BEALS, WASHINGTON COUNTY, MAINE		)	ELIMINATION SYSTEM PERMIT
SEAFOOD PROCESSING FACILITY		)	AND
ME0110442		)	WASTE DISCHARGE LICENSE
W007803-5P-G-R	**APPROVAL**	)	**RENEWAL**

In compliance with the applicable 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 rules, the Department of Environmental Protection (Department) has considered the application of CARVER SHELLFISH, INC., (permittee), with its supportive data, agency review comments, and other related materials on file and FINDS THE FOLLOWING FACTS:

APPLICATION SUMMARY

On August 15, 2014, the Department accepted as complete for processing an application from the permittee for the renewal of combination Maine Pollutant Discharge Elimination System (MEPDES) permit #ME0110442/Maine Waste Discharge License (WDL) #W007803-5P-D-R (permit) which was issued by the Department on November 21, 2009, for a five-year term. The 11/21/09 permit authorized the year round monthly average discharge of 2,000 gallons per day (GPD) of treated clam processing and clean up wastewater (Outfall #001A) to Western Bay, Class SB, in Beals, Maine. The 11/21/09 permit received a minor revision on 8/7/12 increasing the monthly average discharge limitation to 3000 gpd, and another revision on 8/16/13 further increasing the monthly average discharge limitation to 7,600 gpd.

PERMIT SUMMARY

This permitting action is similar to the November 21, 2009 permitting action, Except that it is;

1. Carrying forward the monthly average flow limitation established in the 8/16/13 Minor Revision.

2. Revising Mass and Concentration limitations for TSS and Oil & Grease.

3. Establishing a Water-Quality based limit for Total Residual Chlorine.

4. Establishing a seasonal, monthly, reporting requirement for flow and TSS discharged to a sub-surface disposal system from Dec. 1 – March 31st.

CONCLUSIONS

BASED on the findings in the attached **PROPOSED DRAFT FACT SHEET** dated December 23, 2014, 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. §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) 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 water 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 discharges will be subject to effluent limitations that require application of best practicable treatment as defined in Maine law, 38 M.R.S.A., §414-A(1)(D).

5. The overboard discharge system was in continuing existence for the 12 months preceding June 1, 1987.

6. A non-discharging sub-surface waste water disposal system could not be installed in compliance with the Maine Subsurface Waste Water Disposal Rules at the time the renewal application was accepted for processing by the Department.

7. A publicly-owned sewer line is not located on or abutting land owned or controlled by the permittee or is not available for the permittee's use.

8. The discharge is not located within the boundaries of a sanitary district or sewer district.

ACTION

THEREFORE, the Department APPROVES the application of CARVER SHELLFISH, INC., to discharge a year round, monthly average of 7,600 gallons per day of treated clam and lobster processing and clean up wastewater (Outfall #001A) to Western Bay, Class SB, in Beals, Maine, as described above, SUBJECT TO ALL APPLICABLE STANDARDS AND REGULATIONS AND THE FOLLOWING CONDITIONS:

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 becomes effective upon the date of signature below and expires at midnight five (5) years after that date. If a renewal application is timely submitted and accepted as complete for processing prior to the expiration of this permit, the terms and conditions of this permit and all subsequent modifications and minor revisions thereto remain in effect until a final Department decision on the renewal application becomes effective. [Maine Administrative Procedure Act, 5 M.R.S.A. §10002 and Rules Concerning the Processing of Applications and Other Administrative Matters, 06-096 CMR 2(21)(A) (amended August 25, 2013)]

PLEASE NOTE ATTACHED SHEET FOR GUIDANCE ON APPEAL PROCEDURES

DONE AND DATED AT AUGUSTA, MAINE, THIS ____DAY OF _____, 2014.

DEPARTMENT OF ENVIRONMENTAL PROTECTION

BY:_____
PATRICIA W. AHO, Commissioner

Date of initial receipt of application: August 15, 2014

Date of application acceptance: August 15, 2014

Date filed with Board of Environmental Protection _____.

This Order prepared by Rod Robert, BUREAU OF LAND & WATER QUALITY

SPECIAL CONDITIONS

PROPOSED DRAFT PERMIT

A. EFFLUENT LIMITATIONS AND MONITORING REQUIREMENTS

Beginning the effective date of this permit, the permittee is authorized to discharge a year round, monthly average of 7,600 gpd, lobster and clam processing waste water from **Outfall #001A** to the Atlantic Ocean at Western Bay, Class SB, Beals. Such discharges shall be limited and monitored by the permittee as specified below[(1)]:

April 1st – November 30th of each year:

Effluent Characteristic	**Discharge Limitations**						**Minimum Monitoring Requirements**	
	Monthly Average	**Weekly Average**	**Daily Maximum**	**Monthly Average**	**Weekly Average**	**Daily Maximum**	**Measurement Frequency**	**Sample Type**
Flow ***[50050]***	7,600 gpd *[26]*	---	Report gpd *[07]*	---	---	---	1/ Discharge Day[(2)] *[01/DD]*	Measure *[MS]*
Production ***[00145]***	Report lbs/day *[26]*	---	Report lbs/day *[26]*	---	---	---	1/Month *[01/30]*	Grab *[GR]*
TSS ***[00530]***	54 lbs/day *[26]*	---	177 lbs/day *[26]*	852 mg/L *[19]*	---	2792 mg/L *[19]*	1/Month *[01/30]*	Grab *[GR]*
Oil & Grease ***[00556]***	0.69 lbs/day [26]	---	1.8 lbs/day [26]	11 mg/l *[19]*	---	28 mg/l *[19]*	1/Month *[01/30]*	Grab *[GR]*
Settleable Solids ***[00545]***	---	---	---	---	---	1.0 ml/L *[25]*	1/Week *[01/07]*	Grab *[GR]*
Total Residual Chlorine[(3)] ***[50060]***	---	---	---	---	---	0.3 mg/L *[19]*	1/Month *[01/30]*	Grab *[GR]*
pH ***[00400]***	---	---	---	---	---	6.0 – 9.0 SU *[12]*	1/Month *[01/30]*	Grab *[GR]*

Footnotes **See Page 5 of this permit for applicable footnotes.**

Black Duck Cove Rd. Subsurface Wastewater Disposal System.

PROPOSED DRAFT PERMIT

December 1st – March 31st of each year:

Effluent Characteristic

	Average	**Weekly Average**	**Daily Maximum**	**Monthly Average**	**Weekly Average**	**Daily Maximum**	**Measurement Frequency**	**Sample Type**
Flow ***[50050]***	Report gpd *[07]*	---		---	---	---	1/ Month *[01/30]*	Measure *[MS]*
TSS ***[00530]***	Report gpd *[07]*	---	---	---	---	---	1/Month *[01/30]*	Grab *[GR]*

Monthly

SPECIAL CONDITIONS

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

Footnotes

1. **Sampling** – Sampling shall be conducted after the last treatment process such that samples are representative of what is actually being discharged to the receiving waters. Sampling shall be conducted in accordance with federally approved methods for sampling, handling and preservation. Samples shall be analyzed by a laboratory certified by the State of Maine's Department of Human Services and in accordance with methods approved in Title 40, *Code of Federal Regulations* (CFR) Part 136. Samples that are sent to a waste water treatment plant licensed pursuant to *Waste Discharge Licenses,* 38 M.R.S.A. § 413 are subject to the provisions and restrictions of *Maine Comprehensive and Limited Environmental Laboratory Certification Rules,* 10-144 CMR 263 (last amended February 13, 2000).

2. **Authorized Discharge Period** – The permittee is authorized to discharge only between three (3) hours before to three (3) hours after high tide.

3. **Total Residual Chlorine** – Limitations and monitoring requirements are applicable whenever elemental chlorine or chlorine based compounds are being used to disinfect the discharge. The permittee shall utilize approved test methods that are capable of bracketing the TRC limitation in this permit.

B. ANNUAL DISCHARGE FEES

Pursuant to Maine law, 38 M.R.S.A. §353-B, the permittee is required to pay an applicable annual fee for discharges authorized by this permit. Failure to pay an annual fee within 30 days of the billing date of a permit is sufficient grounds for accruing interest charges, penalties or revocation of the permit.

C. 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 for 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 for 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 for 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

D. AUTHORIZED DISCHARGES

The permittee is authorized to discharge only in accordance with: 1) the permittee's General Application for Waste Discharge Permit, accepted for processing August 15, 2014; 2) the terms and conditions of this permit; and 3) only from Outfall #001A. Discharges of waste water 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.

E. NOTIFICATION REQUIREMENT

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

1. Any substantial change or proposed change in the volume or character of pollutants being introduced into the wastewater 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 wastewater introduced to the wastewater collection and treatment system; and

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

SPECIAL CONDITIONS

F. 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 compliance inspector (unless otherwise specified) at the following address:

Department of Environmental Protection
Eastern Maine Regional Office
Bureau of Land and Water Quality
106 Hogan Road
Bangor, Maine 04401

Alternatively, if you are submitting an electronic DMR (eDMR), the completed eDMR must be electronically submitted to the Department by a facility authorized DMR Signatory not later than close of business on the 15th day of the month following the completed reporting period. Hard Copy documentation submitted in support of the eDMR must be postmarked on or before the thirteenth (13th) day of the month or hand-delivered to the Department's Regional Office such that it is received by the Department on or before the fifteenth (15th) day of the month following the completed reporting period. Electronic documentation in support of the eDMR must be submitted not later than close of business on the 15th day of the month following the completed reporting period.

G. OPERATION & MAINTENANCE (O&M) PLAN

This facility shall have a current written comprehensive Operation & Maintenance (O&M) Plan. 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.

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.

SPECIAL CONDITIONS

G. OPERATION & MAINTENANCE (O&M) PLAN (cont'd)

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 waste water treatment facility, the permittee shall submit an updated O&M Plan to their Department inspector for review and comment.

H. 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, or any other pertinent test results or information obtained during the term of this permit, the Department may, at any time 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 effluent or ambient water quality monitoring if results on file are inconclusive; or (3) change monitoring requirements or limitations based on new information.

I. 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 aspects as if such unlawful provision, or part thereof, had been omitted, unless otherwise ordered by the court.

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MAINE POLLUTANT DISCHARGE ELIMINATION SYSTEM PERMIT
AND
WASTE DISCHARGE LICENSE

PROPOSED DRAFT FACT SHEET

December 23, 2014

MEPDES PERMIT: **ME0110442**
WASTE DISCHARGE LICENSE: **W007803-5P-G-R**

NAME AND ADDRESS OF APPLICANT:

CARVER SHELLFISH INC.
Attn: Mr. Albert Carver
P.O Box 187
Beals, ME. 04611

COUNTY: **Washington County**

NAME AND ADDRESS WHERE DISCHARGE OCCURS:
125 Black Duck Cove Rd.
Beals, Maine 04611

RECEIVING WATER / CLASSIFICATION: **Atlantic Ocean at Western Bay/Class SB**

COGNIZANT OFFICIAL AND TELEPHONE NUMBER: **Mr. Albert Carver**
(207) 497-2261
acarver@acarverinc.com

1. APPLICATION SUMMARY

a. Application: On August 15, 2014, the Department accepted as complete for processing an application from Carver Shellfish, Inc. for the renewal of combination Maine Pollutant Discharge Elimination System (MEPDES) permit #ME0110442/Maine Waste Discharge License (WDL) #W007803-5P-G-R (permit) which was issued by the Department on November 21, 2009, for a five-year term. The 11/21/09 permit authorized the year round, monthly average discharge of 2000 gallons per day (GPD) of treated clam processing and clean-up waste waters (Outfall #001A) to the Atlantic Ocean at Western Bay, Class SB, in Beals, Maine. The 11/21/09 permit received a minor revision on 8/7/12 increasing the monthly average discharge limitation to 3000 gpd, and another revision on 8/16/13 further increasing the monthly average discharge limitation to 7,600 gpd. See **Attachment A** of the Fact Sheet for a location map of the facility.

1. APPLICATION SUMMARY (cont'd)

b. History: This section provides a chronological summary of recent, relevant licensing/permitting actions that have been completed for Carver Shellfish.

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. From that point forward, the program has been referred to as the MEPDES program, and MEPDES permit #ME0110442 has been utilized as the primary reference number for Carver Shellfish.

December 27, 2004 – The Department issued MEPDES permit #ME0110442 / WDL #W007803-5P-C-R to Carver Shellfish for a five-year term. The 12/27/04 WDL superseded WDL #W007803-5P-B-R issued on May 5, 1999, and initial WDL #W007803-WA-A-N issued on November 8, 1993.

August 12, 2009 – Carver Shellfish submitted a timely and complete General Application to the Department for renewal of the 12/27/04 MEPDES permit. The application was accepted for processing on August 14, 2009, and was assigned WDL #W007803-5P-D-R / MEPDES #ME0110442.

August 7, 2012 – The Department issued MEPDES permit #ME0110442 / WDL #W007803-5P-E-M as a minor revision to the August 12, 2009 permitting action at the request of the permittee. The Minor Revision increased the monthly average flow limitation from 2000 gpd to 3000 gpd.

August 16, 2013 – The Department issued MEPDES permit #ME0110442 / WDL #W007803-5P-F-M as a minor revision to the August 12, 2009 permitting action at the request of the permittee increasing the monthly average flow limitation to 7,600 gpd.

August 15, 2014 – Carver Shellfish submitted a timely and complete General Application to the Department for renewal of the 08/12/09 MEPDES permit. The application was accepted for processing on August 15, 2014, and was assigned WDL #W007803-5P-G-R / MEPDES #ME0110442.

1. APPLICATION SUMMARY (cont'd)

c. Source description: Carver Shellfish Inc. is a clam processing and packaging facility located on Black Duck Cove Road in Beals, Maine. A map showing the location of the facility and Atlantic Ocean at Western Bay is included as **Attachment A** of this fact sheet. Clam processing includes the shucking, cooking, blanching and cooling of the clam product. Cooking, blanching, and cooling water is used in batches and changed on an as-needed basis. No continual flow process is used. Approximately, 3,000 gpd is used in clam processing, including the cooking process, whereas, 2,000 gpd is used for shucking, cooling and cleanup processes during maximum production conditions. The facility uses fresh water from a drilled well. The facility utilizes a chlorinated cleaner for disinfection and cleaning purposes. Carver Shellfish provided the following anticipated production rates for the facility, which is the basis for certain effluent limitations established in the permit.

Product	lbs./ day processed		Processing Period		Daily effluent flows	
	Average lbs./day	Maximum lbs./day	#weeks/year	Months processing	Average	Maximum
Clams	3,000	5,000	52	Jan - Dec	0.0050 MGD	0.0076 MGD

d. Waste water treatment: The treatment of waste water consists of filter fabric that is installed downstream of the outlets from the cooking and cooling vessels on the waste water collection line. The waste water is directed to a sump pump that includes a screen filter with a ½ inch mesh. From the sump pump the waste water is directed to a final screening process using a hydrosieve. The hydrosieve has a screen with a mesh size pore space of 2.5 millimeter diameter. When clean up begins, the processing equipment is washed and cleaned using mild detergents and chlorine-based compounds. The floor is dry swept to remove as many solids as possible. All wastewater is discharged through the grated floor drains and is directed to the screened sump pump and hydrosieve. Wastewater flows from the sump pump through a 2-inch diameter PVC pipe 2,250 feet to the shoreline of Western Bay. The outfall discharges the waste water at a depth of 4 feet below mean low water. The previous permit limited the discharge period to between three (3) hours before to three (3) hours after the high tide in order to satisfy acute ambient water quality considerations. Beginning on or about December 1 of each year the facility disconnects the pump to the Outfall pipe and discharges process water to a leach field. The leach field, constructed, licensed and in operation since 1993 has never overflowed or failed due to excessive discharge of process water. See **Attachment B** of this Fact Sheet for a diagram of the facility's treatment system and **Attachment C** of this Fact Sheet for the specifics of the sub-surface disposal system.

2. PERMIT SUMMARY

This permitting action is similar to the November 21, 2009 permitting action, Except that it is;

1. Carrying forward the monthly average flow limitation established in the 8/16/13 Minor Revision.

2. Revising Mass and Concentration limitations for TSS and Oil & Grease.

3. Establishing a Water-Quality based limit for Total Residual Chlorine

4. Establishing a seasonal, monthly, reporting requirement for flow to sub-surface disposal system from Dec 1st - March 31st.

3. CONDITIONS OF PERMIT

Maine law, 38 M.R.SA 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.SA 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. §469(3-A) classifies Western Bay, at the point of discharge, as a Class SB waterbody. Maine law, 38 M.R.S.A. §465-B(2) contains the standards for Class SB water bodies.

5. RECEIVING WATER QUALITY CONDITIONS

The 2012 Integrated Water Quality Monitoring and Assessment Report published by the Department pursuant to Section 305(b) of the Federal Water Pollution Control Act lists the south end of Cape Split, Addison to Kelley Point, Jonesport (waterbody ID 703), which includes the tidewaters at the point of discharge as *"Category 2: Estuarine and Marine Waters Attaining Some Designated Uses – Insufficient Information for Other Uses."* The 2012 Report also lists Maine's marine and estuarine waters as *"Category 5-D: Estuarine and Maine Waters Impaired by Legacy Pollutants."* Impairment in this context refers to the estuarine and marine waters partially supporting the designated use of fishing and harvesting of shellfish due to elevated levels of PCBs and other persistent bioaccumulating substances in tissues of lobster tomalley. The Department has no information at this time that the discharge from Carver Shellfish, as permitted, causes or contributes to this non-attainment of the receiving water.

5. RECEIVING WATER QUALITY CONDITIONS (cont)

Department rule Chapter 519, *Interim Effluent Limitations and Controls for the Discharge of Mercury*, establishes controls on the discharge of mercury to the surface waters of the State through interim effluent limits and implementation of pollution prevention plans.

However, Section 1(A)(1) of the Chapter 519 rule states, in part: *"This rule applies to all persons licensed or permitted pursuant to 38 MRSA §413 to discharge pollutants to the surface waters of the State except as described below. For the purposes of this rule, the term 'licensee' also means, 'permittee.'*

Categorical exclusions. This rule does not apply to the following categories of licensees: combined sewer overflows, snow dumps, pesticide applications, and over board discharges licensed pursuant to 38 MRSA §413.[emphasis added] Except, however, specific members of these categories may be required by the department to comply with this rule on a case by case basis…"

6. EFFLUENT LIMITATIONS & MONITORING REQUIREMENTS

a. Flow: The previous permitting action established a monthly average discharge flow limitation of 0.0020 MGD for Outfall #001A with a monitoring and reporting requirement to maintain consistency with other permitted facility limitations and to provide operational flexibility to the permittee. The Department granted two Minor Revisions to the previous permitting action, raising the monthly average discharge flow limitation to 0.0030 MGD on August 7, 2012 and to 0.0076 MGD on Aug 16, 2013 at the request of the permittee to accommodate increased production. Carver Shellfish Inc. has indicated in its application that the anticipated wastewater flows discharged from the clam processing and facility cleaning activities is an average of 2,000 gallons per day, with seasonal increases in production raising the level in excess of 5,000 gallons per day. **Therefore**, **this permitting action is carrying forward the seasonal, monthly average discharge flow limitation of 0.0076 MGD for Outfall #001A**. **(April 1 – November 30th)**

b. Dilution Factors: 06-096 CMR 530(4)(A)(2)(a) 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 level 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, CORMIX or another predictive model."* Based on the configuration of Outfall #001A with a discharge flow limit of 0.0076 MGD (same as 7,600 GPD), and the Department's best professional judgment, the dilution factors associated with the discharge are as follows:

Acute = 25:1 Chronic = 391:1 Harmonic Mean= 1173:1

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

c. Production: The previous permitting action established, and this permitting action is carrying forward, monthly average and daily maximum production rate reporting requirements. A summary of production data as reported on the monthly DMRs for the period of September 2009 through September 2014 is as follows:

Production	Minimum	Maximum	Arithmetic Mean	# DMRs
Monthly Average	0.00 lbs/day	9,321 lbs/day	3,336.47 lbs/day	34
Daily Maximum	0.00 lbs/day	26,701 lbs/day	10,770.29 lbs/day	34

Average production rates anticipated by Carver Shellfish during the term of this permit are summarized in Section 1.c of this fact sheet above.

d. Total Suspended Solids (TSS): The previous permitting action established monthly average concentration and mass limitations of 36 lbs./day and 2,158 mg/L, respectively, and daily maximum concentration and mass limitations of 118 lbs./day and 7,074 mg/L, respectively, for TSS. These limits were derived in accordance with the BPT-based guidelines at 40 CFR 408.232 and based on production rates at that time.

The BPT-based effluent guidelines at 40 CFR Part 408.232 express TSS limits as a monthly average of 18 pounds per 1,000 pounds of production and a daily maximum of 59 pounds per 1,000 pounds production.

Monthly average and daily maximum end-of-pipe effluent TSS limitations are calculated utilizing a production value of 3,000 lbs. /day, monthly average and daily maximum technology-based mass limits can be calculated as follows. It is noted that the previous permitting action established TSS effluent limitations using the maximum production value of 2,000 lbs/day and a maximum flow value of 2,000 GPD. For consistency with other MEPDES permits, this permitting action is utilizing the average production value (3000 lbs/day) and average wastewater flow (7,600 GPD)in the technology-based limit calculations. The difference between the average and maximum effluent guideline limitations accounts for variability in effluent quality discharged from the facility.

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

Revised TSS Mass Limitations:

Monthly Average: $\frac{(3{,}000 \text{ lbs/day})(18 \text{ lbs})}{1{,}000 \text{ lbs}}$ = **54 lbs./day**

Daily Maximum: $\frac{(3{,}000 \text{ lbs/day})(59 \text{ lbs})}{1{,}000 \text{ lbs}}$ = **177 lbs./day**

Concentration limits for TSS may be back-calculated utilizing the applicable mass limitations calculated above, a flow of 0.0076 million gallons per day (MGD) (same as 7,600 gpd) and a conversion factor of 8.34 lbs/gallon of water. Concentration limits are calculated as follows:

Revised TSS Concentration Limitations:

Monthly Average: $\frac{(54 \text{ lbs/day})}{(0.0076 \text{ MGD})(8.34 \text{ lbs/gal})}$ = **852 mg/L**

Daily Maximum: $\frac{(177 \text{ lbs/day})}{(0.0076 \text{ MGD})(8.34 \text{ lbs/gal})}$ = **2,792 mg/L**

A summary of the effluent TSS data as reported on the DMRs submitted to the Department for the period September 2009 through September 2014 is as follows:

TSS	Minimum	Maximum	Arithmetic Mean	# DMRs
Monthly Average	0.0 lbs./day 35 mg/L	6.0 lbs./day 500 mg/L	1.5 lbs./day 106 mg/L	28
Daily Maximum	0.1 lbs./day 35 mg/L	6.0 lbs./day 500 mg/L	1.6 lbs./day 106 mg/L	28

This permitting action is carrying forward the minimum monitoring frequency requirement of once per week based on best professional judgment.

e. Oil & Grease (O&G): The previous permitting action established monthly average concentration and mass limitations of 0.63 lbs./day and 15 mg/L, respectively, and daily maximum concentration and mass limitations of 2.8 lbs./day and 67 mg/L, respectively, for O&G. These limits were derived in accordance with the BPT-based guidelines at 40 CFR 408.232 and based on production rates at that time.

The BPT-based effluent guidelines at 40 CFR Part 408.232 express O&G limits as a monthly average of 0.23 pounds per 1,000 pounds of production and a daily maximum of 0.6 pounds per 1,000 pounds production.

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

Revised O&G Mass Limitations:

Monthly Average: $\frac{(3{,}000 \text{ lbs/day})(0.23 \text{ lbs})}{1{,}000 \text{ lbs}}$ = **0.69 lbs./day**

Daily Maximum: $\frac{(3{,}000 \text{ lbs/day})(0.60 \text{ lbs})}{1{,}000 \text{ lbs}}$ = **1.8 lbs./day**

Concentration limits for O&G may be back-calculated utilizing the applicable mass limitations calculated above, a flow of 0.0076 million gallons per day (MGD) (same as 7,600 gpd) and a conversion factor of 8.34 lbs/gallon of water. Concentration limits are calculated as follows:

Revised O&G Concentration Limitations:

Monthly Average: $\frac{(0.69 \text{ lbs/day})}{(0.0076 \text{ MGD})(8.34 \text{ lbs/gal})}$ = **10.8 mg/L**

Daily Maximum: $\frac{(1.8 \text{ lbs/day})}{(0.0076 \text{ MGD})(8.34 \text{ lbs/gal})}$ = **28.4 mg/L**

A summary of the effluent O&G data as reported on the DMRs submitted to the Department for the period September 2009 to March 2013 is as follows:

O&G	Minimum	Maximum	Arithmetic Mean	# DMRs
Monthly Average	0.0 lbs./day 4.1 mg/L	0.20 lbs./day 14.0 mg/L	0.08 lbs./day 6.97 mg/L	23
Daily Maximum	0.01 lbs./day 4.1 mg/L	0.33 lbs./day 14.0 mg/L	0.108 lbs./day 6.96 mg/L	23

This permitting action is carrying forward the minimum monitoring frequency requirement of once per week based on best professional judgment.

f Total Residual Chlorine (TRC): The previous permitting action carried forward a technology-based, daily maximum effluent limitation of 1.0 mg/L for TRC. The limit was established to ensure protection of receiving water quality from effluents containing residual chlorine from facility clean-up water. Limitations on TRC are specified to ensure that ambient water quality standards are maintained and that BPT technology is being applied to the discharge. Department permitting actions impose the more stringent of either the water quality-based or technology-based based limits.

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

With acute and chronic dilution factors associated with the discharge, water quality-based concentration thresholds the discharge may be calculated as follows:

Acute (A) Criterion	Chronic (C) Criterion	A & C Dilution Factors	Calculated Acute Threshold	Calculated Chronic Threshold
0.013 mg/L	0.0075 mg/L	25:1 (A) 391:1 (C)	0.3 mg/L	2.93 mg/L

The water quality-based effluent limit of 0.3 mg/L calculated above is more stringent than the previously established technology-based threshold and is therefore being established in this permitting action.

g. Settleable Solids: The previous permitting action carried forward daily maximum, settleable solids limitation of 1.0 ml/L and minimum monitoring frequency requirement of once per week based on best professional judgment. The Department has established a daily maximum effluent limit of 1.0 ml/L for several seafood processing facilities as best professional judgment of best practicable treatment. This permitting action is also carrying forward the daily maximum settleable solids limitation of 1.0 ml/L.

h. pH: The previous permitting action established, and this permitting action is carrying forward, a daily maximum pH range limitation of 6.0 – 9.0 standard units (SU) based on 40 CFR Part 408.232, which is consistent with the range considered by the Department to be BPT for discharges from seafood processing facilities in Maine.

A summary of pH data as reported on the monthly DMRs for the period of September 2009 through September 2014 (# DMRs = 34) indicates the facility has had zero excursions below the lower pH range limit of 6.0 SU and has ranged from 6.96 – 7.52 SU.

This permitting action is carrying forward the minimum monitoring frequency requirement of once per month based on best professional judgment.

i. Nitrogen - The permittee has not been conducting total nitrogen testing on its discharge to date. However, the USEPA requested the Department evaluate the reasonable potential for the discharge of total nitrogen to cause or contribute to non-attainment of applicable water quality standards, namely algal blooms, in marine waters. As of the date of this permitting action, the State of Maine has not promulgated numeric ambient water quality criteria for any of the nitrogen compounds. The Department has 50 total nitrogen data results with an arithmetic mean total nitrogen discharge concentration of 14.3 mg/L collected on effluent from five municipally-owned treatment works and one industrial facility that discharge to Casco Bay which the Department is considering to be considered representative of discharges in the absence of facility specific data. With an arithmetic mean total nitrogen

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

discharge concentration of 14.3 mg/L or and a near field chronic dilution factor of 391:1 for the Carver facility, an in-stream concentration can be calculated as follows:

Total nitrogen concentrations in effluent = 14.3 mg/L
Chronic dilution factor = 391:1

In-stream concentration after dilution: $\frac{14.3 \text{ mg/L}}{391} = 0.04$ mg/L

Because nitrogen is not acutely toxic, the Department is considering a far-field dilution to be more appropriate when evaluating impacts of total nitrogen to a marine environment. Far field dilutions are significantly higher than the near-field dilution, ranging from 100 – 10,000 times higher depending on the location of the outfall pipe. With outfalls located in protected coves or embayments without significant flushing, the far field dilutions factors would tend to be on the order of 100 – 1,000 times higher. With open ocean discharges, far field dilutions would tend to be 1,000 – 10,000 times higher.

The discharge from the permittee's facility to Western Bay would be considered a discharge to the open ocean thus, the far field dilution would likely be on the lower end of the 1,000 – 10,000 range. As a result, the far-field dilution may be as high as 391,000:1, thereby limiting the increase in the ambient total nitrogen by 0.0004 mg/L based on the following calculation:

Total nitrogen concentrations in effluent = 14.3 mg/L
Chronic dilution factor = 391,000:1

In-stream concentration after dilution: $\frac{14.3 \text{ mg/L}}{127{,}600} = 0.00004$ mg/L

The Department has been collecting ambient total nitrogen data in close proximity to the Maine coastline to support an effort to develop statewide nutrient criteria for marine waters. For the Carver facility, the Department calculated a mean background concentration of 0.29 mg/l based on ambient data collected in the general vicinity of the discharge. As a result, after reasonable opportunity for far field mixing, the increase in the concentration of total nitrogen in the receiving water due to the discharge from the permittee's facility will not be measureable thus, the instream concentration of total nitrogen will remain at 0.29 mg/L. This concentration is lower than the Department's and EPA's best professional judgment of a critical threshold of 0.45 mg/L to protect aquatic life in marine waters using dissolved oxygen as the indicator. Therefore, the Department is making a best professional judgment determination that the discharge of total nitrogen from the permittee's facility does not exhibit a reasonable potential to exceed applicable water quality standards for Class SB waters.

7. ANTI-BACKSLIDING

Federal regulation 40 CFR, §122(l) contains the criteria for what is often referred to as the anti-backsliding provisions of the Federal Water Pollution Control Act (Clean Water Act). In general, the regulation states that except for provisions specified in the regulation, effluent limitations, standards or conditions must be at least as stringent as the final effluent limitations, standards or conditions in the previous permit. Applicable exceptions include (1) material and substantial alterations or additions to the permitted facility occurred after permit issuance which justify the application of a less stringent effluent limitation and (2) information is available which was not available at the time of the permit issuance (other than revised regulations, guidance or test methods) and which would justify the application of less stringent effluent limitations at the time of permit issuance.

This permitting action is establishing less stringent mass and concentration BPT limitations for TSS and oil & grease based on new information that was not available at the time of the previous permitting action. More specifically, the permittee has applied for an increase in production from 2,000 lbs/day to 3,000 lbs/day.

8. ANTI-DEGREDATION - IMPACT ON RECEIVING WATER QUALITY

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.

This permitting action revises previously established effluent limitations and monitoring requirements for TSS and oil & grease. The rationale for these actions is contained in Section 6 of this Fact Sheet. Based on the information provided in the referenced section, the Department has made the determination that the discharge approved by this permit will not result in a significant lowering of water quality. As permitted, the Department has determined the existing and designated water uses will be maintained and protected and the discharge will not cause or contribute to the failure of the receiving water to meet standards for Class SB classification.

9. DISCHARGE IMPACT ON RECEIVING WATER QUALITY

As permitted, the Department has determined the existing water uses will be maintained and protected, and that the discharge as permitted will not cause or contribute to the failure of the water body to meet standards for Class SB waters.

10. PUBLIC COMMENTS

Public notice of this application was made in *The Downeast Coastal Press* newspaper on or about August 5, 2014. The Department receives public comments on an application until the date a final agency action is taken on the 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

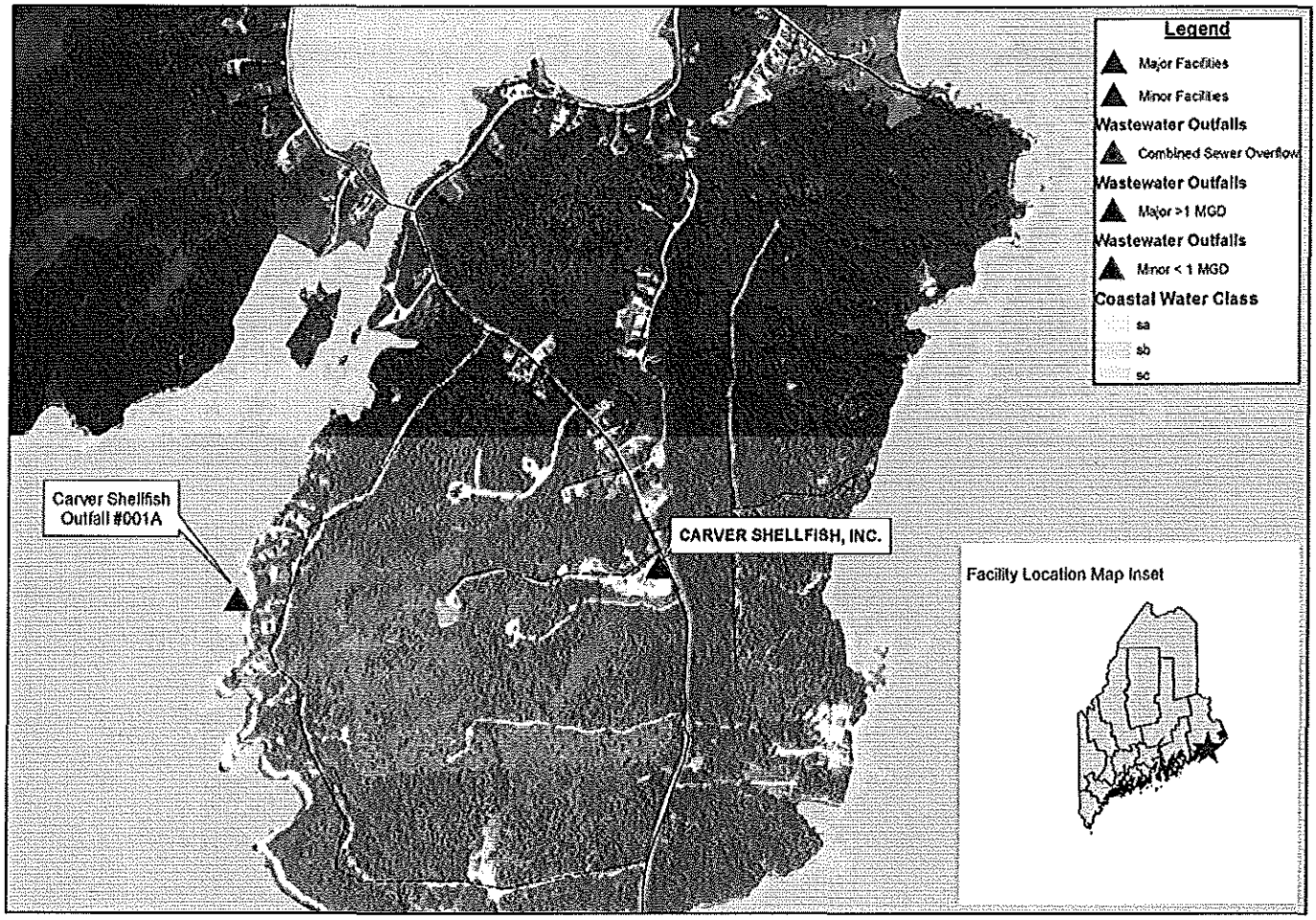
Additional information concerning this permitting action may be obtained from, and written comments sent to:

Rodney Robert
Division of Water Quality Management
Bureau of Land & Water Quality
Department of Environmental Protection
17 State House Station
Augusta, Maine 04333-0017 Telephone: (207) 446-1875
e-mail: rodney.robert@maine.gov

12. RESPONSE TO COMMENTS

Reserved until the close of the formal 30-day public comment period.

ATTACHMENT A



Carver Shellfish, Beals, Maine

Map created by Maine DEP
October, 2009

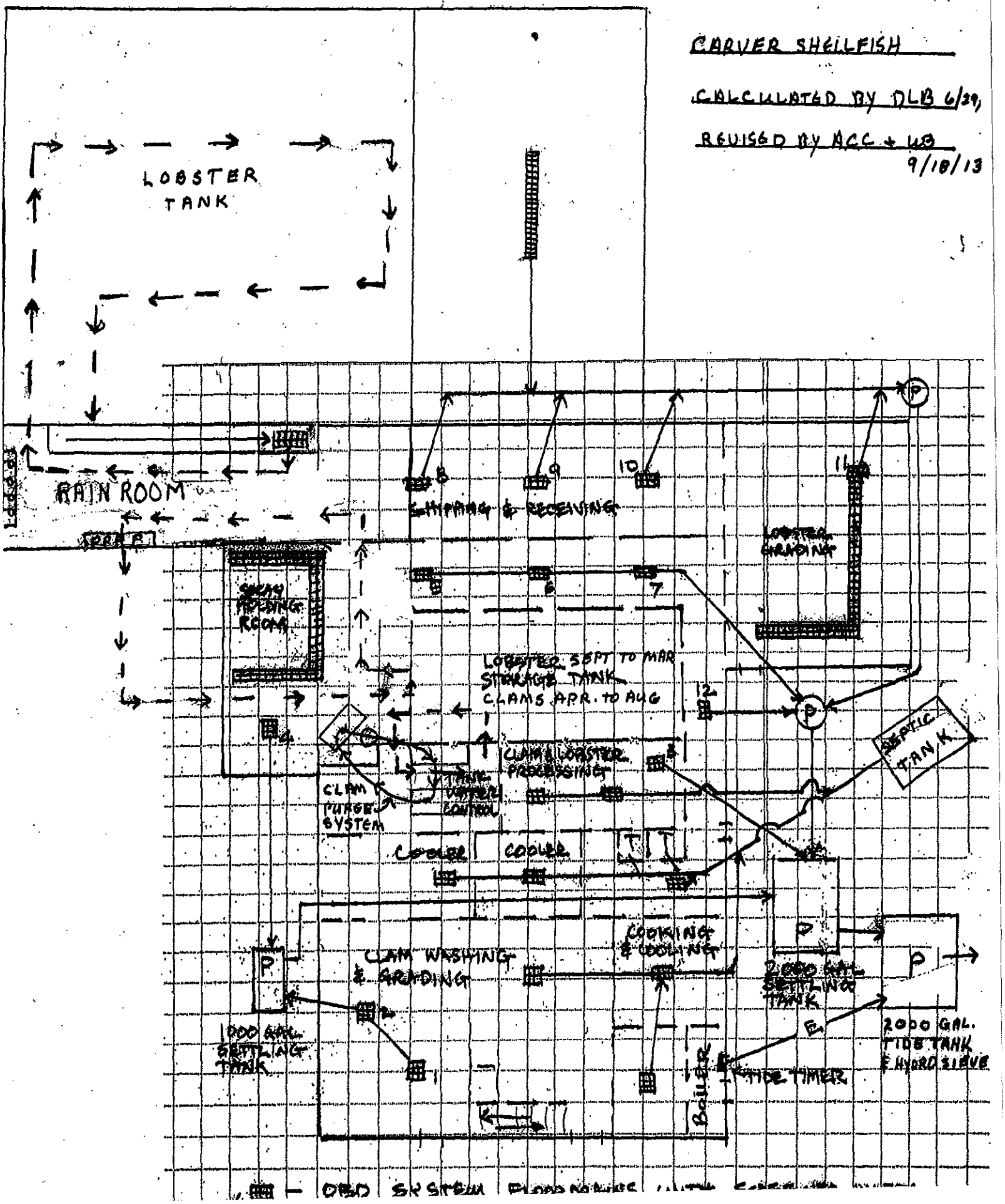
ATTACHMENT B

CARVER SHELLFISH

CALCULATED BY DLB 6/29,

REVISED BY ACC + WD

9/18/13



ATTACHMENT C

SUBSURFACE WASTEWATER DISPOSAL SYSTEM APPLICATION

Department of Human Services
Division of Health Engineering
(207)289-3826

PROPERTY ADDRESS

Town Or Plantation	BEALS
Street Subdivision Lot #	BLACK DUCK COVE RD

PROPERTY OWNERS NAME

Last: CARVER SHELLFISH INC. First:

Applicant Name:	ALBERT CARVER
Mailing Address of Owner/Applicant (If Different)	BEALS, ME. 04611

Caution: Permit Required

The Subsurface Wastewater Disposal System shall not be installed until a Permit is attached here by the Local Plumbing Inspector. The Permit shall authorize the owner or installer to install the disposal system in accordance with this application and the Maine Subsurface Wastewater Disposal Rules.

Owner/Applicant Statement

I certify that the information submitted is correct to the best of my knowledge and understand that any falsification is reason for the Local Plumbing Inspector to deny a Permit.

Signature of Owner/Applicant ____ Date ____

Caution: Inspection Required

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

Local Plumbing Inspector Signature ____ Date Approved ____

PERMIT INFORMATION

THIS APPLICATION IS FOR:
1. ☐ NEW SYSTEM
2. ☐ REPLACEMENT SYSTEM
3. ☒ EXPANDED SYSTEM
4. ☐ EXPERIMENTAL SYSTEM

SEASONAL CONVERSION
to be completed by the LPI
5. ☐ SYSTEM COMPLIES WITH RULES
6. ☐ CONNECTED TO SANITARY SEWER
7. ☐ SYSTEM INSTALLED – P# ____
8. ☐ SYSTEM DESIGN RECORDED AND ATTACHED

IF REPLACEMENT SYSTEM:
YEAR FAILING SYSTEM INSTALLED ____
THE FAILING SYSTEM IS:
1. ☐ BED 3. ☐ TRENCH
2. ☐ CHAMBER 4. ☐ OTHER: ____

SIZE OF PROPERTY: 1.5 AC

ZONING: NONE

THIS APPLICATION REQUIRES:
1. ☒ NO RULE VARIANCE
2. ☐ NEW SYSTEM VARIANCE Attach New System Variance Form
3. ☐ REPLACEMENT SYSTEM VARIANCE Attach Replacement System Variance Form
   a. ☐ Requiring Local Plumbing Inspector Approval
   b. ☐ Requires State and Local Plumbing Inspector Approval
4. ☐ MINIMUM LOT SIZE VARIANCE

DISPOSAL SYSTEM TO SERVE:
1. ☐ SINGLE FAMILY DWELLING
2. ☐ MODULAR OR MOBILE HOME
3. ☐ MULTIPLE FAMILY DWELLING
4. ☒ OTHER LOBSTER PROCESSING
   SPECIFY FACILITY

INSTALLATION IS:
COMPLETE SYSTEM
1. ☒ NON-ENGINEERED SYSTEM
2. ☐ PRIMITIVE SYSTEM (Includes Alternative Toilet)
3. ☐ ENGINEERED (+2000 gpd)

INDIVIDUALLY INSTALLED COMPONENTS:
4. ☐ TREATMENT TANK (ONLY)
5. ☐ HOLDING TANK ____ GAL
6. ☐ ALTERNATIVE TOILET (ONLY)
7. ☐ NON-ENGINEERED DISPOSAL AREA (ONLY)
8. ☐ ENGINEERED DISPOSAL AREA (ONLY)
9. ☐ SEPARATED LAUNDRY SYSTEM

TYPE OF WATER SUPPLY: EXISTING DRILLED WELL

DESIGN DETAILS (SYSTEM LAYOUT SHOWN ON PAGE 3)

TREATMENT TANK
1. ☒ SEPTIC: ☒ Regular ☐ Low Profile
2. ☐ AEROBIC

SIZE: ____ GALS.

WATER CONSERVATION
1. ☒ NONE
2. ☐ LOW VOLUME TOILET
3. ☐ SEPARATED LAUNDRY SYSTEM
4. ☐ ALTERNATIVE TOILET

SPECIFY: ____

PUMPING
1. ☒ NOT REQUIRED
2. ☐ MAY BE REQUIRED (DEPENDING ON TREATMENT TANK LOCATION AND ELEVATION)
3. ☐ REQUIRED

DOSE: ____ GALS.

CRITERIA USED FOR DESIGN FLOW (BEDROOMS, SEATING, EMPLOYEES, WATER RECORDS, ETC.)
EXPANSION OF EXISTING SYSTEM BY 450 GPD CAPACITY, TO A TOTAL OF 900 GPD. WATER IS APPROX 30% SANITARY AND 70% PROCESS

DESIGN FLOW: 900 (GALLONS/DAY)

SOIL CONDITIONS USED FOR DESIGN PURPOSES

PROFILE	CONDITION
2	A

DEPTH TO LIMITING FACTOR: 30"

SIZE RATINGS USED FOR DESIGN PURPOSES
1. ☐ SMALL
2. ☐ MEDIUM
3. ☒ MEDIUM-LARGE
4. ☐ LARGE
5. ☐ EXTRA LARGE

DISPOSAL AREA TYPE/SIZE
1. ☒ BED 1500 Sq. Ft.
2. ☐ CHAMBER ____ Sq. Ft.
   ☐ REGULAR ☐ H-20
3. ☐ TRENCH ____ Linear Ft.
4. ☐ OTHER: ____

SITE EVALUATOR STATEMENT

On 6/2/93 (date) I conducted a site evaluation for this project and certify that the data reported is accurate. The system I propose is in accordance with the Subsurface Wastewater Disposal Rules.

Site Evaluator Signature	SE#	Date
Deane L Bradshaw	#159	6/15/93

(Local Plumbing Inspector's Signature
If permit is for Seasonal Conversion.)

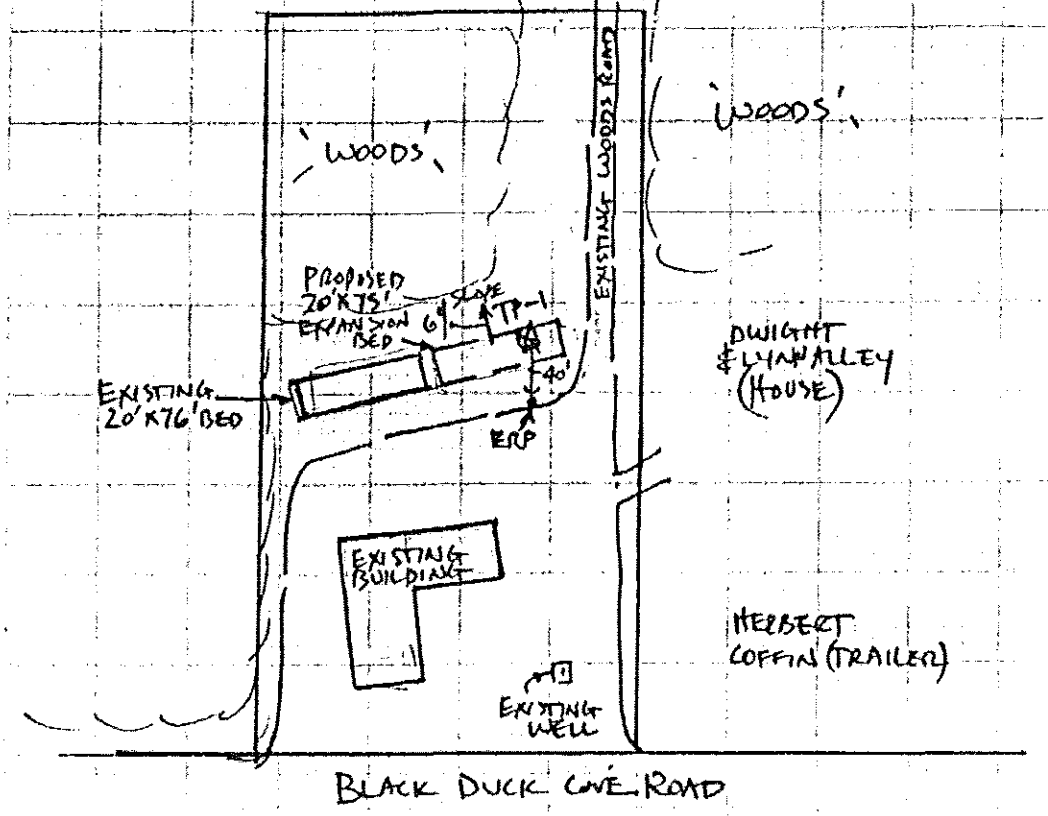
SUBSURFACE WASTEWATER DISPOSAL SYSTEM APPLICATION

Department of Human Services
Division of Health Engineering

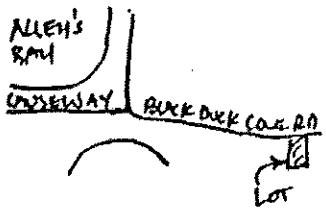
Town, City, Plantation: BEALS | Street, Road, Subdivision: BLACK DUCK COVE RD | Owners Name

SITE PLAN

Scale 1" = 100' Ft.



SITE LOCATION PLAN (Attach Map from Maine Atlas for New System Variance)



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

Observation Hole: TP-1 ☒ Test Pit ☐ Boring

1" HUMUS " Depth of Organic Horizon Above Mineral Soil

DEPTH BELOW MINERAL SOIL SURFACE (Inches)	Texture	Consistency	Color	Mottling
0	FINE SANDY LOAM	FRIABLE	RED BROWN	NONE
6				
10				
15				
20				
30				FEW/FAINT
	TILL	TILL	TILL	
40	REFUSAL ON LEDGE			
50				

Soil Profile	Classification Condition	Slope	Limiting Factor	Ground Water	Restrictive Layer	Bedrock
2	A	6 %	30"			X

Observation Hole: _____ ☐ Test Pit ☐ Boring

_____ " Depth of Organic Horizon Above Mineral Soil

DEPTH BELOW MINERAL SOIL SURFACE (Inches)	Texture	Consistency	Color	Mottling
0				
6				
10				
15				
20				
30				
40				
50				

Soil Profile	Classification Condition	Slope	Limiting Factor	Ground Water	Restrictive Layer	Bedrock
		%				

Deane Bradshaw — Site Evaluator Signature

#159 — SE #

6/17/93 — Date

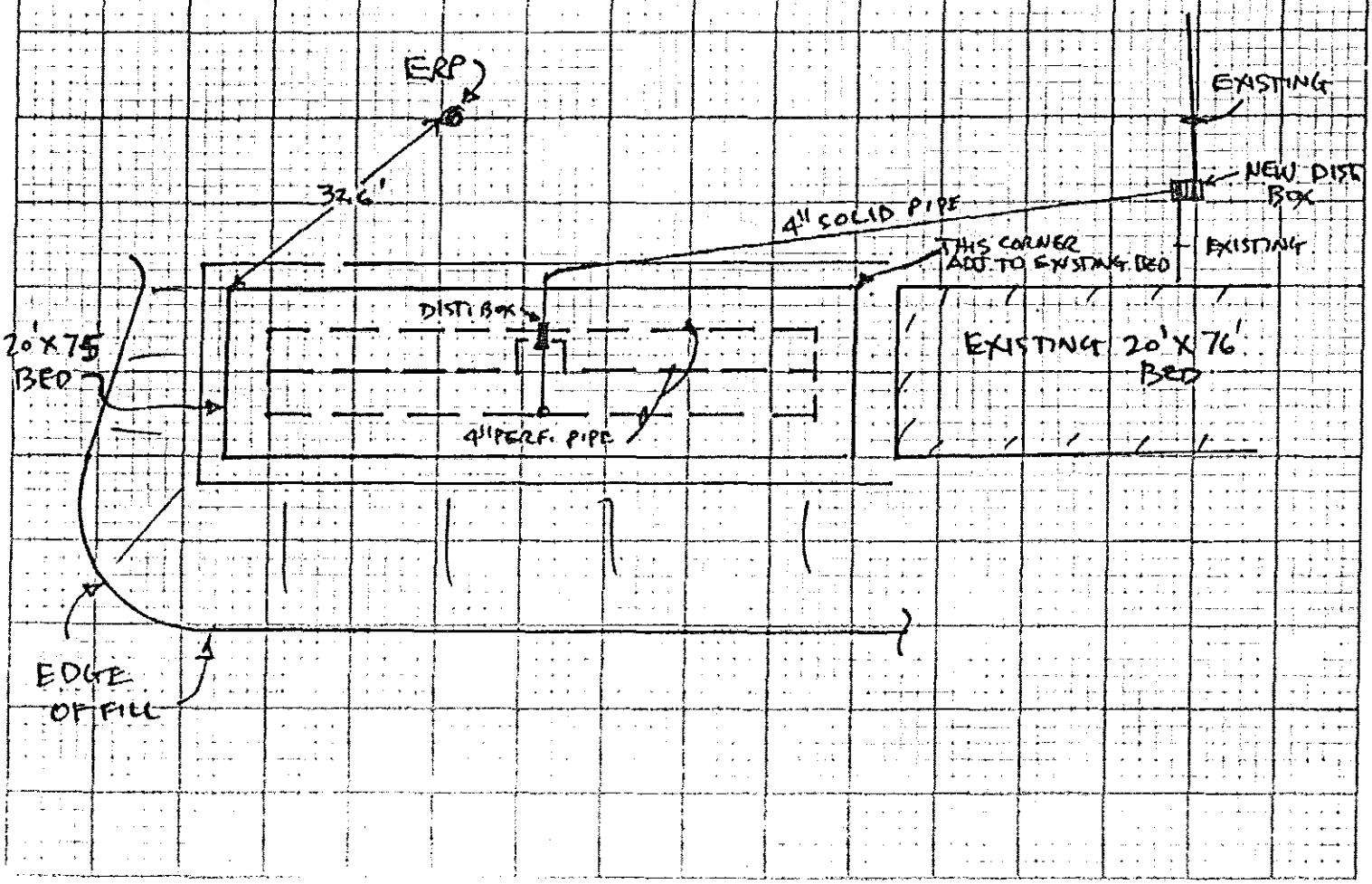
SUBSURFACE WASTEWATER DISPOSAL SYSTEM APPLICATION

Department of Human Services
Division of Health Engineering

Town, City, Plantation: BEALS | Street, Road, Subdivision: BLACK DUCK COVE RD | Owners Name: ALBERT CARVER

SUBSURFACE WASTEWATER DISPOSAL PLAN

Scale 1" = 20 Ft.



FILL REQUIREMENTS

Depth of Fill (Upslope): 21"
Depth of Fill (Downslope): 39"

CONSTRUCTION ELEVATIONS

Reference Elevation is: 00"
Bottom of Disposal Area: -51"
Top of Distribution Lines or Chambers: -40"

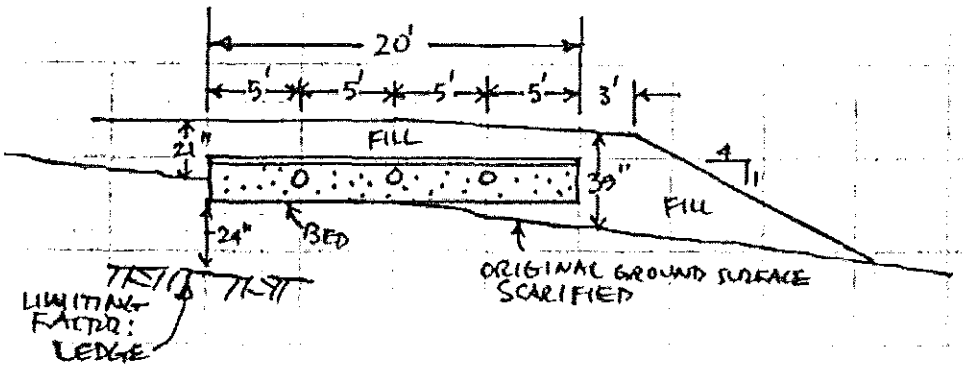
ELEVATION REFERENCE POINT LOCATION & DESCRIPTION

FLAGGED NAIL ON BIRCH TREE (N LOCATION SHOWN)

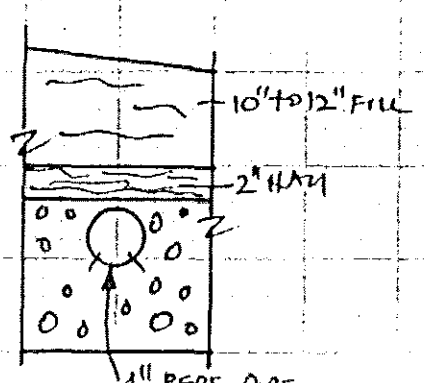
DISPOSAL AREA CROSS SECTION

Scale:
Vertical: 1 inch = 5 Ft.
Horizontal: 1 inch = 10 Ft.

CROSS SECTION



SECTION ENLARGED (NOT TO SCALE)



NOTES: FILL TO BE SHARP LOAMY SAND OR COARSER
SCARIFY UNDER BED AND FILL EXTENSION

Deane Bradshaw | #159 | 6/17/93